Parameter list for REX 521

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Description: REX521 parameter list file (max set)

Parameter	Channel	Visibility	Code	Values	Unit	Default	Direction	Volatile	Protection	Explanation
3-phase non-directional overcurrent function, low-set stage /*100031 / Rev D NOC3Low */										
Input Data										
Current IL1	31	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL1
Current IL2	31	1	I2	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL2
Current IL3	31	1	I3	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL3
Input BS1	31	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
Input BS2	31	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
Input TRIGG	31	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
Input GROUP	31	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
Input DOUBLE	31	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for doubling the set start current
Input BSREG	31	1	I9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for blocking the recording function
Input RESET	31	1	I10	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of NOC3Low
Output Data										
Output START	31	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
Output TRIP	31	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal

	Output CBFP	31	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP signal
Firmware Parameters										
	Date	31	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	31	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	31	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	IL1 mean	31	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	IL2 mean	31	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	IL3 mean	31	1	V206	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	IL1 peak	31	1	V207	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
	IL2 peak	31	1	V208	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
	IL3 peak	31	1	V209	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3
	BS1	31	1	V210	0..1[0 = Not active; 1=Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	31	1	V211	0..1[0 = Not active; 1=Active]	-	0	R/M	R	0	Status of BS2 input
	DOUBLE	31	1	V212	0..1[0 = Not active; 1=Active]	-	0	R/M	R	0	Status of DOUBLE input
	Active group	31	1	V213	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	31	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	31	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	31	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	IL1 mean	31	1	V304	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	IL2 mean	31	1	V305	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	IL3 mean	31	1	V306	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	IL1 peak	31	1	V307	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
	IL2 peak	31	1	V308	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
	IL3 peak	31	1	V309	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3
	BS1	31	1	V310	0..1[0 = Not active; 1=Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	31	1	V311	0..1[0 = Not active; 1=Active]	-	0	R/M	R	0	Status of BS2 input
	DOUBLE	31	1	V312	0..1[0 = Not active; 1=Active]	-	0	R/M	R	0	Status of DOUBLE input
	Active group	31	1	V313	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	31	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	31	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	31	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	IL1 mean	31	1	V404	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1

	IL2 mean	31	1	V405	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	IL3 mean	31	1	V406	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	IL1 peak	31	1	V407	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
	IL2 peak	31	1	V408	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
	IL3 peak	31	1	V409	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3
	BS1	31	1	V410	0..1[0 = Not active; 1=Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	31	1	V411	0..1[0 = Not active; 1=Active]	-	0	R/M	R	0	Status of BS2 input
	DOUBLE	31	1	V412	0..1[0 = Not active; 1=Active]	-	0	R/M	R	0	Status of DOUBLE input
	Active group	31	1	V413	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Actual Parameters											
	Operation mode	31	1	S1	0..15[0 = Not in use; 1 = Definite time; 2 = Extremely inv.; 3 = Very inverse; 4 = Normal inverse; 5 = Long-time inv.; 6 = RI-type inverse; 7 = RD-type inverse; 8 = IEEE Ext. inv.; 9 = IEEE Very inv.; 10 = IEEE Inverse; 11 = IEEE S.T. inv.; 12 = IEEE S.T.E. inv; 13 = IEEE L.T.E. inv; 14 = IEEE L.T.V. inv; 15 = IEEE L.T. inv.]	-	1	R	-	0	Selection of operate mode and inverse time characteristic
	Start current	31	1	S2	0.10...5.00	x In	0.10	R	-	0	Start current
	Operate time	31	1	S3	0.05...300.00	s	0.05	R	-	0	Operate time at DTmode
	Time multiplier	31	1	S4	0.05...1.00	-	0.05	R	-	0	Time multiplier at IDMT mode
	IEEE time dial	31	1	S5	0.5...15.0	-	0.5	R	-	0	IEEE time dial at IDMT mode
Setting Group 1											

	Operation mode	31	1	S41	0..15[0 = Not in use; 1 = Definite time; 2 = Extremely inv.; 3 = Very inverse; 4 = Normal inverse; 5 = Long-time inv.; 6 = RI-type inverse; 7 = RD-type inverse; 8 = IEEE Ext. inv.; 9 = IEEE Very inv.; 10 = IEEE Inverse; 11 = IEEE S.T. inv.; 12 = IEEE S.T.E. inv; 13 = IEEE L.T.E. inv; 14 = IEEE L.T.V. inv; 15 = IEEE L.T. inv.]	-	1	R/W	R	2	Selection of operate mode and inverse time characteristic at IDMT mode
	Start current	31	1	S42	0.10...5.00	x In	0.10	R/W	R	2	Start current
	Operate time	31	1	S43	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
	Time multiplier	31	1	S44	0.05...1.00	-	0.05	R/W	R	2	Time multiplier at IDMT mode
	IEEE time dial	31	1	S45	0.5...15.0	-	0.5	R/W	R	2	IEEE time dial at IDMT mode
Setting Group 2											
	Operation mode	31	1	S71	0..15[0 = Not in use; 1 = Definite time; 2 = Extremely inv.; 3 = Very inverse; 4 = Normal inverse; 5 = Long-time inv.; 6 = RI-type inverse; 7 = RD-type inverse; 8 = IEEE Ext. inv.; 9 = IEEE Very inv.; 10 = IEEE Inverse; 11 = IEEE S.T. inv.; 12 = IEEE S.T.E. inv; 13 = IEEE L.T.E. inv; 14 = IEEE L.T.V. inv; 15 = IEEE L.T. inv.]	-	1	R/W	R	2	Selection of operate mode and inverse time characteristic at IDMT mode
	Start current	31	1	S72	0.10...5.00	x In	0.10	R/W	R	2	Start current
	Operate time	31	1	S73	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
	Time multiplier	31	1	S74	0.05...1.00	-	0.05	R/W	R	2	Time multiplier at IDMT mode
	IEEE time dial	31	1	S75	0.5...15.0	-	0.5	R/W	R	2	IEEE time dial at IDMT mode

Control Settings

Measuring mode	31	1	V1	0..1[0 = Peak-to-peak; 1 = Fundam.freq.]	-	0	R/W	R	2	Selection of measuring mode
Drop-off time	31	1	V2	0...1000	ms	0	R/W	R	2	Resetting time of the operate time counter at DT mode
Group selection	31	1	V3	0..1[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
Active group	31	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
Start pulse	31	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
Trip signal	31	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
Trip pulse	31	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
Minimum time	31	1	V8	0.03...10.00	s	0.03	R/W	R	2	Minimum operate time at IDMT mode
CBFP time	31	1	V9	100...1000	ms	100	R/W	R	2	Operate time of the delayed trip CBFP
Reset registers	31	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
Test START	31	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
Test TRIP	31	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
Test CBFP	31	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
Event mask 1	31	1	V101	0...4095	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E11)
Event mask 2	31	1	V103	0...4095	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E11)
Event mask 3	31	1	V105	0...4095	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E11)
Event mask 4	31	1	V107	0...4095	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E11)

3-phase non-directional overcurrent function, high-set stage

/*100032 / Rev C
NOC3High */

Input Data

Current IL1	32	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL1
Current IL2	32	1	I2	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL2
Current IL3	32	1	I3	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL3
Input BS1	32	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
Input BS2	32	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
Input TRIGG	32	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
Input GROUP	32	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
Input DOUBLE	32	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for doubling the set start current
Input BSREG	32	1	I9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for blocking the recording function
Input RESET	32	1	I10	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of NOC3High

Output Data

Output BSOUT	32	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of BSOUT signal
Output START	32	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
Output TRIP	32	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
Output CBFP	32	1	O4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP signal

Firmware Parameters

Date	32	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	32	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Duration	32	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
IL1 mean	32	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
IL2 mean	32	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
IL3 mean	32	1	V206	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
IL1 peak	32	1	V207	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
IL2 peak	32	1	V208	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
IL3 peak	32	1	V209	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3

BS1	32	1	V210	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
BS2	32	1	V211	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
DOUBLE	32	1	V212	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DOUBLE input
Active group	32	1	V213	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Date	32	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	32	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Duration	32	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
IL1 mean	32	1	V304	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
IL2 mean	32	1	V305	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
IL3 mean	32	1	V306	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
IL1 peak	32	1	V307	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
IL2 peak	32	1	V308	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
IL3 peak	32	1	V309	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3
BS1	32	1	V310	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
BS2	32	1	V311	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
DOUBLE	32	1	V312	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DOUBLE input
Active group	32	1	V313	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Date	32	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	32	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Duration	32	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
IL1 mean	32	1	V404	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
IL2 mean	32	1	V405	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
IL3 mean	32	1	V406	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
IL1 peak	32	1	V407	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
IL2 peak	32	1	V408	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
IL3 peak	32	1	V409	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3
BS1	32	1	V410	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
BS2	32	1	V411	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
DOUBLE	32	1	V412	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DOUBLE input

	Active group	32	1	V413	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Actual Parameters											
	Operation mode	32	1	S1	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R	-	0	Selection of operate mode
	Start current	32	1	S2	0.10...40.00	x In	0.10	R	-	0	Start current
	Operate time	32	1	S3	0.05...300.00	s	0.05	R	-	0	Operate time at DTmode
Setting Group 1											
	Operation mode	32	1	S41	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2	Selection of operation mode
	Start current	32	1	S42	0.10...40.00	x In	0.10	R/W	R	2	Start current
	Operate time	32	1	S43	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
Setting Group 2											
	Operation mode	32	1	S71	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2	Selection of operation mode
	Start current	32	1	S72	0.10...40.00	x In	0.10	R/W	R	2	Start current
	Operate time	32	1	S73	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
Control Settings											
	Measuring mode	32	1	V1	0..1[0 = Peak-to-peak; 1 = Fundam.freq.]	-	0	R/W	R	2	Selection of measuringmode
	Drop-off time	32	1	V2	0...1000	ms	0	R/W	R	2	Resetting time of the operate time counter
	Group selection	32	1	V3	0..1[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	32	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	32	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	32	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	32	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	CBFP time	32	1	V8	100...1000	ms	100	R/W	R	2	Operate time of the delayed trip CBFP
	Reset registers	32	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers

	Test START	32	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	32	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test CBFP	32	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
	Event mask 1	32	1	V101	0...16383	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E13)
	Event mask 2	32	1	V103	0...16383	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E13)
	Event mask 3	32	1	V105	0...16383	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E13)
	Event mask 4	32	1	V107	0...16383	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E13)
3-phase non-directional overcurrent protection function, instantaneous stage											
/*100033 / Rev C NOC3Inst */											
Actual Parameters											
	Operation mode	33	1	S1	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R	-	0	Selection of operation mode
	Start current	33	1	S2	0.10...40.00	x In	0.10	R	-	0	Start current
	Operate time	33	1	S3	0.05...300.00	s	0.05	R	-	0	Operate time at DT mode
Setting Group 1											
	Operation mode	33	1	S41	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2	Selection of operation mode
	Start current	33	1	S42	0.10...40.00	x In	0.10	R/W	R	2	Start current
	Operate time	33	1	S43	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
Setting Group 2											
	Operation mode	33	1	S71	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2	Selection of operation mode
	Start current	33	1	S72	0.10...40.00	x In	0.10	R/W	R	2	Start current
	Operate time	33	1	S73	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
Control Settings											
	Measuring mode	33	1	V1	0..1[0 = Peak-to-peak; 1 = Fundam.freq.]	-	0	R/W	R	2	Selection of measuringmode

	Drop-off time	33	1	V2	0...1000	ms	0	R/W	R	2	Resetting time of the operate time counter
	Group selection	33	1	V3	0..1[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	33	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	33	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	33	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	33	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	CBFP time	33	1	V8	100...1000	ms	100	R/W	R	2	Operate time of the delayed trip CBFP
	Reset registers	33	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	33	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	33	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test CBFP	33	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
	Event mask 1	33	1	V101	0...16383	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E13)
	Event mask 2	33	1	V103	0...16383	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E13)
	Event mask 3	33	1	V105	0...16383	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E13)
	Event mask 4	33	1	V107	0...16383	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E13)
Input Data											
	Current IL1	33	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL1
	Current IL2	33	1	I2	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL2
	Current IL3	33	1	I3	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL3
	Input BS1	33	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	33	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input TRIGG	33	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers

	Input GROUP	33	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input DOUBLE	33	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for doubling the set start current
	Input BSREG	33	1	I9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for blocking the recording function
	Input RESET	33	1	I10	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of NOC3Inst
Output Data											
	Output BSOUT	33	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of BSOUT signal
	Output START	33	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	33	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output CBFP	33	1	O4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP signal
Firmware Parameters											
	Date	33	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	33	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	33	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	IL1 mean	33	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	IL2 mean	33	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	IL3 mean	33	1	V206	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	IL1 peak	33	1	V207	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
	IL2 peak	33	1	V208	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
	IL3 peak	33	1	V209	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3
	BS1	33	1	V210	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	33	1	V211	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	DOUBLE	33	1	V212	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DOUBLE input
	Active group	33	1	V213	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	33	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	33	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	33	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	IL1 mean	33	1	V304	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	IL2 mean	33	1	V305	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2

	IL3 mean	33	1	V306	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	IL1 peak	33	1	V307	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
	IL2 peak	33	1	V308	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
	IL3 peak	33	1	V309	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3
	BS1	33	1	V310	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	33	1	V311	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	DOUBLE	33	1	V312	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DOUBLE input
	Active group	33	1	V313	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	33	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	33	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	33	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	IL1 mean	33	1	V404	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	IL2 mean	33	1	V405	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	IL3 mean	33	1	V406	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	IL1 peak	33	1	V407	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
	IL2 peak	33	1	V408	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
	IL3 peak	33	1	V409	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3
	BS1	33	1	V410	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	33	1	V411	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	DOUBLE	33	1	V412	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DOUBLE input
	Active group	33	1	V413	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
Three-phase transformer inrush and motor start-up current detector /*100034 / Rev D Inrush3 */											
Actual Parameters											
	Operation mode	34	1	S1	0..2[0 = Not in use; 1 = Inrush mode; 2 = Start-up mode]	-	1	R/M	-	0	Selection of operation mode
	Ratio I2f/I1f>	34	1	S2	5...50	%	15	R/M	-	0	Inrush blocking limit I2f/I1f
	Start current	34	1	S3	0.10...5.00	x In	0.10	R/M	-	0	Motor start current
Setting Group 1											

	Operation mode	34	1	S41	0..2[0 = Not in use; 1 = Inrush mode; 2 = Start-up mode]	-	1	R/W	R	2	Selection of operation mode
	Ratio I2f/I1f>	34	1	S42	5...50	%	15	R/W	R	2	Inrush blocking limit I2f/I1f
	Start current	34	1	S43	0.10...5.00	x In	0.10	R/W	R	2	Motor start current
Setting Group 2											
	Operation mode	34	1	S71	0..2[0 = Not in use; 1 = Inrush mode; 2 = Start-up mode]	-	1	R/W	R	2	Selection of operation mode
	Ratio I2f/I1f>	34	1	S72	5...50	%	15	R/W	R	2	Inrush blocking limit I2f/I1f
	Start current	34	1	S73	0.10...5.00	x In	0.10	R/W	R	2	Motor start current
Control Settings											
	Rising time	34	1	V1	20...60	ms	20	R/W	R	2	Rising time for phase currents (motor start-up mode)
	Group selection	34	1	V2	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	34	1	V3	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	34	1	V4	0...1000	ms	0	R/W	R	2	Minimum pulse length of signal START
	Reset registers	34	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of registers
	Test START	34	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Event mask 1	34	1	V101	0...15	-	3	R/W	R	2	Event mask 1 for event transmission (E0 ... E3)
	Event mask 2	34	1	V103	0...15	-	3	R/W	R	2	Event mask 2 for event transmission (E0 ... E3)
	Event mask 3	34	1	V105	0...15	-	3	R/W	R	2	Event mask 3 for event transmission (E0 ... E3)
	Event mask 4	34	1	V107	0...15	-	3	R/W	R	2	Event mask 4 for event transmission (E0 ... E3)
Input Data											
	Current IL1	34	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL1
	Current IL2	34	1	I2	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL2
	Current IL3	34	1	I3	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL3
	Input GROUP	34	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	34	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting registers

Output Data										
	Output START	34	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of signal START
Firmware Parameters										
	Date	34	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	34	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	34	1	V203	0.0...60.0	s	0.0	R/M	R	0	Duration of start situation
	Average IL1	34	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Average value of IL1
	Average IL2	34	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Average value of IL2
	Average IL3	34	1	V206	0.00...60.00	x In	0.00	R/M	R	0	Average value of IL3
	Min. I2f/I1f L1	34	1	V207	0.0...100.0	%	0.0	R/M	R	0	Minimum I2f/I1f of IL1
	Min. I2f/I1f L2	34	1	V208	0.0...100.0	%	0.0	R/M	R	0	Minimum I2f/I1f of IL2
	Min. I2f/I1f L3	34	1	V209	0.0...100.0	%	0.0	R/M	R	0	Minimum I2f/I1f of IL3
	Active group	34	1	V210	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	34	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	34	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	34	1	V303	0.0...60.0	s	0.0	R/M	R	0	Duration of start situation
	Average IL1	34	1	V304	0.00...60.00	x In	0.00	R/M	R	0	Average value of IL1
	Average IL2	34	1	V305	0.00...60.00	x In	0.00	R/M	R	0	Average value of IL2
	Average IL3	34	1	V306	0.00...60.00	x In	0.00	R/M	R	0	Average value of IL3
	Min. I2f/I1f L1	34	1	V307	0.0...100.0	%	0.0	R/M	R	0	Minimum I2f/I1f of IL1
	Min. I2f/I1f L2	34	1	V308	0.0...100.0	%	0.0	R/M	R	0	Minimum I2f/I1f of IL2
	Min. I2f/I1f L3	34	1	V309	0.0...100.0	%	0.0	R/M	R	0	Minimum I2f/I1f of IL3
	Active group	34	1	V310	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	34	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	34	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	34	1	V403	0.0...60.0	s	0.0	R/M	R	0	Duration of start situation
	Average IL1	34	1	V404	0.00...60.00	x In	0.00	R/M	R	0	Average value of IL1
	Average IL2	34	1	V405	0.00...60.00	x In	0.00	R/M	R	0	Average value of IL2
	Average IL3	34	1	V406	0.00...60.00	x In	0.00	R/M	R	0	Average value of IL3
	Min. I2f/I1f L1	34	1	V407	0.0...100.0	%	0.0	R/M	R	0	Minimum I2f/I1f of IL1
	Min. I2f/I1f L2	34	1	V408	0.0...100.0	%	0.0	R/M	R	0	Minimum I2f/I1f of IL2
	Min. I2f/I1f L3	34	1	V409	0.0...100.0	%	0.0	R/M	R	0	Minimum I2f/I1f of IL3
	Active group	34	1	V410	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
Three-phase directional O/C function, low-set stage I> ->										

/*100035 / Rev F DOC6Low
*/

Actual Parameters

	Operation mode	35	1	S1	0..7[0 = Not in use; 1 = Definite time; 2 = Extremely inv.; 3 = Very inverse; 4 = Normal inverse; 5 = Long-time inv.; 6 = RI-type inverse; 7 = RD-type inverse]	-	1	R/M	-	0	Selection of operation mode and inverse time characteristic at IDMT mode
	Start current	35	1	S2	0.05...40.00	x In	0.05	R/M	-	0	Start current
	Operate time	35	1	S3	0.05...300.00	s	0.05	R/M	-	0	Operate time at DTmode
	Time multiplier	35	1	S4	0.05...1.00	-	0.05	R/M	-	0	Time multiplier at IDMT mode
	Basic angle ∩b	35	1	S5	0...90	°	60	R/M	-	0	Basic angle jb for directional operation
	Oper. direction	35	1	S6	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	-	0	Selection of forward/reverse operation
	Earth fault pr.	35	1	S7	0..1[0 = Disabled; 1 = Enabled]	-	0	R/M	-	0	Earth fault protection

Setting Group 1

	Operation mode	35	1	S41	0..7[0 = Not in use; 1 = Definite time; 2 = Extremely inv.; 3 = Very inverse; 4 = Normal inverse; 5 = Long-time inv.; 6 = RI-type inverse; 7 = RD-type inverse]	-	1	R/W	R	2	Selection of operation mode and inverse time characteristic at IDMT mode
	Start current	35	1	S42	0.05...40.00	x In	0.05	R/W	R	2	Start current
	Operate time	35	1	S43	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
	Time multiplier	35	1	S44	0.05...1.00	-	0.05	R/W	R	2	Time multiplier at IDMT mode
	Basic angle ∩b	35	1	S45	0...90	°	60	R/W	R	2	Basic angle jb for directional operation
	Oper. direction	35	1	S46	0..1[0 = Forward; 1 = Reverse]	-	0	R/W	R	2	Selection of forward/reverse operation
	Earth fault pr.	35	1	S47	0..1[0 = Disabled; 1 = Enabled]	-	0	R/W	R	2	Earth fault protection

Setting Group 2

	Operation mode	35	1	S71	0..7[0 = Not in use; 1 = Definite time; 2 = Extremely inv.; 3 = Very inverse; 4 = Normal inverse; 5 = Long-time inv.; 6 = RI-type inverse; 7 = RD-type inverse]	-	1	R/W	R	2	Selection of operation mode and inverse time characteristic at IDMT mode
	Start current	35	1	S72	0.05...40.00	x In	0.05	R/W	R	2	Start current
	Operate time	35	1	S73	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
	Time multiplier	35	1	S74	0.05...1.00	-	0.05	R/W	R	2	Time multiplier at IDMT mode
	Basic angle ∩b	35	1	S75	0...90	°	60	R/W	R	2	Basic angle jb for directional operation
	Oper. direction	35	1	S76	0..1[0 = Forward; 1 = Reverse]	-	0	R/W	R	2	Selection of forward/reverse operation
	Earth fault pr.	35	1	S77	0..1[0 = Disabled; 1 = Enabled]	-	0	R/W	R	2	Earth fault protection
Control Settings											
	Measuring mode	35	1	V1	0..3[0 = Mode 1; 1 = Mode 2; 2 = Mode 3; 3 = Mode 4]	-	0	R/W	R	2	Selection of measuring mode
	Drop-off time	35	1	V2	0...1000	ms	0	R/W	R	2	Resetting time of the operate time counter at DT mode
	Group selection	35	1	V3	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	35	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	35	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	35	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	35	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	Minimum time	35	1	V8	0.03...10.00	s	0.03	R/W	R	2	Minimum operate time at IDMT mode
	CBFP time	35	1	V9	100...1000	ms	100	R/W	R	2	Operate time of the delayed trip CBFP
	Reset registers	35	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers

	Test START	35	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	35	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test CBFP	35	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
	Event mask 1	35	1	V101	0...16383	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E13)
	Event mask 2	35	1	V103	0...16383	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E13)
	Event mask 3	35	1	V105	0...16383	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E13)
	Event mask 4	35	1	V107	0...16383	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E13)
Input Data											
	Current IL1	35	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL1
	Current IL2	35	1	I2	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL2
	Current IL3	35	1	I3	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL3
	Voltage U12	35	1	I4	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U12
	Voltage U23	35	1	I5	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U23
	Voltage U31	35	1	I6	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U31
	Voltage U1	35	1	I7	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-earth voltage U1
	Voltage U2	35	1	I8	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-earth voltage U2
	Voltage U3	35	1	I9	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-earth voltage U3
	Phase angle ∩12	35	1	I10	-180...+180	°	0	R/M	-	0	Phase difference ∩b - ∩(phase-to-phase current)
	Phase angle ∩23	35	1	I11	-180...+180	°	0	R/M	-	0	Phase difference ∩b - ∩(phase-to-phase current)
	Phase angle ∩31	35	1	I12	-180...+180	°	0	R/M	-	0	Phase difference ∩b - ∩(phase-to-phase current)
	Phase angle ∩1	35	1	I13	-180...+180	°	0	R/M	-	0	Phase difference ∩b - ∩(phase current)
	Phase angle ∩2	35	1	I14	-180...+180	°	0	R/M	-	0	Phase difference ∩b - ∩(phase current)
	Phase angle ∩3	35	1	I15	-180...+180	°	0	R/M	-	0	Phase difference ∩b - ∩(phase current)
	Input BS1	35	1	I16	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	35	1	I17	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2

	Input TRIGG	35	1	I18	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	35	1	I19	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input DOUBLE	35	1	I20	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for doubling the set start current
	Input BSREG	35	1	I21	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for blocking the recording function
	Input RESET	35	1	I22	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of DOC6Low
Output Data											
	Output DIRECTION	35	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Current direction information
	Output START	35	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	35	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output CBFP	35	1	O4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP signal
Firmware Parameters											
	Date	35	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	35	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	35	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	IL1 mean	35	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	IL2 mean	35	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	IL3 mean	35	1	V206	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	IL1 peak	35	1	V207	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
	IL2 peak	35	1	V208	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
	IL3 peak	35	1	V209	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3
	Voltage U12	35	1	V210	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage U23	35	1	V211	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage U31	35	1	V212	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
	Voltage U1	35	1	V213	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U1
	Voltage U2	35	1	V214	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U2
	Voltage U3	35	1	V215	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U3
	Phase angle ∩12	35	1	V216	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
	Phase angle ∩23	35	1	V217	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)

Phase angle ∩31	35	1	V218	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩1	35	1	V219	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
Phase angle ∩2	35	1	V220	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
Phase angle ∩3	35	1	V221	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
DIRECTION	35	1	V222	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DIRECTION output
BS1	35	1	V223	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
BS2	35	1	V224	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
DOUBLE	35	1	V225	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DOUBLE input
Active group	35	1	V226	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Date	35	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	35	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Duration	35	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
IL1 mean	35	1	V304	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
IL2 mean	35	1	V305	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
IL3 mean	35	1	V306	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
IL1 peak	35	1	V307	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
IL2 peak	35	1	V308	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
IL3 peak	35	1	V309	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3
Voltage U12	35	1	V310	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
Voltage U23	35	1	V311	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
Voltage U31	35	1	V312	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
Voltage U1	35	1	V313	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U1
Voltage U2	35	1	V314	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U2
Voltage U3	35	1	V315	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U3
Phase angle ∩12	35	1	V316	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩23	35	1	V317	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩31	35	1	V318	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩1	35	1	V319	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)

Phase angle ∩2	35	1	V320	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
Phase angle ∩3	35	1	V321	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
DIRECTION	35	1	V322	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DIRECTION output
BS1	35	1	V323	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
BS2	35	1	V324	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
DOUBLE	35	1	V325	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DOUBLE input
Active group	35	1	V326	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Date	35	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	35	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Duration	35	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
IL1 mean	35	1	V404	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
IL2 mean	35	1	V405	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
IL3 mean	35	1	V406	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
IL1 peak	35	1	V407	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
IL2 peak	35	1	V408	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
IL3 peak	35	1	V409	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3
Voltage U12	35	1	V410	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
Voltage U23	35	1	V411	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
Voltage U31	35	1	V412	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
Voltage U1	35	1	V413	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U1
Voltage U2	35	1	V414	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U2
Voltage U3	35	1	V415	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U3
Phase angle ∩12	35	1	V416	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩23	35	1	V417	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩31	35	1	V418	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩1	35	1	V419	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
Phase angle ∩2	35	1	V420	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
Phase angle ∩3	35	1	V421	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)

	DIRECTION	35	1	V422	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DIRECTION output
	BS1	35	1	V423	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	35	1	V424	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	DOUBLE	35	1	V425	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DOUBLE input
	Active group	35	1	V426	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Three-phase directional O/C function, high-set stage I>> -> /*100036 / Rev F DOC6High */ Input Data											
	Current IL1	36	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL1
	Current IL2	36	1	I2	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL2
	Current IL3	36	1	I3	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL3
	Voltage U12	36	1	I4	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U12
	Voltage U23	36	1	I5	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U23
	Voltage U31	36	1	I6	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U31
	Voltage U1	36	1	I7	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-earth voltage U1
	Voltage U2	36	1	I8	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-earth voltage U2
	Voltage U3	36	1	I9	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-earth voltage U3
	Phase angle ∩12	36	1	I10	-180...+180	°	0	R/M	-	0	Phase difference ∩b - ∩(phase-to-phase current)
	Phase angle ∩23	36	1	I11	-180...+180	°	0	R/M	-	0	Phase difference ∩b - ∩(phase-to-phase current)
	Phase angle ∩31	36	1	I12	-180...+180	°	0	R/M	-	0	Phase difference ∩b - ∩(phase-to-phase current)
	Phase angle ∩1	36	1	I13	-180...+180	°	0	R/M	-	0	Phase difference ∩b - ∩(phase current)
	Phase angle ∩2	36	1	I14	-180...+180	°	0	R/M	-	0	Phase difference ∩b - ∩(phase current)
	Phase angle ∩3	36	1	I15	-180...+180	°	0	R/M	-	0	Phase difference ∩b - ∩(phase current)
	Input BS1	36	1	I16	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	36	1	I17	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2

	Input TRIGG	36	1	I18	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	36	1	I19	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input DOUBLE	36	1	I20	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for doubling the set start current
	Input BSREG	36	1	I21	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for blocking the recording function
	Input RESET	36	1	I22	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of DOC6High
Output Data											
	Output DIRECTION	36	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Current direction information
	Output BSOUT	36	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of BSOUT signal
	Output START	36	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	36	1	O4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output CBFP	36	1	O5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP signal
Firmware Parameters											
	Date	36	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	36	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	36	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	IL1 mean	36	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	IL2 mean	36	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	IL3 mean	36	1	V206	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	IL1 peak	36	1	V207	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
	IL2 peak	36	1	V208	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
	IL3 peak	36	1	V209	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3
	Voltage U12	36	1	V210	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage U23	36	1	V211	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage U31	36	1	V212	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
	Voltage U1	36	1	V213	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U1
	Voltage U2	36	1	V214	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U2
	Voltage U3	36	1	V215	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U3
	Phase angle ∩12	36	1	V216	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)

Phase angle ∩23	36	1	V217	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩31	36	1	V218	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩1	36	1	V219	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
Phase angle ∩2	36	1	V220	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
Phase angle ∩3	36	1	V221	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
Nondir. operat.	36	1	V222	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of nondirectional operation
BS1	36	1	V223	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
BS2	36	1	V224	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
DOUBLE	36	1	V225	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DOUBLE input
Active group	36	1	V226	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Date	36	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	36	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Duration	36	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
IL1 mean	36	1	V304	0.00...60.0	x In	0.00	R/M	R	0	Filtered value of IL1
IL2 mean	36	1	V305	0.00...60.0	x In	0.00	R/M	R	0	Filtered value of IL2
IL3 mean	36	1	V306	0.00...60.0	x In	0.00	R/M	R	0	Filtered value of IL3
IL1 peak	36	1	V307	0.00...60.0	x In	0.00	R/M	R	0	Momentary peak of IL1
IL2 peak	36	1	V308	0.00...60.0	x In	0.00	R/M	R	0	Momentary peak of IL2
IL3 peak	36	1	V309	0.00...60.0	x In	0.00	R/M	R	0	Momentary peak of IL3
Voltage U12	36	1	V310	0.00...2.0	x Un	0.00	R/M	R	0	Filtered value of U12
Voltage U23	36	1	V311	0.00...2.0	x Un	0.00	R/M	R	0	Filtered value of U23
Voltage U31	36	1	V312	0.00...2.0	x Un	0.00	R/M	R	0	Filtered value of U31
Voltage U1	36	1	V313	0.00...2.0	x Un	0.00	R/M	R	0	Filtered value of U1
Voltage U2	36	1	V314	0.00...2.0	x Un	0.00	R/M	R	0	Filtered value of U2
Voltage U3	36	1	V315	0.00...2.0	x Un	0.00	R/M	R	0	Filtered value of U3
Phase angle ∩12	36	1	V316	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩23	36	1	V317	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩31	36	1	V318	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)

Phase angle ∩1	36	1	V319	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
Phase angle ∩2	36	1	V320	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
Phase angle ∩3	36	1	V321	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
Nondir. operat.	36	1	V322	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of nondirectional operation
BS1	36	1	V323	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
BS2	36	1	V324	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
DOUBLE	36	1	V325	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DOUBLE input
Active group	36	1	V326	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Date	36	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	36	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Duration	36	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
IL1 mean	36	1	V404	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
IL2 mean	36	1	V405	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
IL3 mean	36	1	V406	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
IL1 peak	36	1	V407	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL1
IL2 peak	36	1	V408	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL2
IL3 peak	36	1	V409	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of IL3
Voltage U12	36	1	V410	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
Voltage U23	36	1	V411	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
Voltage U31	36	1	V412	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
Voltage U1	36	1	V413	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U1
Voltage U2	36	1	V414	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U2
Voltage U3	36	1	V415	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U3
Phase angle ∩12	36	1	V416	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩23	36	1	V417	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩31	36	1	V418	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase-to-phase current)
Phase angle ∩1	36	1	V419	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
Phase angle ∩2	36	1	V420	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)

	Phase angle ∩3	36	1	V421	-180...+180	°	0	R/M	R	0	Phase difference ∩b - ∩(phase current)
	Nondir. operat.	36	1	V422	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of nondirectional operation
	BS1	36	1	V423	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	36	1	V424	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	DOUBLE	36	1	V425	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of DOUBLE input
	Active group	36	1	V426	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Actual Parameters											
	Operation mode	36	1	S1	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/M	-	0	Selection of operation mode
	Start current	36	1	S2	0.05...40.00	x In	0.05	R/M	-	0	Start current
	Operate time	36	1	S3	0.05...300.00	s	0.05	R/M	-	0	Operate time at DTmode
	Basic angle ∩b	36	1	S4	0...90	°	60	R/M	-	0	Basic angle jb for directional operation
	Oper. direction	36	1	S5	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	-	0	Selection of forward/reverse operation
	Earth fault pr.	36	1	S6	0..1[0 = Disabled; 1 = Enabled]	-	0	R/M	-	0	Earth fault protection
	Nondir. operat.	36	1	S7	0..1[0 = Disabled; 1 = Enabled]	-	0	R/M	-	0	Nondirectional operation when direction cannot be determined
Setting Group 1											
	Operation mode	36	1	S41	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2	Selection of operation mode
	Start current	36	1	S42	0.05...40.00	x In	0.05	R/W	R	2	Start current
	Operate time	36	1	S43	0.05...300.00	s	0.05	R/W	R	2	Operate time at DTmode
	Basic angle ∩b	36	1	S44	0...90	°	60	R/W	R	2	Basic angle jb for directional operation
	Oper. direction	36	1	S45	0..1[0 = Forward; 1 = Reverse]	-	0	R/W	R	2	Selection of forward/reverse operation
	Earth fault pr.	36	1	S46	0..1[0 = Disabled; 1 = Enabled]	-	0	R/W	R	2	Earth fault protection

	Nondir. operat.	36	1	S47	0..1[0 = Disabled; 1 = Enabled]	-	0	R/W	R	2	Nondirectional operation when direction cannot be determined
Setting Group 2											
	Operation mode	36	1	S71	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2	Selection of operation mode
	Start current	36	1	S72	0.05...40.00	x In	0.05	R/W	R	2	Start current
	Operate time	36	1	S73	0.05...300.00	s	0.05	R/W	R	2	Operate time at DTmode
	Basic angle ∩b	36	1	S74	0...90	°	60	R/W	R	2	Basic angle jb for directional operation
	Oper. direction	36	1	S75	0..1[0 = Forward; 1 = Reverse]	-	0	R/W	R	2	Selection of forward/reverse operation
	Earth fault pr.	36	1	S76	0..1[0 = Disabled; 1 = Enabled]	-	0	R/W	R	2	Earth fault protection
	Nondir. operat.	36	1	S77	0..1[0 = Disabled; 1 = Enabled]	-	0	R/W	R	2	Nondirectional operation when direction cannot be determined
Control Settings											
	Measuring mode	36	1	V1	0..3[0 = Mode 1; 1 = Mode 2; 2 = Mode 3; 3 = Mode 4]	-	0	R/W	R	2	Selection of measuring mode
	Drop-off time	36	1	V2	0...1000	ms	0	R/W	R	2	Resetting time of the operate time counter at DT mode
	Group selection	36	1	V3	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	36	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	36	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	36	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	36	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	CBFP time	36	1	V8	100...1000	ms	100	R/W	R	2	Operate time of the delayed trip CBFP
	Reset registers	36	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers

	Test START	36	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	36	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test CBFP	36	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
	Event mask 1	36	1	V101	0...65535	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E15)
	Event mask 2	36	1	V103	0...65535	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E15)
	Event mask 3	36	1	V105	0...65535	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E15)
	Event mask 4	36	1	V107	0...65535	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E15)
Non-directional earth-fault protection function, low-set stage /*100038 / Rev E NEF1Low */											
Actual Parameters											
	Operation mode	38	1	S1	0..15[0 = Not in use; 1 = Definite time; 2 = Extremely inv.; 3 = Very inverse; 4 = Normal inverse; 5 = Long-time inv.; 6 = RI-type inverse; 7 = RD-type inverse; 8 = IEEE Ext. inv.; 9 = IEEE Very inv.; 10 = IEEE Inverse; 11 = IEEE S.T. inv.; 12 = IEEE S.T.E. inv; 13 = IEEE L.T.E. inv; 14 = IEEE L.T.V. inv; 15 = IEEE L.T. inv.]	-	1	R	-	0	Selection of operation mode and inverse time characteristic at IDMTmode
	Start current	38	1	S2	1.0...500.0	% In	1.0	R	-	0	Start current
	Operate time	38	1	S3	0.05...300.00	s	0.05	R	-	0	Operate time at DT mode
	Time multiplier	38	1	S4	0.05...1.00	-	0.05	R	-	0	Time multiplier at IDMT mode
	IEEE time dial	38	1	S5	0.5...15.0	-	0.5	R	-	0	IEEE time dial at IDMT mode
Setting Group 1											

	Operation mode	38	1	S41	0..15[0 = Not in use; 1 = Definite time; 2 = Extremely inv.; 3 = Very inverse; 4 = Normal inverse; 5 = Long-time inv.; 6 = RI-type inverse; 7 = RD-type inverse; 8 = IEEE Ext. inv.; 9 = IEEE Very inv.; 10 = IEEE Inverse; 11 = IEEE S.T. inv.; 12 = IEEE S.T.E. inv; 13 = IEEE L.T.E. inv; 14 = IEEE L.T.V. inv; 15 = IEEE L.T. inv.]	-	1	R/W	R	2	Selection of operation mode and inverse time characteristic at IDMT mode
	Start current	38	1	S42	1.0...500.0	% In	1.0	R/W	R	2	Start current
	Operate time	38	1	S43	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
	Time multiplier	38	1	S44	0.05...1.00	-	0.05	R/W	R	2	Time multiplier at IDMT mode
	IEEE time dial	38	1	S45	0.5...15.0	-	0.5	R/W	R	2	IEEE time dial at IDMT mode
Setting Group 2											
	Operation mode	38	1	S71	0..15[0 = Not in use; 1 = Definite time; 2 = Extremely inv.; 3 = Very inverse; 4 = Normal inverse; 5 = Long-time inv.; 6 = RI-type inverse; 7 = RD-type inverse; 8 = IEEE Ext. inv.; 9 = IEEE Very inv.; 10 = IEEE Inverse; 11 = IEEE S.T. inv.; 12 = IEEE S.T.E. inv; 13 = IEEE L.T.E. inv; 14 = IEEE L.T.V. inv; 15 = IEEE L.T. inv.]	-	1	R/W	R	2	Selection of operation mode and inverse time characteristic at IDMT mode
	Start current	38	1	S72	1.0...500.0	% In	1.0	R/W	R	2	Start current
	Operate time	38	1	S73	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
	Time multiplier	38	1	S74	0.05...1.00	-	0.05	R/W	R	2	Time multiplier at IDMT mode
	IEEE time dial	38	1	S75	0.5...15.0	-	0.5	R/W	R	2	IEEE time dial
Control Settings											

	Measuring mode	38	1	V1	0..1[0 = Peak-to-peak; 1 = Fundam.freq.]	-	1	R/W	R	2	Selection of measuring mode
	Drop-off time	38	1	V2	0...1000	ms	0	R/W	R	2	Resetting time of the operate time counter at DMT mode
	Group selection	38	1	V3	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	38	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	38	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	38	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	38	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	Minimum time	38	1	V8	0.03...10.00	s	0.03	R/W	R	2	Minimum operate time at IDMT mode
	CBFP time	38	1	V9	100...1000	ms	100	R/W	R	2	Operate time of CBFP
	Reset registers	38	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	38	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	38	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test CBFP	38	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
	Event mask 1	38	1	V101	0...4095	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E11)
	Event mask 2	38	1	V103	0...4095	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E11)
	Event mask 3	38	1	V105	0...4095	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E11)
	Event mask 4	38	1	V107	0...4095	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E11)
Input Data											
	Current Io	38	1	I1	0.0...2000.0	% In	0.0	R/M	-	0	Neutral current Io
	Input BS1	38	1	I2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	38	1	I3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2

	Input TRIGG	38	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	38	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input BSREG	38	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for blocking the recording function
	Input RESET	38	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting trip signal and registers NEF1Low
Output Data											
	Output START	38	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	38	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output CBFP	38	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP signal
Firmware Parameters											
	Date	38	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	38	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	38	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Io mean	38	1	V204	0.0...2000.0	% In	0.0	R/M	R	0	Filtered value of Io
	Io peak	38	1	V205	0.0...2000.0	% In	0.0	R/M	R	0	Momentary peak of Io
	BS1	38	1	V206	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	38	1	V207	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	38	1	V208	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	38	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	38	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	38	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Io mean	38	1	V304	0.0...2000.0	% In	0.0	R/M	R	0	Filtered value of Io
	Io peak	38	1	V305	0.0...2000.0	% In	0.0	R/M	R	0	Momentary peak of Io
	BS1	38	1	V306	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	38	1	V307	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	38	1	V308	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	38	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	38	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time

	Duration	38	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Io mean	38	1	V404	0.0...2000.0	% In	0.0	R/M	R	0	Filtered value of Io
	Io peak	38	1	V405	0.0...2000.0	% In	0.0	R/M	R	0	Momentary peak of Io
	BS1	38	1	V406	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	38	1	V407	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	38	1	V408	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
Non-directional earth-fault protection function, high-set stage /*100039 / Rev C NEF1High */ Actual Parameters											
	Operation mode	39	1	S1	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R	-	0	Selection of operation mode
	Start current	39	1	S2	0.10...12.00	x In	0.10	R	-	0	Start current
	Operate time	39	1	S3	0.05...300.00	s	0.05	R	-	0	Operate time at DTmode
Setting Group 1											
	Operation mode	39	1	S41	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2	Selection of operation mode
	Start current	39	1	S42	0.10...12.00	x In	0.10	R/W	R	2	Start current
	Operate time	39	1	S43	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
Setting Group 2											
	Operation mode	39	1	S71	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2	Selection of operation mode
	Start current	39	1	S72	0.10...12.00	x In	0.10	R/W	R	2	Start current
	Operate time	39	1	S73	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
Control Settings											
	Measuring mode	39	1	V1	0..1[0 = Peak-to-peak; 1 = Fundam.freq.]	-	1	R/W	R	2	Selection of measuring mode
	Drop-off time	39	1	V2	0...1000	ms	0	R/W	R	2	Resetting time of the operate time counter
	Group selection	39	1	V3	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group

	Active group	39	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	39	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	39	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	39	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	CBFP time	39	1	V8	100...1000	ms	100	R/W	R	2	Operate time of CBFP
	Reset registers	39	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	39	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	39	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test CBFP	39	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
	Event mask 1	39	1	V101	0...4095	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E11)
	Event mask 2	39	1	V103	0...4095	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E11)
	Event mask 3	39	1	V105	0...4095	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E11)
	Event mask 4	39	1	V107	0...4095	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E11)
Input Data											
	Current Io	39	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Neutral current Io
	Input BS1	39	1	I2	0..1[0=Not active; 1=Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	39	1	I3	0..1[0=Not active; 1=Active]	-	0	R/M	-	0	Block signal BS2
	Input TRIGG	39	1	I4	0..1[0=Not active; 1=Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	39	1	I5	0..1[0=Not active; 1=Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input BSREG	39	1	I6	0..1[0=Not active; 1=Active]	-	0	R/M	-	0	Signal for blocking the recording function
	Input RESET	39	1	I7	0..1[0=Not active; 1=Active]	-	0	R/M	-	0	Signal for resetting trip signal and registers NEF1High
Output Data											

	Output START	39	1	O1	0..1[0=Not active; 1=Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	39	1	O2	0..1[0=Not active; 1=Active]	-	0	R/M	-	0	Status of trip signal
	Output CBFP	39	1	O3	0..1[0=Not active; 1=Active]	-	0	R/M	-	0	Status of CBFP signal
Firmware Parameters											
	Date	39	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	39	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	39	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Io mean	39	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of Io
	Io peak	39	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of Io
	BS1	39	1	V206	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status os BS1 input
	BS2	39	1	V207	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	39	1	V208	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	39	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	39	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	39	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Io mean	39	1	V304	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of Io
	Io peak	39	1	V305	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of Io
	BS1	39	1	V306	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status os BS1 input
	BS2	39	1	V307	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	39	1	V308	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	39	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	39	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	39	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Io mean	39	1	V404	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of Io
	Io peak	39	1	V405	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of Io
	BS1	39	1	V406	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status os BS1 input
	BS2	39	1	V407	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	39	1	V408	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group

Directional earth-fault protection function, low-set stage
/*100040 / Rev E DEF2Low */

Actual Parameters											
	Operation mode	40	1	S1	0..5[0 = Not in use; 1 = Definite time; 2 = Extremely inv.; 3 = Very inverse; 4 = Normal inverse; 5 = Long-time inv.]	-	1	R/M	-	0	Selection of operation mode and IDMT time characteristic
	Oper. criteria	40	1	S2	0..5[0 = BasicAng & Uo; 1 = BasicAng; 2 = IoSin/Cos & Uo; 3 = IoSin/Cos; 4 = Non-dir.Io; 5 = Non-dir. Uo]	-	0	R/M	-	0	Selection of operation criteria
	Oper. direction	40	1	S3	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	-	0	Operation direction
	Basic angle ∩b	40	1	S11	-90...60	°	-90	R/M	-	0	Basic angle
	Oper. charact.	40	1	S5	0..1[0 = IoSin(j); 1 = IoCos(j)]	-	0	R/M	-	0	Operation characteristic
	Start current	40	1	S6	1.0...500.0	% In	1.0	R/M	-	0	Start current
	Start voltage	40	1	S7	2.0...100.0	% Un	2.0	R/M	-	0	Start voltage
	Operate time	40	1	S8	0.1...300.0	s	0.1	R/M	-	0	Operate time at DT mode
	Time multiplier	40	1	S9	0.05...1.00	-	0.05	R/M	-	0	Time multiplier at IDMT mode
	Intermittent E/F	40	1	S10	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Selection of intermittent earthfault protection
Setting Group 1											
	Operation mode	40	1	S41	0..5[0 = Not in use; 1 = Definite time; 2 = Extremely inv.; 3 = Very inverse; 4 = Normal inverse; 5 = Long-time inv.]	-	1	R/W	R	2	Selection of operation mode and IDMT time characteristic
	Oper. criteria	40	1	S42	0..5[0 = BasicAng & Uo; 1 = BasicAng; 2 = IoSin/Cos & Uo; 3 = IoSin/Cos; 4 = Non-dir.Io; 5 = Non-dir. Uo]	-	0	R/W	R	2	Selection of operation criteria
	Oper. direction	40	1	S43	0..1[0 = Forward; 1 = Reverse]	-	0	R/W	R	2	Operation direction
	Basic angle ∩b	40	1	S51	-90...60	°	-90	R/W	R	2	Basic angle

	Oper. charact.	40	1	S45	0..1[0 = IoSin(j); 1 = IoCos(j)]	-	0	R/W	R	2	Operation characteristic
	Start current	40	1	S46	1.0...500.0	% In	1.0	R/W	R	2	Start current
	Start voltage	40	1	S47	2.0...100.0	% Un	2.0	R/W	R	2	Start voltage
	Operate time	40	1	S48	0.1...300.0	s	0.1	R/W	R	2	Operate time at DT mode
	Time multiplier	40	1	S49	0.05...1.00	-	0.05	R/W	R	2	Time multiplier at IDMT mode
	Intermittent E/F	40	1	S50	0..1[0 = Not active; 1 = Active]	-	0	R/W	R	2	Selection of a intermittent E/F operation
Setting Group 2											
	Operation mode	40	1	S71	0..5[0 = Not in use; 1 = Definite time; 2 = Extremely inv.; 3 = Very inverse; 4 = Normal inverse; 5 = Long-time inv.]	-	1	R/W	R	2	Selection of operation mode and IDMT time characteristic
	Oper. criteria	40	1	S72	0..5[0 = BasicAng & Uo; 1 = BasicAng; 2 = IoSin/Cos & Uo; 3 = IoSin/Cos; 4 = Non-dir.Io; 5 = Non-dir. Uo]	-	0	R/W	R	2	Selection of operation criteria
	Oper. direction	40	1	S73	0..1[0 = Forward; 1 = Reverse]	-	0	R/W	R	2	Operation direction
	Basic angle ∩b	40	1	S81	-90...60	°	-90	R/W	R	2	Basic angle
	Oper. charact.	40	1	S75	0..1[0 = IoSin(j); 1 = IoCos(j)]	-	0	R/W	R	2	Operation characteristic
	Start current	40	1	S76	1.0...500.0	% In	1.0	R/W	R	2	Start current
	Start voltage	40	1	S77	2.0...100.0	% Un	2.0	R/W	R	2	Start voltage
	Operate time	40	1	S78	0.1...300.0	s	0.1	R/W	R	2	Operate time at DT mode
	Time multiplier	40	1	S79	0.05...1.00	-	0.05	R/W	R	2	Time multiplier at IDMT mode
	Intermittent E/F	40	1	S80	0..1[0 = Not active; 1 = Active]	-	0	R/W	R	2	Selection of a intermittent E/F operation
Control Settings											
	Measuring mode	40	1	V1	0..1[0 = Peak-to-peak; 1 = Fundam.freq.]	-	1	R/W	R	2	Selection of measuring mode
	Drop-off time	40	1	V2	0...1000	ms	0	R/W	R	2	Resetting time of DT counter
	Group selection	40	1	V3	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	40	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group

	Start pulse	40	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	40	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	40	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	Minimum time	40	1	V8	0.03...10.00	s	0.03	R/W	R	2	Minimum operate time at IDMT mode
	CBFP time	40	1	V9	100...1000	ms	100	R/W	R	2	Operate time of CBFP
	Angle correction	40	1	V10	0.0...10.0	°	2.0	R/W	R	2	Angle correction factor for Iosin(j) / Iocos(j)
	Oper. sector	40	1	V11	0..1[0 = 80°; 1 = 88°]	-	0	R/W	R	2	Operation sector
	Reset registers	40	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	40	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	40	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test CBFP	40	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
	Event mask 1	40	1	V101	0...4095	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E11)
	Event mask 2	40	1	V103	0...4095	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E11)
	Event mask 3	40	1	V105	0...4095	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E11)
	Event mask 4	40	1	V107	0...4095	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E11)
Input Data											
	Current Io	40	1	I1	0.0...2000.0	% In	0.0	R/M	-	0	Neutral current Io
	Voltage Uo	40	1	I2	0.0...120.0	% Un	0.0	R/M	-	0	Residual voltage Uo
	Phase angle ∩	40	1	I3	-180...+180	°	0	R/M	-	0	Phase angle j
	Angle ∩b - ∩	40	1	I4	-180...+180	°	0	R/M	-	0	Phase angle jb - j
	Input BS1	40	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	40	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input BACTRL	40	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input BACTRL
	Input TRIGG	40	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering he registers

	Input GROUP	40	1	I9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input BSREG	40	1	I10	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for blocking the recording function
	Input RESET	40	1	I11	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Resetting of trip signal and registers
Output Data											
	Output START	40	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	40	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output CBFP	40	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP signal
Firmware Parameters											
	Date	40	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	40	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	40	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Io mean	40	1	V204	0.0...2000.0	% In	0.0	R/M	R	0	Io mean value
	Io peak	40	1	V205	0.0...2000.0	% In	0.0	R/M	R	0	Io peak value
	Voltage Uo	40	1	V206	0.0...120.0	% Un	0.0	R/M	R	0	Residual voltage Uo
	Angle ∩	40	1	V207	-180...+180	°	0	R/M	R	0	Angle between Uo & Io
	Angle ∩b - ∩	40	1	V208	-180...+180	°	0	R/M	R	0	Angle between jb & j
	Intermittent E/F	40	1	V209	0..1[0 = Not detected; 1 = Detected]	-	0	R/M	R	0	Status of intermittent E/F
	BS1	40	1	V210	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	40	1	V211	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	BACTRL	40	1	V212	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BACTRL input
	Active group	40	1	V213	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Status of Active group
	Date	40	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	40	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	40	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Io mean	40	1	V304	0.0...2000.0	% In	0.0	R/M	R	0	Io mean value
	Io peak	40	1	V305	0.0...2000.0	% In	0.0	R/M	R	0	Io peak value
	Voltage Uo	40	1	V306	0.0...120.0	% Un	0.0	R/M	R	0	Residual voltage Uo
	Angle ∩	40	1	V307	-180...+180	°	0	R/M	R	0	Angle between Uo & Io
	Angle ∩b - ∩	40	1	V308	-180...+180	°	0	R/M	R	0	Angle between jb & j

	Intermittent E/F	40	1	V309	0..1[0 = Not detected; 1 = Detected]	-	0	R/M	R	0	Status of intermittent E/F
	BS1	40	1	V310	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	40	1	V311	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	BACTRL	40	1	V312	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BACTRL input
	Active group	40	1	V313	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Status of Active group
	Date	40	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	40	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	40	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Io mean	40	1	V404	0.0...2000.0	% In	0.0	R/M	R	0	Io mean value
	Io peak	40	1	V405	0.0...2000.0	% In	0.0	R/M	R	0	Io peak value
	Voltage Uo	40	1	V406	0.0...120.0	% Un	0.0	R/M	R	0	Residual voltage Uo
	Angle ∩	40	1	V407	-180...+180	°	0	R/M	R	0	Angle between Uo & Io
	Angle ∩b - ∩	40	1	V408	-180...+180	°	0	R/M	R	0	Angle between jb & j
	Intermittent E/F	40	1	V409	0..1[0 = Not detected; 1 = Detected]	-	0	R/M	R	0	Status of intermittent E/F
	BS1	40	1	V410	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	40	1	V411	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	BACTRL	40	1	V412	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BACTRL input
	Active group	40	1	V413	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Status of Active group
Directional earth-fault protection function, high-set stage /*100041 / Rev E DEF2High */ Actual Parameters											
	Operation mode	41	1	S1	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/M	-	0	Selection of operation mode
	Oper. criteria	41	1	S2	0..5[0 = BasicAng & Uo; 1 = BasicAng; 2 = IoSin/Cos & Uo; 3 = IoSin/Cos; 4 = Non-dir.Io; 5 = Non-dir. Uo]	-	0	R/M	-	0	Selection of operation criteria

	Oper. direction	41	1	S3	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	-	0	Operation direction
	Basic angle ∩b	41	1	S10	-90...60	°	-90	R/M	-	0	Basic angle
	Oper. charact.	41	1	S5	0..1[0 = IoSin(j); 1 = IoCos(j)]	-	0	R/M	-	0	Operation characteristic
	Start current	41	1	S6	1.0...500.0	% In	1.0	R/M	-	0	Start current
	Start voltage	41	1	S7	2.0...100.0	% Un	2.0	R/M	-	0	Start voltage
	Operate time	41	1	S8	0.1...300.0	s	0.1	R/M	-	0	Operate time at DTmode
	Intermittent E/F	41	1	S9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Selection of intermittent earthfault protection
Setting Group 1											
	Operation mode	41	1	S41	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2	Selection of operation mode
	Oper. criteria	41	1	S42	0..5[0 = BasicAng & Uo; 1 = BasicAng; 2 = IoSin/Cos & Uo; 3 = IoSin/Cos; 4 = Non-dir.Io; 5 = Non-dir. Uo]	-	0	R/W	R	2	Selection of operation criteria
	Oper. direction	41	1	S43	0..1[0 = Forward; 1 = Reverse]	-	0	R/W	R	2	Operation direction
	Basic angle ∩b	41	1	S50	-90...60	°	-90	R/W	R	2	Basic angle
	Oper. charact.	41	1	S45	0..1[0 = IoSin(j); 1 = IoCos(j)]	-	0	R/W	R	2	Operation characteristic
	Start current	41	1	S46	1.0...500.0	% In	1.0	R/W	R	2	Start current
	Start voltage	41	1	S47	2.0...100.0	% Un	2.0	R/W	R	2	Start voltage
	Operate time	41	1	S48	0.1...300.0	s	0.1	R/W	R	2	Operate time at DT mode
	Intermittent E/F	41	1	S49	0..1[0 = Not active; 1 = Active]	-	0	R/W	R	2	Selection of a intermittent E/F operation
Setting Group 2											
	Operation mode	41	1	S71	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2	Selection of operation mode
	Oper. criteria	41	1	S72	0..5[0 = BasicAng & Uo; 1 = BasicAng; 2 = IoSin/Cos & Uo; 3 = IoSin/Cos; 4 = Non-dir.Io; 5 = Non-dir. Uo]	-	0	R/W	R	2	Selection of operation criteria
	Oper. direction	41	1	S73	0..1[0 = Forward; 1 = Reverse]	-	0	R/W	R	2	Operation direction
	Basic angle ∩b	41	1	S80	-90...60	°	-90	R/W	R	2	Basic angle
	Oper. charact.	41	1	S75	0..1[0 = IoSin(j); 1 = IoCos(j)]	-	0	R/W	R	2	Operation characteristic

	Start current	41	1	S76	1.0...500.0	% In	1.0	R/W	R	2	Start current
	Start voltage	41	1	S77	2.0...100.0	% Un	2.0	R/W	R	2	Start voltage
	Operate time	41	1	S78	0.1...300.0	s	0.1	R/W	R	2	Operate time at DT mode
	Intermittent E/F	41	1	S79	0..1[0 = Not active; 1 = Active]	-	0	R/W	R	2	Selection of a intermittent E/F operation
Control Settings											
	Measuring mode	41	1	V1	0..1[0 = Peak-to-peak; 1 = Fundam.freq.]	-	1	R/W	R	2	Selection of measuring mode
	Drop-off time	41	1	V2	0...1000	ms	0	R/W	R	2	Resetting time of DT counter
	Group selection	41	1	V3	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	41	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	41	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	41	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	41	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	CBFP time	41	1	V8	100...1000	ms	100	R/W	R	2	Operate time of CBFP
	Angle correction	41	1	V9	0.0...10.0	°	2.0	R/W	R	2	Angle correction factor for Iosin(j) / Iocos(j)
	Oper. sector	41	1	V10	0..1[0 = 80°; 1 = 88°]	-	0	R/W	R	2	Operation sector
	Reset registers	41	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	41	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	41	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test CBFP	41	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
	Event mask 1	41	1	V101	0...4095	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E11)
	Event mask 2	41	1	V103	0...4095	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E11)
	Event mask 3	41	1	V105	0...4095	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E11)
	Event mask 4	41	1	V107	0...4095	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E11)
Input Data											

	Current Io	41	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Neutral current Io
	Voltage Uo	41	1	I2	0.0...120.0	% Un	0.0	R/M	-	0	Residual voltage Uo
	Phase angle ∩	41	1	I3	-180...+180	°	0	R/M	-	0	Phase angle j
	Angle ∩b - ∩	41	1	I4	-180...+180	°	0	R/M	-	0	Phase angle jb - j
	Input BS1	41	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	41	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input BACTRL	41	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input BACTRL
	Input TRIGG	41	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	41	1	I9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input BSREG	41	1	I10	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for blocking the recording function
	Input RESET	41	1	I11	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Resetting of trip signal and registers
Output Data											
	Output START	41	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	41	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output CBFP	41	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP signal
Firmware Parameters											
	Date	41	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	41	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	41	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Io mean	41	1	V204	0.0...2000.0	% In	0.0	R/M	R	0	Io mean value
	Io peak	41	1	V205	0.0...2000.0	% In	0.0	R/M	R	0	Io peak value
	Voltage Uo	41	1	V206	0.0...120.0	% Un	0.0	R/M	R	0	Residual voltage Uo
	Angle ∩	41	1	V207	-180...+180	°	0	R/M	R	0	Angle between Uo & Io
	Angle ∩b - ∩	41	1	V208	-180...+180	°	0	R/M	R	0	Angle between jb & j
	Intermittent E/F	41	1	V209	0..1[0 = Not detected; 1 = Detected]	-	0	R/M	R	0	Status of intermittent E/F
	BS1	41	1	V210	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	41	1	V211	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input

BACTRL	41	1	V212	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BACTRL input
Active group	41	1	V213	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Status of Active group
Date	41	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	41	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Duration	41	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
Io mean	41	1	V304	0.0...2000.0	% In	0.0	R/M	R	0	Io mean value
Io peak	41	1	V305	0.0...2000.0	% In	0.0	R/M	R	0	Io peak value
Voltage Uo	41	1	V306	0.0...120.0	% Un	0.0	R/M	R	0	Residual voltage Uo
Angle ∩	41	1	V307	-180...+180	°	0	R/M	R	0	Angle between Uo & Io
Angle ∩b - ∩	41	1	V308	-180...+180	°	0	R/M	R	0	Angle between jb & j
Intermittent E/F	41	1	V309	0..1[0 = Not detected; 1 = Detected]	-	0	R/M	R	0	Status of intermittent E/F
BS1	41	1	V310	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
BS2	41	1	V311	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
BACTRL	41	1	V312	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BACTRL input
Active group	41	1	V313	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Status of Active group
Date	41	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	41	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Duration	41	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
Io mean	41	1	V404	0.0...2000.0	% In	0.0	R/M	R	0	Io mean value
Io peak	41	1	V405	0.0...2000.0	% In	0.0	R/M	R	0	Io peak value
Voltage Uo	41	1	V406	0.0...120.0	% Un	0.0	R/M	R	0	Residual voltage Uo
Angle ∩	41	1	V407	-180...+180	°	0	R/M	R	0	Angle between Uo & Io
Angle ∩b - ∩	41	1	V408	-180...+180	°	0	R/M	R	0	Angle between jb & j
Intermittent E/F	41	1	V409	0..1[0 = Not detected; 1 = Detected]	-	0	R/M	R	0	Status of intermittent E/F
BS1	41	1	V410	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
BS2	41	1	V411	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
BACTRL	41	1	V412	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BACTRL input
Active group	41	1	V413	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Status of Active group

Directional earth-fault protection function, instantaneous stage /*100042 / Rev E DEF2Inst */

Actual Parameters

	Operation mode	42	1	S1	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/M	-	0 Selection of operation mode
	Oper. criteria	42	1	S2	0..5[0 = BasicAng & Uo; 1 = BasicAng; 2 = IoSin/Cos & Uo; 3 = IoSin/Cos; 4 = Non-dir.Io; 5 = Non-dir. Uo]	-	0	R/M	-	0 Selection of operation criteria
	Oper. direction	42	1	S3	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	-	0 Operation direction
	Basic angle ∩b	42	1	S10	-90...60	°	-90	R/M	-	0 Basic angle
	Oper. charact.	42	1	S5	0..1[0 = IoSin(j); 1 = IoCos(j)]	-	0	R/M	-	0 Operation characteristic
	Start current	42	1	S6	1.0...500.0	% In	1.0	R/M	-	0 Start current
	Start voltage	42	1	S7	2.0...100.0	% Un	2.0	R/M	-	0 Start voltage
	Operate time	42	1	S8	0.1...300.0	s	0.1	R/M	-	0 Operate time at DTmode
	Intermittent E/F	42	1	S9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0 Selection of intermittent earthfault protection

Setting Group 1

	Operation mode	42	1	S41	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2 Selection of operation mode
	Oper. criteria	42	1	S42	0..5[0 = BasicAng & Uo; 1 = BasicAng; 2 = IoSin/Cos & Uo; 3 = IoSin/Cos; 4 = Non-dir.Io; 5 = Non-dir. Uo]	-	0	R/W	R	2 Selection of operation criteria
	Oper. direction	42	1	S43	0..1[0 = Forward; 1 = Reverse]	-	0	R/W	R	2 Operation direction
	Basic angle ∩b	42	1	S50	-90...60	°	-90	R/W	R	2 Basic angle
	Oper. charact.	42	1	S45	0..1[0 = IoSin(j); 1 = IoCos(j)]	-	0	R/W	R	2 Operation characteristic
	Start current	42	1	S46	1.0...500.0	% In	1.0	R/W	R	2 Start current
	Start voltage	42	1	S47	2.0...100.0	% Un	2.0	R/W	R	2 Start voltage
	Operate time	42	1	S48	0.1...300.0	s	0.1	R/W	R	2 Operate time at DT mode
	Intermittent E/F	42	1	S49	0..1[0 = Not active; 1 = Active]	-	0	R/W	R	2 Selection of a intermittent E/F operation

Setting Group 2											
	Operation mode	42	1	S71	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2	Selection of operation mode
	Oper. criteria	42	1	S72	0..5[0 = BasicAng & Uo; 1 = BasicAng; 2 = IoSin/Cos & Uo; 3 = IoSin/Cos; 4 = Non-dir.Io; 5 = Non-dir. Uo]	-	0	R/W	R	2	Selection of operation criteria
	Oper. direction	42	1	S73	0..1[0 = Forward; 1 = Reverse]	-	0	R/W	R	2	Operation direction
	Basic angle ∩b	42	1	S80	-90...60	°	-90	R/W	R	2	Basic angle
	Oper. charact.	42	1	S75	0..1[0 = IoSin(j); 1 = IoCos(j)]	-	0	R/W	R	2	Operation characteristic
	Start current	42	1	S76	1.0...500.0	% In	1.0	R/W	R	2	Start current
	Start voltage	42	1	S77	2.0...100.0	% Un	2.0	R/W	R	2	Start voltage
	Operate time	42	1	S78	0.1...300.0	s	0.1	R/W	R	2	Operate time at DT mode
	Intermittent E/F	42	1	S79	0..1[0 = Not active; 1 = Active]	-	0	R/W	R	2	Selection of a intermittent E/F operation
Control Settings											
	Measuring mode	42	1	V1	0..1[0 = Peak-to-peak; 1 = Fundam.freq.]	-	1	R/W	R	2	Selection of measuring mode
	Drop-off time	42	1	V2	0...1000	ms	0	R/W	R	2	Resetting time of DT counter
	Group selection	42	1	V3	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	42	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	42	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	42	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	42	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	CBFP time	42	1	V8	100...1000	ms	100	R/W	R	2	Operate time of CBFP
	Angle correction	42	1	V9	0.0...10.0	°	2.0	R/W	R	2	Angle correction factor for Iosin(j) / Iocos(j)
	Oper. sector	42	1	V10	0..1[0 = 80°; 1 = 88°]	-	0	R/W	R	2	Operation sector
	Reset registers	42	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	42	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START

	Test TRIP	42	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test CBFP	42	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
	Event mask 1	42	1	V101	0...4095	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E11)
	Event mask 2	42	1	V103	0...4095	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E11)
	Event mask 3	42	1	V105	0...4095	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E11)
	Event mask 4	42	1	V107	0...4095	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E11)
Input Data											
	Current Io	42	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Neutral current Io
	Voltage Uo	42	1	I2	0.0...120.0	% Un	0.0	R/M	-	0	Residual voltage Uo
	Phase angle ∩	42	1	I3	-180...+180	°	0	R/M	-	0	Phase angle j
	Angle ∩b - ∩	42	1	I4	-180...+180	°	0	R/M	-	0	Phase angle jb - j
	Input BS1	42	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	42	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input BACTRL	42	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input BACTRL
	Input TRIGG	42	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering he registers
	Input GROUP	42	1	I9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input BSREG	42	1	I10	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for blocking the recording function
	Input RESET	42	1	I11	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Resetting of trip signal and registers
Output Data											
	Output START	42	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	42	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output CBFP	42	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP signal
Firmware Parameters											
	Date	42	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	42	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time

Duration	42	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
Io mean	42	1	V204	0.0...2000.0	% In	0.0	R/M	R	0	Io mean value
Io peak	42	1	V205	0.0...2000.0	% In	0.0	R/M	R	0	Io peak value
Voltage Uo	42	1	V206	0.0...120.0	% Un	0.0	R/M	R	0	Residual voltage Uo
Angle ∩	42	1	V207	-180...+180	°	0	R/M	R	0	Angle between Uo & Io
Angle ∩b - ∩	42	1	V208	-180...+180	°	0	R/M	R	0	Angle between jb & j
Intermittent E/F	42	1	V209	0..1[0 = Not detected; 1 = Detected]	-	0	R/M	R	0	Status of intermittent E/F
BS1	42	1	V210	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
BS2	42	1	V211	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
BACTRL	42	1	V212	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BACTRL input
Active group	42	1	V213	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Status of Active group
Date	42	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	42	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Duration	42	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
Io mean	42	1	V304	0.0...2000.0	% In	0.0	R/M	R	0	Io mean value
Io peak	42	1	V305	0.0...2000.0	% In	0.0	R/M	R	0	Io peak value
Voltage Uo	42	1	V306	0.0...120.0	% Un	0.0	R/M	R	0	Residual voltage Uo
Angle ∩	42	1	V307	-180...+180	°	0	R/M	R	0	Angle between Uo & Io
Angle ∩b - ∩	42	1	V308	-180...+180	°	0	R/M	R	0	Angle between jb & j
Intermittent E/F	42	1	V309	0..1[0 = Not detected; 1 = Detected]	-	0	R/M	R	0	Status of intermittent E/F
BS1	42	1	V310	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
BS2	42	1	V311	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
BACTRL	42	1	V312	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BACTRL input
Active group	42	1	V313	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Status of Active group
Date	42	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	42	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Duration	42	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
Io mean	42	1	V404	0.0...2000.0	% In	0.0	R/M	R	0	Io mean value
Io peak	42	1	V405	0.0...2000.0	% In	0.0	R/M	R	0	Io peak value
Voltage Uo	42	1	V406	0.0...120.0	% Un	0.0	R/M	R	0	Residual voltage Uo
Angle ∩	42	1	V407	-180...+180	°	0	R/M	R	0	Angle between Uo & Io

	Angle ∩b - ∩	42	1	V408	-180...+180	°	0	R/M	R	0	Angle between jb & j
	Intermittent E/F	42	1	V409	0..1[0 = Not detected; 1 = Detected]	-	0	R/M	R	0	Status of intermittent E/F
	BS1	42	1	V410	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	42	1	V411	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	BACTRL	42	1	V412	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BACTRL input
	Active group	42	1	V413	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Status of Active group
Residual overvoltage protection, low-set stage Uo> /*100044 / Rev D ROV1Low */ Actual Parameters											
	Operation mode	44	1	S1	0..1[0 = Not in use; 1 = Definite time]	-	1	R/M	-	0	Selection of operation mode
	Start voltage	44	1	S2	2.0...100.0	% Un	2.0	R/M	-	0	Start voltage
	Operate time	44	1	S3	0.05...300.00	s	0.05	R/M	-	0	Operate time at DTmode
Setting Group 1											
	Operation mode	44	1	S41	0..1[0 = Not in use; 1 = Definite time]	-	1	R/W	R	2	Selection of operation mode
	Start voltage	44	1	S42	2.0...100.0	% Un	2.0	R/W	R	2	Start voltage
	Operate time	44	1	S43	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
Setting Group 2											
	Operation mode	44	1	S71	0..1[0 = Not in use; 1 = Definite time]	-	1	R/W	R	2	Selection of operation mode
	Start voltage	44	1	S72	2.0...100.0	% Un	2.0	R/W	R	2	Start voltage
	Operate time	44	1	S73	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
Control Settings											
	Measuring mode	44	1	V1	0..1[0 = Peak-to-peak; 1 = Fundam.freq.]	-	1	R/W	R	2	Selection of measuring mode
	Group selection	44	1	V2	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	44	1	V3	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	44	1	V4	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal

	Trip signal	44	1	V5	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	44	1	V6	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP
	Reset registers	44	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	44	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	44	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Event mask 1	44	1	V101	0...1023	-	15	R/W	R	2	Event mask 1 for event transmission (E0 ... E9)
	Event mask 2	44	1	V103	0...1023	-	15	R/W	R	2	Event mask 2 for event transmission (E0 ... E9)
	Event mask 3	44	1	V105	0...1023	-	15	R/W	R	2	Event mask 3 for event transmission (E0 ... E9)
	Event mask 4	44	1	V107	0...1023	-	15	R/W	R	2	Event mask 4 for event transmission (E0 ... E9)
Input Data											
	Voltage Uo	44	1	I1	0.0...120.0	% Un	0.0	R/M	-	0	Residual voltage Uo
	Input BS1	44	1	I2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	44	1	I3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input TRIGG	44	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	44	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	44	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting trip signal and registers ROV1Low
Output Data											
	Output START	44	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	44	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
Firmware Parameters											
	Date	44	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	44	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	44	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage Uo	44	1	V204	0.0...120.0	% Un	0.0	R/M	R	0	Filtered value of Uo

	BS1	44	1	V205	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0 Status of BS1 input
	BS2	44	1	V206	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0 Status of BS2 input
	Active group	44	1	V207	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0 Active setting group
	Date	44	1	V301	YYYY-MM-DD	-	-	R/M	R	0 Recording date
	Time	44	1	V302	hh:mm:ss.000	-	-	R/M	R	0 Recording time
	Duration	44	1	V303	0.0...100.0	%	0.0	R/M	R	0 Duration of start situation
	Voltage Uo	44	1	V304	0.0...120.0	% Un	0.0	R/M	R	0 Filtered value of Uo
	BS1	44	1	V305	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0 Status of BS1 input
	BS2	44	1	V306	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0 Status of BS2 input
	Active group	44	1	V307	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0 Active setting group
	Date	44	1	V401	YYYY-MM-DD	-	-	R/M	R	0 Recording date
	Time	44	1	V402	hh:mm:ss.000	-	-	R/M	R	0 Recording time
	Duration	44	1	V403	0.0...100.0	%	0.0	R/M	R	0 Duration of start situation
	Voltage Uo	44	1	V404	0.0...120.0	% Un	0.0	R/M	R	0 Filtered value of Uo
	BS1	44	1	V405	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0 Status of BS1 input
	BS2	44	1	V406	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0 Status of BS2 input
	Active group	44	1	V407	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0 Active setting group
Residual overvoltage protection, high-set stage Uo>> /*100045 / Rev D ROV1High */ Actual Parameters										
	Operation mode	45	1	S1	0..1[0 = Not in use; 1 = Definite time]	-	1	R/M	-	0 Selection of operation mode
	Start voltage	45	1	S2	2.0...100.0	% Un	2.0	R/M	-	0 Start voltage
	Operate time	45	1	S3	0.05...300.00	s	0.05	R/M	-	0 Operate time at DT mode
Setting Group 1										
	Operation mode	45	1	S41	0..1[0 = Not in use; 1 = Definite time]	-	1	R/W	R	2 Selection of operation mode
	Start voltage	45	1	S42	2.0...100.0	% Un	2.0	R/W	R	2 Start voltage
	Operate time	45	1	S43	0.05...300.00	s	0.05	R/W	R	2 Operate time at DT mode

Setting Group 2											
	Operation mode	45	1	S71	0..1[0 = Not in use; 1 = Definite time]	-	1	R/W	R	2	Selection of operation mode
	Start voltage	45	1	S72	2.0...100.0	% Un	2.0	R/W	R	2	Start voltage
	Operate time	45	1	S73	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
Control Settings											
	Measuring mode	45	1	V1	0..1[0 = Peak-to-peak; 1 = Fundam.freq.]	-	1	R/W	R	2	Selection of measuring mode
	Group selection	45	1	V2	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	45	1	V3	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	45	1	V4	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	45	1	V5	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	45	1	V6	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP
	Reset registers	45	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	45	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	45	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Event mask 1	45	1	V101	0...1023	-	15	R/W	R	2	Event mask 1 for event transmission (E0 ... E9)
	Event mask 2	45	1	V103	0...1023	-	15	R/W	R	2	Event mask 2 for event transmission (E0 ... E9)
	Event mask 3	45	1	V105	0...1023	-	15	R/W	R	2	Event mask 3 for event transmission (E0 ... E9)
	Event mask 4	45	1	V107	0...1023	-	15	R/W	R	2	Event mask 4 for event transmission (E0 ... E9)
Input Data											
	Voltage Uo	45	1	I1	0.0...120.0	% Un	0.0	R/M	-	0	Residual voltage Uo
	Input BS1	45	1	I2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	45	1	I3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input TRIGG	45	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers

	Input GROUP	45	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	45	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting trip signal and registers ROV1High
Output Data											
	Output START	45	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	45	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
Firmware Parameters											
	Date	45	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	45	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	45	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage Uo	45	1	V204	0.0...120.0	% Un	0.0	R/M	R	0	Filtered value of Uo
	BS1	45	1	V205	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	45	1	V206	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	45	1	V207	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	45	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	45	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	45	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage Uo	45	1	V304	0.0...120.0	% Un	0.0	R/M	R	0	Filtered value of Uo
	BS1	45	1	V305	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	45	1	V306	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	45	1	V307	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	45	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	45	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	45	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage Uo	45	1	V404	0.0...120.0	% Un	0.0	R/M	R	0	Filtered value of Uo
	BS1	45	1	V405	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	45	1	V406	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	45	1	V407	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group

Residual overvoltage protection, instantaneous stage Uo>>>
/*100046 / Rev D ROV1Inst
*/

Input Data											
	Voltage Uo	46	1	I1	0.0...120.0	% Un	0.0	R/M	-	0	Residual voltage Uo
	Input BS1	46	1	I2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	46	1	I3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input TRIGG	46	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	46	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	46	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting trip signal and registers ROV1Inst
Output Data											
	Output START	46	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	46	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
Firmware Parameters											
	Date	46	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	46	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	46	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage Uo	46	1	V204	0.0...120.0	% Un	0.0	R/M	R	0	Filtered value of Uo
	BS1	46	1	V205	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	46	1	V206	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	46	1	V207	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	46	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	46	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	46	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage Uo	46	1	V304	0.0...120.0	% Un	0.0	R/M	R	0	Filtered value of Uo
	BS1	46	1	V305	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input

	BS2	46	1	V306	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	46	1	V307	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	46	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	46	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	46	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage Uo	46	1	V404	0.0...120.0	% Un	0.0	R/M	R	0	Filtered value of Uo
	BS1	46	1	V405	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	46	1	V406	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	46	1	V407	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Actual Parameters											
	Operation mode	46	1	S1	0..1[0 = Not in use; 1 = Definite time]	-	1	R/M	-	0	Selection of operation mode
	Start voltage	46	1	S2	2.0...100.0	% Un	2.0	R/M	-	0	Start voltage
	Operate time	46	1	S3	0.05...300.00	s	0.05	R/M	-	0	Operate time at DT mode
Setting Group 1											
	Operation mode	46	1	S41	0..1[0 = Not in use; 1 = Definite time]	-	1	R/W	R	2	Selection of operation mode
	Start voltage	46	1	S42	2.0...100.0	% Un	2.0	R/W	R	2	Start voltage
	Operate time	46	1	S43	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
Setting Group 2											
	Operation mode	46	1	S71	0..1[0 = Not in use; 1 = Definite time]	-	1	R/W	R	2	Selection of operation mode
	Start voltage	46	1	S72	2.0...100.0	% Un	2.0	R/W	R	2	Start voltage
	Operate time	46	1	S73	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
Control Settings											
	Measuring mode	46	1	V1	0..1[0 = Peak-to-peak; 1 = Fundam.freq.]	-	1	R/W	R	2	Selection of measuring mode
	Group selection	46	1	V2	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	46	1	V3	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	46	1	V4	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	46	1	V5	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output

	Trip pulse	46	1	V6	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP
	Reset registers	46	3	V13	0..1[0 = 0; 1= Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	46	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	46	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Event mask 1	46	1	V101	0...1023	-	15	R/W	R	2	Event mask 1 for event transmission (E0 ... E9)
	Event mask 2	46	1	V103	0...1023	-	15	R/W	R	2	Event mask 2 for event transmission (E0 ... E9)
	Event mask 3	46	1	V105	0...1023	-	15	R/W	R	2	Event mask 3 for event transmission (E0 ... E9)
	Event mask 4	46	1	V107	0...1023	-	15	R/W	R	2	Event mask 4 for event transmission (E0 ... E9)
Three-phase thermal overload protection for cables /*100047 / Rev E TOL3Cab */											
Input Data											
	Current IL1	47	1	I1	0.0...20000.0	A	0.0	R/M	-	0	Phase current IL1
	Current IL2	47	1	I2	0.0...20000.0	A	0.0	R/M	-	0	Phase current IL2
	Current IL3	47	1	I3	0.0...20000.0	A	0.0	R/M	-	0	Phase current IL3
	IL1 (%)	47	1	I4	0.0...1000.0	% In	0.0	R/M	-	0	Phase current IL1 in percents
	IL2 (%)	47	1	I5	0.0...1000.0	% In	0.0	R/M	-	0	Phase current IL2 in percents
	IL3 (%)	47	1	I6	0.0...1000.0	% In	0.0	R/M	-	0	Phase current IL3 in percents
	Temp SENSOR1	47	1	I7	-50.0...100.0	°C	0.0	R/M	-	0	Temperature value from sensor 1
	Temp SENSOR2	47	1	I8	-50.0...100.0	°C	0.0	R/M	-	0	Temperature value from sensor 2
	Input SENS_IV	47	1	I9	0..1[0 = Valid; 1 = Invalid]	-	0	R/M	-	0	Signal indicating sensor fault
	Input BLOCK	47	1	I10	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Blocking signal
	Input TRIGG	47	1	I11	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers

	Input GROUP	47	1	I12	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	47	1	I13	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of TOL3Cab
Output Data											
	Output START	47	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	47	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output CU_ALARM	47	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CURRENT_ALARM signal
	Output COND_TEMP	47	1	O4	-100.0...300.0	°C	0.0	R/M	-	0	Calculated temperature of the conductor
	Output TEMP(%)	47	1	O5	0.0...1000.0	%	0.0	R/M	-	0	Per cent value of the calculated temperature of the conductor
	Output COOL_TIME	47	1	O6	0...99999	min	0	R/M	-	0	Waiting time for the successful reclosure
	Output TRIP_TIME	47	1	O7	0...99999	min	0	R/M	-	0	Predicted time for the trip in the overload situation
	Output SENSERR	47	1	O8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of sensor error signal
Firmware Parameters											
	Date	47	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	47	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Output TRIP	47	1	V203	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP output
	Input TRIGG	47	1	V204	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIGG input
	Trip delay	47	1	V205	0.0...100.0	%	0.0	R/M	R	0	Elapsed trip delay
	Primary current	47	1	V206	0.0...20000.0	A	0.0	R/M	R	0	RMS current value (maximum of IL1,IL2 & IL3)
	Output COND_TEMP	47	1	V207	-100.0...300.0	°C	0.0	R/M	R	0	Calculated temperature of the conductor
	Ambient temp	47	1	V208	-50.0...100.0	°C	0.0	R/M	R	0	The ambient temperature used for the calculation of the thermal load
	Date	47	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	47	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time

	Output TRIP	47	1	V303	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP output
	Input TRIGG	47	1	V304	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIGG input
	Trip delay	47	1	V305	0.0...100.0	%	0.0	R/M	R	0	Elapsed trip delay
	Primary current	47	1	V306	0.0...20000.0	A	0.0	R/M	R	0	RMS current value (maximum of IL1,IL2 & IL3)
	Output COND_TEMP	47	1	V307	-100.0...300.0	°C	0.0	R/M	R	0	Calculated temperature of the conductor
	Ambient temp	47	1	V308	-50.0...100.0	°C	0.0	R/M	R	0	The ambient temperature used for the calculation of the thermal load
	Date	47	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	47	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Output TRIP	47	1	V403	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP output
	Input TRIGG	47	1	V404	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIGG input
	Trip delay	47	1	V405	0.0...100.0	%	0.0	R/M	R	0	Elapsed trip delay
	Primary current	47	1	V406	0.0...20000.0	A	0.0	R/M	R	0	RMS current value (maximum of IL1,IL2 & IL3)
	Output COND_TEMP	47	1	V407	-100.0...300.0	°C	0.0	R/M	R	0	Calculated temperature of the conductor
	Ambient temp	47	1	V408	-50.0...100.0	°C	0.0	R/M	R	0	The ambient temperature used for the calculation of the thermal load
Actual Parameters											
	Time constant	47	1	S1	1...999	min	45	R/M	-	0	Heating / cooling time constant for the cable
	Rated current	47	1	S2	1.0...5000.0	A	300.0	R/M	-	0	Maximum load current for the protected cable
	Maximum temp	47	1	S3	40.0...150.0	°C	90.0	R/M	-	0	Maximum temperature permitted for the conductor
	Reference temp	47	1	S4	-50.0...100.0	°C	20.0	R/M	-	0	Ambient temperature for the determination of the maximum load current
	Trip temperature	47	1	S5	80.0...120.0	%	100.0	R/M	-	0	Tripping temperature Qtrip, per cent value from the Maximum temp
	Prior alarm	47	1	S6	40.0...100.0	%	90.0	R/M	-	0	Prior alarm temperature, per cent value

	Reclosure temp	47	1	S7	40.0...100.0	%	80.0	R/M	-	0	Temperature value which enables reclosing
	Ambient temp	47	1	S8	-50.0...100.0	°C	40.0	R/M	-	0	Setting value for ambient temperature
Setting Group 1											
	Time constant	47	1	S41	1...999	min	45	R/W	R	2	Heating / cooling time constant for the cable
	Rated current	47	1	S42	1.0...5000.0	A	300.0	R/W	R	2	Maximum load current for the protected cable
	Maximum temp	47	1	S43	40.0...150.0	°C	90.0	R/W	R	2	Maximum temperature permitted for the conductor
	Reference temp	47	1	S44	-50.0...100.0	°C	20.0	R/W	R	2	Ambient temperature for the determination of the maximum load current
	Trip temperature	47	1	S45	80.0...120.0	%	100.0	R/W	R	2	Tripping temperature Qtrip, per cent value
	Prior alarm	47	1	S46	40.0...100.0	%	90.0	R/W	R	2	Prior alarm temperature, per cent value
	Reclosure temp	47	1	S47	40.0...100.0	%	80.0	R/W	R	2	Temperature value which enables reclosing
	Ambient temp	47	1	S48	-50.0...100.0	°C	40.0	R/W	R	2	Setting value for ambient temperature
Setting Group 2											
	Time constant	47	1	S71	1...999	min	45	R/W	R	2	Heating / cooling time constant for the cable
	Rated current	47	1	S72	1.0...5000.0	A	300.0	R/W	R	2	Maximum load current for the protected cable
	Maximum temp	47	1	S73	40.0...150.0	°C	90.0	R/W	R	2	Maximum temperature permitted for the conductor
	Reference temp	47	1	S74	-50.0...100.0	°C	20.0	R/W	R	2	Ambient temperature for the determination of the maximum load current
	Trip temperature	47	1	S75	80.0...120.0	%	100.0	R/W	R	2	Tripping temperature Qtrip, per cent value.
	Prior alarm	47	1	S76	40.0...100.0	%	90.0	R/W	R	2	Prior alarm temperature, per cent value
	Reclosure temp	47	1	S77	40.0...100.0	%	80.0	R/W	R	2	Temperature value which enables reclosing
	Ambient temp	47	1	S78	-50.0...100.0	°C	40.0	R/W	R	2	Setting value for ambient temperature
Control Settings											

Operation mode	47	1	V1	0..3[0 = Not in use; 1 = ON: no sensors; 2 = Sensor 1; 3 = Sensors 1&2]	-	1	R/W	R	2	Selection of operate mode
Ambient temp	47	1	V2	-50.0...100.0	°C	0.0	R/M	-	0	Ambient temperature value
Group selection	47	1	V3	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
Active group	47	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
Trip signal	47	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
Trip pulse	47	1	V7	100...1000	ms	100	R/W	R	2	Minimum pulse length of TRIP and CBFP
Trip delay	47	1	V8	0...60000	min	0	R/W	R	2	Operate time of the delayed trip
CBFP time	47	1	V9	0.00...100.00	s	0.00	R/W	R	2	Operate time of the Circuit Breaker Failure Protection CBFP
Trip & Start	47	1	V10	0..1[0 = Disabled; 1 = Enabled]	-	1	R/W	R	2	Tells if the start and trip are enabled or not
Reset registers	47	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal, sensor error signal and registers
Test START	47	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
Test TRIP	47	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
Test CBFP	47	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
Event mask 1	47	1	V101	0...131071	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E16)
Event mask 2	47	1	V103	0...131071	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E16)
Event mask 3	47	1	V105	0...131071	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E16)
Event mask 4	47	1	V107	0...131071	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E16)

Three-phase thermal overload protection for devices.

/*100048 / Rev E TOL3Dev
*/

Actual Parameters

	S: τ1	48	1	S1	0.1...999.0	min	14.0	R/M	-	0	Short timeconstant for the stator
	S: τ2	48	1	S2	0.1...999.0	min	69.0	R/M	-	0	Long timeconstant for the stator
	S: p-factor	48	1	S3	0.00...1.00	-	0.50	R/M	-	0	Weighting factor of the S:≡1
	S: Rise(°C),I=In	48	1	S4	50.0...350.0	°C	90.0	R/M	-	0	Temperature rise of the stator when loaded by the rated current
	S: Maximum temp	48	1	S5	50.0...350.0	°C	155.0	R/M	-	0	Maximum temperature allowed for the stator
	R: τ1	48	1	S6	0.1...999.0	min	4.0	R/M	-	0	Short timeconstant for the rotor
	R: τ2	48	1	S7	0.1...999.0	min	69.0	R/M	-	0	Long timeconstant for the rotor
	R: p-factor	48	1	S8	0.00...1.00	-	0.25	R/M	-	0	Weighting factor of the R:≡1
	R: Rise(°C),I=In	48	1	S9	50.0...350.0	°C	100.0	R/M	-	0	Temperature rise of the rotor when loaded by the rated current
	R: Maximum temp	48	1	S10	50.0...350.0	°C	200.0	R/M	-	0	Maximum temperature allowed for the rotor

Setting Group 1

	Starting current	48	1	S41	0.10...10.00	x In	6.00	R/W	R	2	Starting current of the motor setted as a multiple of the rated current
	Starting time	48	1	S42	0.1...120.0	s	12.0	R/W	R	2	Maximum starting time permitted for the motor
	No of starts	48	1	S43	1...3	-	2	R/W	R	2	Number of the allowed starts from the cold state
	Device type	48	1	S44	0..6[0 = MOTOR I; 1 = MOTOR II; 2 = MOTOR III; 3 = MOTOR IV; 4 = GENERATOR I; 5 = GENERATOR II; 6 = TRANSFORMER]	-	0	R/W	R	2	Type of the device to be protected
	Trip temperature	48	1	S45	80.0...120.0	%	100.0	R/W	R	2	Tripping temperature, per cent value
	Prior alarm	48	1	S46	40.0...100.0	%	90.0	R/W	R	2	Prior alarm temperature, per cent value

	Restart inhibit	48	1	S47	40.0...100.0	%	60.0	R/W	R	2	Temperature limit for the successful restarting
	Ambient temp	48	1	S48	-50.0...100.0	°C	40.0	R/W	R	2	Setting value for ambient temperature
	Cooling τ	48	1	S49	1.0...10.0	x ≡	4.0	R/W	R	2	Cooling timeconstant
	Gen&Trafo τ	48	1	S50	1...999	min	20	R/W	R	2	Heating timeconstant for generator or transformer
Setting Group 2											
	S: τ1	48	1	V71	0.0...999.0	min	0.0	R/W	R	2	Short timeconstant for the stator
	S: τ2	48	1	V72	0.0...999.0	min	0.0	R/W	R	2	Long timeconstant for the stator
	S: p-factor	48	1	V73	0.00...1.00	-	0.00	R/W	R	2	Weighting factor of the S:≡1
	S: Rise(°C),I=In	48	1	V74	0.0...350.0	°C	0.0	R/W	R	2	Temperature rise of the stator when loaded by the rated current
	S: Maximum temp	48	1	V75	0.0...350.0	°C	0.0	R/W	R	2	Maximum temperature allowed for the stator
	R: τ1	48	1	V76	0.0...999.0	min	0.0	R/W	R	2	Short timeconstant for the rotor
	R: τ2	48	1	V77	0.0...999.0	min	0.0	R/W	R	2	Long timeconstant for the rotor
	R: p-factor	48	1	V78	0.00...1.00	-	0.00	R/W	R	2	Weighting factor of the R:≡1
	R: Rise(°C),I=In	48	1	V79	0.0...350.0	°C	0.0	R/W	R	2	Temperature rise of the rotor when loaded by the rated current
	R: Maximum temp	48	1	V80	0.0...350.0	°C	0.0	R/W	R	2	Maximum temperature allowed for the rotor
Control Settings											
	Operation mode	48	1	V1	0..3[0 = Not in use; 1 = ON: no sensors; 2 = ON: Sensor 1; 3 = ON: Sensors 1&2]	-	1	R/W	R	2	Selection of operate mode
	Ambient temp	48	1	V2	-50.0...100.0	°C	0.0	R/M	-	0	Ambient temperature value
	Trip signal	48	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	1	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	48	1	V7	100...1000	ms	100	R/W	R	2	Minimum pulse length of TRIP and CBFP
	Trip delay	48	1	V8	0...60000	min	0	R/W	R	2	Operate time of the delayed trip

	CBFP time	48	1	V9	0.00...100.00	s	0.00	R/W	R	2	Operate time of the Circuit Breaker Failure Protection CBFP
	Trip & Start	48	1	V10	0..1[0 = Disabled; 1 = Enabled]	-	1	R/W	R	2	Tells if the start and the trip are enabled or not
	Reset registers	48	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	48	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	48	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test CBFP	48	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
	Event mask 1	48	1	V101	0...8388607	-	4177983	R/W	R	2	Event mask 1 for event transmission (E0 ... E22)
	Event mask 2	48	1	V103	0...8388607	-	4177983	R/W	R	2	Event mask 2 for event transmission (E0 ... E22)
	Event mask 3	48	1	V105	0...8388607	-	4177983	R/W	R	2	Event mask 3 for event transmission (E0 ... E22)
	Event mask 4	48	1	V107	0...8388607	-	4177983	R/W	R	2	Event mask 4 for event transmission (E0 ... E22)
Input Data											
	Current IL1	48	1	I1	0.0...20000.0	A	0.0	R/M	-	0	Phase current IL1
	Current IL2	48	1	I2	0.0...20000.0	A	0.0	R/M	-	0	Phase current IL2
	Current IL3	48	1	I3	0.0...20000.0	A	0.0	R/M	-	0	Phase current IL3
	IL1 (%)	48	1	I4	0.0...1000.0	% In	0.0	R/M	-	0	Phase current IL1 in percents
	IL2 (%)	48	1	I5	0.0...1000.0	% In	0.0	R/M	-	0	Phase current IL2 in percents
	IL3 (%)	48	1	I6	0.0...1000.0	% In	0.0	R/M	-	0	Phase current IL3 in percents
	Temp SENSOR1	48	1	I7	-50.0...100.0	°C	0.0	R/M	-	0	Temperature value from sensor 1
	Temp SENSOR2	48	1	I8	-50.0...100.0	°C	0.0	R/M	-	0	Temperature value from sensor 2
	Input SENS_IV	48	1	I9	0..1[0 = Valid; 1 = Invalid]	-	0	R/M	-	0	Signal indicating sensor fault
	Input BLOCK	48	1	I10	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Blocking signal
	Input TRIGG	48	1	I11	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers

	Input RESET	48	1	I12	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of TOL3Dev
Output Data											
	Output START	48	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal (prior alarm)
	Output TRIP	48	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output TEMP(%)	48	1	O3	0000.0...1000.0	%	0000.0	R/M	-	0	Calculated temperature of the device, maximum from the stator and the rotor
	Output ROTOR(%)	48	1	O4	0000.0...1000.0	%	0000.0	R/M	-	0	Temperature of the rotor, per cent value from the maximum temp of the rotor
	Output STATOR(%)	48	1	O5	0000.0...1000.0	%	0000.0	R/M	-	0	Temperature of the stator, per cent value from the maximum temp of the stator
	Output COOL_TIME	48	1	O6	0...99999	s	0	R/M	-	0	Waiting time for the successful restart
	Output TRIP_TIME	48	1	O7	0...99999	s	0	R/M	-	0	Predicted time to the trip
	Output RESTART	48	1	O8	0..1[0 = Disabled; 1 = Enabled]	-	0	R/M	-	0	Restart enable signal
	Output SENSERR	48	1	O9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of sensor error signal
Firmware Parameters											
	Date	48	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	48	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Output TRIP	48	1	V203	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP output
	Input TRIGG	48	1	V204	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIGG input
	Trip delay	48	1	V205	0.0...100.0	%	0.0	R/M	R	0	Elapsed Trip delay in per cents
	Primary current	48	1	V206	0.0...20000.0	A	0.0	R/M	R	0	RMS current value (maximum of IL1,IL2 & IL3)
	Output ROTOR(%)	48	1	V207	0.0...1000.0	%	0.0	R/M	R	0	Temperature of the rotor, per cent value from the maximum temp of the rotor

Output STATOR(%)	48	1	V208	0.0...1000.0	%	0.0	R/M	R	0	Temperature of the stator, per cent value from the maximum temp of the stator
Ambient temp	48	1	V209	-50.0...100.0	°C	0.0	R/M	R	0	The ambient temperature used for the calculation of the thermal load
Date	48	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	48	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Output TRIP	48	1	V303	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP output
Input TRIGG	48	1	V304	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIGG input
Trip delay	48	1	V305	0.0...100.0	%	0.0	R/M	R	0	Elapsed Trip delay in per cents
Primary current	48	1	V306	0.0...20000.0	A	0.0	R/M	R	0	RMS current value (maximum of IL1,IL2 & IL3)
Output ROTOR(%)	48	1	V307	0.0...1000.0	%	0.0	R/M	R	0	Temperature of the rotor, per cent value from the maximum temp of the rotor
Output STATOR(%)	48	1	V308	0.0...1000.0	%	0.0	R/M	R	0	Temperature of the stator, per cent value from the maximum temp of the stator
Ambient temp	48	1	V309	-50.0...100.0	°C	0.0	R/M	R	0	The ambient temperature used for the calculation of the thermal load
Date	48	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	48	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Output TRIP	48	1	V403	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP output
Input TRIGG	48	1	V404	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIGG input
Trip delay	48	1	V405	0.0...100.0	%	0.0	R/M	R	0	Elapsed Trip delay in per cents
Primary current	48	1	V406	0.0...20000.0	A	0.0	R/M	R	0	RMS current value (maximum of IL1,IL2 & IL3)
Output ROTOR(%)	48	1	V407	0.0...1000.0	%	0.0	R/M	R	0	Temperature of the rotor, per cent value from the maximum temp of the rotor
Output STATOR(%)	48	1	V408	0.0...1000.0	%	0.0	R/M	R	0	Temperature of the stator, per cent value from the maximum temp of the stator

	Ambient temp	48	1	V409	-50.0...100.0	°C	0.0	R/M	R	0	The ambient temperature used for the calculation of the thermal load
Phase discontinuity protection DI> /*100051 / Rev D CUB3Low */											
Actual Parameters											
	Operation mode	51	1	S1	0..1[0 = Not in use; 1 = Definite time]	-	1	R	-	0	Selection of operation mode
	Start unbalance	51	1	S2	10.0...95.0	%	60.0	R	-	0	Start unbalance
	Operate time	51	1	S3	1.0...300.0	s	1.0	R	-	0	Operate time at DT mode
Setting Group 1											
	Operation mode	51	1	S41	0..1[0 = Not in use; 1 = Definite time]	-	1	R/W	R	2	Selection of operation mode
	Start unbalance	51	1	S42	10.0...95.0	%	60.0	R/W	R	2	Start unbalance
	Operate time	51	1	S43	1.0...300.0	s	1.0	R/W	R	2	Operate time at DT mode
Setting Group 2											
	Operation mode	51	1	S71	0..1[0 = Not in use; 1 = Definite time]	-	1	R/W	R	2	Selection of operation mode
	Start unbalance	51	1	S72	10.0...95.0	%	60.0	R/W	R	2	Start unbalance
	Operate time	51	1	S73	1.0...300.0	s	1.0	R/W	R	2	Operate time at DT mode
Control Settings											
	CBFP time	51	1	V1	100...1000	ms	100	R/W	R	2	Operate time of the delayed trip CBFP
	Group selection	51	1	V2	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	51	1	V3	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	51	1	V4	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	51	1	V5	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	51	1	V6	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	Reset registers	51	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	51	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START

	Test TRIP	51	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test CBFP	51	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
	Event mask 1	51	1	V101	0...4095	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E11)
	Event mask 2	51	1	V103	0...4095	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E11)
	Event mask 3	51	1	V105	0...4095	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E11)
	Event mask 4	51	1	V107	0...4095	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E11)
Input Data											
	Current IL1	51	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL1
	Current IL2	51	1	I2	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL2
	Current IL3	51	1	I3	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL3
	Curr. unbalance	51	1	I4	0.0...100.0	%	0.0	R/M	-	0	Current unbalance
	Input BS1	51	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	51	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input TRIGG	51	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	51	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	51	1	I9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of CUB3Low
Output Data											
	Output START	51	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	51	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output CBFP	51	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP signal
Firmware Parameters											
	Date	51	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	51	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	51	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Current IL1	51	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	Current IL2	51	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2

	Current IL3	51	1	V206	0.00...60.00	x In	0.00	R/M	R	0 Filtered value of IL3
	Curr. unbalance	51	1	V207	0.0...100.0	%	0.0	R/M	R	0 Current unbalance
	BS1	51	1	V208	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0 Status of BS1 input
	BS2	51	1	V209	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0 Status of BS2 input
	Active group	51	1	V210	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0 Active setting group
	Date	51	1	V301	YYYY-MM-DD	-	-	R/M	R	0 Recording date
	Time	51	1	V302	hh:mm:ss.000	-	-	R/M	R	0 Recording time
	Duration	51	1	V303	0.0...100.0	%	0.0	R/M	R	0 Duration of start situation
	Current IL1	51	1	V304	0.00...60.00	x In	0.00	R/M	R	0 Filtered value of IL1
	Current IL2	51	1	V305	0.00...60.00	x In	0.00	R/M	R	0 Filtered value of IL2
	Current IL3	51	1	V306	0.00...60.00	x In	0.00	R/M	R	0 Filtered value of IL3
	Curr. unbalance	51	1	V307	0.0...100.0	%	0.0	R/M	R	0 Current unbalance
	BS1	51	1	V308	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0 Status of BS1 input
	BS2	51	1	V309	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0 Status of BS2 input
	Active group	51	1	V310	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0 Active setting group
	Date	51	1	V401	YYYY-MM-DD	-	-	R/M	R	0 Recording date
	Time	51	1	V402	hh:mm:ss.000	-	-	R/M	R	0 Recording time
	Duration	51	1	V403	0.0...100.0	%	0.0	R/M	R	0 Duration of start situation
	Current IL1	51	1	V404	0.00...60.00	x In	0.00	R/M	R	0 Filtered value of IL1
	Current IL2	51	1	V405	0.00...60.00	x In	0.00	R/M	R	0 Filtered value of IL2
	Current IL3	51	1	V406	0.00...60.00	x In	0.00	R/M	R	0 Filtered value of IL3
	Curr. unbalance	51	1	V407	0.0...100.0	%	0.0	R/M	R	0 Current unbalance
	BS1	51	1	V408	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0 Status of BS1 input
	BS2	51	1	V409	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0 Status of BS2 input
	Active group	51	1	V410	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0 Active setting group

Three-phase start-up supervision for motors
/*100054 / Rev G MotStart */
Input Data

	Current IL1	54	1	I1	0.0...60.0	x In	0.0	R/M	-	0 Phase current IL1
	Current IL2	54	1	I2	0.0...60.0	x In	0.0	R/M	-	0 Phase current IL2

	Current IL3	54	1	I3	0.0...60.0	x In	0.0	R/M	-	0	Phase current IL3
	Input GROUP	54	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input STALL	54	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for motor stalling indication
	Input RESET	54	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of MotStart
Output Data											
	Output START	54	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	54	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output STALL	54	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of stall signal
	Output RESTART	54	1	O4	0..1[0 = Disabled; 1 = Enabled]	-	0	R/M	-	0	Restart enable signal
Firmware Parameters											
	Date	54	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	54	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Start time	54	1	V203	0.0...300.0	s	0.0	R/M	R	0	Duration of start-up situation in seconds
	Duration(IIT)	54	1	V204	0.0...100.0	%	0.0	R/M	R	0	Duration of start-up situation (IIT)
	Duration(STALL)	54	1	V205	0.0...100.0	%	0.0	R/M	R	0	Duration of start-up situation (STALL)
	Average IL1	54	1	V206	0.0...60.0	x In	0.0	R/M	R	0	Filtered value of IL1
	Average IL2	54	1	V207	0.0...60.0	x In	0.0	R/M	R	0	Filtered value of IL2
	Average IL3	54	1	V208	0.0...60.0	x In	0.0	R/M	R	0	Filtered value of IL3
	Active group	54	1	V209	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	54	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	54	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Start time	54	1	V303	0.0...300.0	s	0.0	R/M	R	0	Duration of start-up situation in seconds
	Duration(IIT)	54	1	V304	0.0...100.0	%	0.0	R/M	R	0	Duration of start-up situation (IIT)
	Duration(STALL)	54	1	V305	0.0...100.0	%	0.0	R/M	R	0	Duration of start-up situation (STALL)
	Average IL1	54	1	V306	0.0...60.0	x In	0.0	R/M	R	0	Filtered value of IL1
	Average IL2	54	1	V307	0.0...60.0	x In	0.0	R/M	R	0	Filtered value of IL2

	Average IL3	54	1	V308	0.0...60.0	x In	0.0	R/M	R	0	Filtered value of IL3
	Active group	54	1	V309	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	54	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	54	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Start time	54	1	V403	0.0...300.0	s	0.0	R/M	R	0	Duration of start-up situation in seconds
	Duration(IIT)	54	1	V404	0.0...100.0	%	0.0	R/M	R	0	Duration of start-up situation (IIT)
	Duration(STALL)	54	1	V405	0.0...100.0	%	0.0	R/M	R	0	Duration of start-up situation (STALL)
	Average IL1	54	1	V406	0.0...60.0	x In	0.0	R/M	R	0	Filtered value of IL1
	Average IL2	54	1	V407	0.0...60.0	x In	0.0	R/M	R	0	Filtered value of IL2
	Average IL3	54	1	V408	0.0...60.0	x In	0.0	R/M	R	0	Filtered value of IL3
	Active group	54	1	V409	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Actual Parameters											
	Operation mode	54	1	S1	0..2[0 = Not in use; 1 = IIt; 2 = IIt & Stall]	-	1	R/M	-	0	Selection of operation mode
	Start current	54	1	S2	1.0...10.0	x In	2.0	R/M	-	0	Starting current for motor
	Start time	54	1	S3	0.3...250.0	s	5.0	R/M	-	0	Starting time for motor
	Time limit	54	1	S4	1.0...500.0	s	10.0	R/M	-	0	Time-based restart inhibit limit
	Countdown rate	54	1	S5	2.0...250.0	s/h	60.0	R/M	-	0	Countdown rate for the time counter
	Stall time	54	1	S6	2.0...120.0	s	10.0	R/M	-	0	Permitted stalling time for rotor
Setting Group 1											
	Operation mode	54	1	S41	0..2[0 = Not in use; 1 = IIt; 2 = IIt & Stall]	-	1	R/W	R	2	Selection of operation mode
	Start current	54	1	S42	1.0...10.0	x In	2.0	R/W	R	2	Starting current for motor
	Start time	54	1	S43	0.3...250.0	s	5.0	R/W	R	2	Starting time for motor
	Time limit	54	1	S44	1.0...500.0	s	10.0	R/W	R	2	Time-based restart inhibit limit
	Countdown rate	54	1	S45	2.0...250.0	s/h	60.0	R/W	R	2	Countdown rate for the time counter
	Stall time	54	1	S46	2.0...120.0	s	10.0	R/W	R	2	Permitted stall time for rotor
Setting Group 2											
	Operation mode	54	1	S71	0..2[0 = Not in use; 1 = IIt; 2 = IIt & Stall]	-	1	R/W	R	2	Selection of operation mode
	Start current	54	1	S72	1.0...10.0	x In	2.0	R/W	R	2	Starting current for motor

	Start time	54	1	S73	0.3...250.0	s	5.0	R/W	R	2	Starting time for motor
	Time limit	54	1	S74	1.0...500.0	s	10.0	R/W	R	2	Time-based restart inhibit limit
	Countdown rate	54	1	S75	2.0...250.0	s/h	60.0	R/W	R	2	Countdown rate for the time counter
	Stall time	54	1	S76	2.0...120.0	s	10.0	R/W	R	2	Permitted stall time for rotor
Control Settings											
	Group selection	54	1	V1	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	54	1	V2	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	54	1	V3	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	54	1	V4	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP and STALL output
	Trip pulse	54	1	V5	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and STALL
	Start counter	54	1	V6	0...99999	-	0	R/M	-	0	Start counter
	Time to restart	54	1	V7	0...99999	min	0	R/M	-	0	Time to restart enable
	Reset registers	54	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	54	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	54	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test STALL	54	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of STALL
	Event mask 1	54	1	V101	0...255	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E7)
	Event mask 2	54	1	V103	0...255	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E7)
	Event mask 3	54	1	V105	0...255	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E7)
	Event mask 4	54	1	V107	0...255	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E7)

Phase reversal protection
/*100055 / Rev C PREV3 */

Actual Parameters

	Operation mode	55	1	S1	0..1[0 = Not in use; 1 = 2-phase; 2 = 3-phase]	-	2	R/M	-	0	Selection of operation mode
	Operate time	55	1	S2	0.1...10.00	s	0.5	R/M	-	0	Operate time at DT mode
	Rotation dir.	55	1	S3	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	-	0	Selection of expected rotation direction
Setting Group 1											
	Operation mode	55	1	S41	0..1[0 = Not in use; 1 = 2-phase; 2 = 3-phase]	-	2	R/W	R	2	Selection of operation mode
	Operate time	55	1	S42	0.1...10.0	s	0.5	R/W	R	2	Operate time at DT mode
	Rotation dir.	55	1	S43	0..1[0 = Forward; 1 = Reverse]	-	0	R/W	R	2	Expected rotation direction
Setting Group 2											
	Operation mode	55	1	S71	0..1[0 = Not in use; 1 = 2-phase; 2 = 3-phase]	-	2	R/W	R	2	Selection of operation mode
	Operate time	55	1	S72	0.1...10.0	s	0.5	R/W	R	2	Operate time at DT mode
	Rotation dir.	55	1	S73	0..1[0 = Forward; 1 = Reverse]	-	0	R/W	R	2	Expected rotation direction
Control Settings											
	Group selection	55	1	V1	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	55	1	V2	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	55	1	V3	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	55	1	V4	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	55	1	V5	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP
	Reset registers	55	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	55	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	55	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Event mask 1	55	1	V101	0...255	-	15	R/W	R	2	Event mask 1 for event transmission (E0 ... E7)
	Event mask 2	55	1	V103	0...255	-	15	R/W	R	2	Event mask 2 for event transmission (E0 ... E7)
	Event mask 3	55	1	V105	0...255	-	15	R/W	R	2	Event mask 3 for event transmission (E0 ... E7)

	Event mask 4	55	1	V107	0...255	-	15	R/W	R	2	Event mask 4 for event transmission (E0 ... E7)
Input Data											
	Current IL1	55	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL1
	Current IL2	55	1	I2	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL2
	Current IL3	55	1	I3	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL3
	Angle IL1-IL2	55	1	I4	-180...180	°	0	R/M	-	0	Phase difference of the currents L1 and L2
	Angle IL2-IL3	55	1	I5	-180...180	°	0	R/M	-	0	Phase difference of the currents L2 and L3
	Angle IL3-IL1	55	1	I6	-180...180	°	0	R/M	-	0	Phase difference of the currents L3 and L1
	Input BLOCK	55	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of BLOCK signal
	Input TRIGG	55	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of TRIGG signal
	Input GROUP	55	1	I9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of signal for switching between group 1 and 2
	Input RESET	55	1	I10	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of signal for resetting output signals of PREV3
Output Data											
	Output START	55	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	55	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
Firmware Parameters											
	Date	55	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	55	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	55	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Current IL1	55	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Phase current IL1
	Current IL2	55	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Phase current IL2
	Current IL3	55	1	V206	0.00...60.00	x In	0.00	R/M	R	0	Phase current IL3
	Angle IL1-IL2	55	1	V207	-180...180	°	0	R/M	R	0	Phase difference of the currents L1 and L2
	Angle IL2-IL3	55	1	V208	-180...180	°	0	R/M	R	0	Phase difference of the currents L2 and L3
	Angle IL3-IL1	55	1	V209	-180...180	°	0	R/M	R	0	Phase difference of the currents L3 and L1
	BLOCK	55	1	V210	0..1[0 = Not active; 1=Active]	-	0	R/M	R	0	Status of BLOCK input

Active group	55	1	V211	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Date	55	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	55	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Duration	55	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
Current IL1	55	1	V304	0.00...60.00	x In	0.00	R/M	R	0	Phase current IL1
Current IL2	55	1	V305	0.00...60.00	x In	0.00	R/M	R	0	Phase current IL2
Current IL3	55	1	V306	0.00...60.00	x In	0.00	R/M	R	0	Phase current IL3
Angle IL1-IL2	55	1	V307	-180...180	°	0	R/M	R	0	Phase difference of the currents L1 and L2
Angle IL2-IL3	55	1	V308	-180...180	°	0	R/M	R	0	Phase difference of the currents L2 and L3
Angle IL3-IL1	55	1	V309	-180...180	°	0	R/M	R	0	Phase difference of the currents L3 and L1
BLOCK	55	1	V310	0..1[0 = Not active; 1=Active]	-	0	R/M	R	0	Status of BLOCK input
Active group	55	1	V311	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Date	55	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	55	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Duration	55	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
Current IL1	55	1	V404	0.00...60.00	x In	0.00	R/M	R	0	Phase current IL1
Current IL2	55	1	V405	0.00...60.00	x In	0.00	R/M	R	0	Phase current IL2
Current IL3	55	1	V406	0.00...60.00	x In	0.00	R/M	R	0	Phase current IL3
Angle IL1-IL2	55	1	V407	-180...180	°	0	R/M	R	0	Phase difference of the currents L1 and L2
Angle IL2-IL3	55	1	V408	-180...180	°	0	R/M	R	0	Phase difference of the currents L2 and L3
Angle IL3-IL1	55	1	V409	-180...180	°	0	R/M	R	0	Phase difference of the currents L3 and L1
BLOCK	55	1	V410	0..1[0 = Not active; 1=Active]	-	0	R/M	R	0	Status of BLOCK input
Active group	55	1	V411	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group

Three-phase overvoltage protection, low-set stage
/*100062 / Rev E OV3Low */
Input Data

	Voltage UL1_U12	62	1	I1	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U12 or phase-to-earth voltage UL1
	Voltage UL2_U23	62	1	I2	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U23 or phase-to-earth voltage UL2
	Voltage UL3_U31	62	1	I3	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U31 or phase-to-earth voltage UL3
	Input BS1	62	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	62	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input TRIGG	62	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	62	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	62	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of OV3Low
Output Data											
	Output START	62	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	62	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
Firmware Parameters											
	Date	62	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	62	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	62	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage UL1_U12	62	1	V204	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage UL2_U23	62	1	V205	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage UL3_U31	62	1	V206	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
	BS1	62	1	V207	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	62	1	V208	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	62	1	V209	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	62	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	62	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	62	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation

	Voltage UL1_U12	62	1	V304	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage UL2_U23	62	1	V305	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage UL3_U31	62	1	V306	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
	BS1	62	1	V307	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	62	1	V308	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	62	1	V309	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	62	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	62	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	62	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage UL1_U12	62	1	V404	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage UL2_U23	62	1	V405	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage UL3_U31	62	1	V406	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
	BS1	62	1	V407	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	62	1	V408	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	62	1	V409	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
Actual Parameters											
	Operation mode	62	1	S1	0..3[0 = Not in use; 1 = Definite time; 2 = A curve; 3 = B curve]	-	1	R/M	-	0	Selection of operation mode and inverse time characteristic at IDMT mode
	Start voltage	62	1	S2	0.10...1.60	x Un	1.10	R/M	-	0	Start voltage
	Operate time	62	1	S3	0.05...300.00	s	0.05	R/M	-	0	Operate time at DT mode
	Time multiplier	62	1	S4	0.05...1.00	-	0.05	R/M	-	0	Time multiplier at IDMT mode
Setting Group 1											
	Operation mode	62	1	S41	0..3[0 = Not in use; 1 = Definite time; 2 = A curve; 3 = B curve]	-	1	R/W	R	2	Selection of operation mode and inverse time characteristic at IDMT mode
	Start voltage	62	1	S42	0.10...1.60	x Un	1.10	R/W	R	2	Start voltage
	Operate time	62	1	S43	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
	Time multiplier	62	1	S44	0.05...1.00	-	0.05	R/W	R	2	Time multiplier at IDMT mode
Setting Group 2											
	Operation mode	62	1	S71	0..3[0 = Not in use; 1 = Definite time; 2 = A curve; 3 = B curve]	-	1	R/W	R	2	Selection of operation mode and inverse time characteristic at IDMT mode

	Start voltage	62	1	S72	0.10...1.60	x Un	1.10	R/W	R	2	Start voltage
	Operate time	62	1	S73	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
	Time multiplier	62	1	S74	0.05...1.00	-	0.05	R/W	R	2	Time multiplier at IDMT mode
Control Settings											
	Measuring mode	62	1	V1	0..2[0 = Mode 1; 1 = Mode 2; 2 = Mode 3]	-	0	R/W	R	2	Selection of measuring mode
	Group selection	62	1	V2	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	62	1	V3	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	62	1	V4	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	62	1	V5	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	62	1	V6	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP
	Oper. hysteresis	62	1	V7	1.0...5.0	%	4.0	R/W	R	2	Operation hysteresis
	Reset registers	62	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	62	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	62	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Event mask 1	62	1	V101	0...1023	-	15	R/W	R	2	Event mask 1 for event transmission (E0 ... E9)
	Event mask 2	62	1	V103	0...1023	-	15	R/W	R	2	Event mask 2 for event transmission (E0 ... E9)
	Event mask 3	62	1	V105	0...1023	-	15	R/W	R	2	Event mask 3 for event transmission (E0 ... E9)
	Event mask 4	62	1	V107	0...1023	-	15	R/W	R	2	Event mask 4 for event transmission (E0 ... E9)
Three-phase overvoltage protection, high-set stage /*100063 / Rev D OV3High */											
Input Data											
	Voltage UL1_U12	63	1	I1	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-earth voltage UL1 or phase-to-phase voltage U12

	Voltage UL2_U23	63	1	I2	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-earth voltage UL2 or phase-to-phase voltage U23
	Voltage UL3_U31	63	1	I3	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-earth voltage UL3 or phase-to-phase voltage U31
	Input BS1	63	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	63	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input TRIGG	63	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	63	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	63	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of OV3High
Output Data											
	Output START	63	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	63	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
Firmware Parameters											
	Date	63	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	63	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	63	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage UL1_U12	63	1	V204	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage UL2_U23	63	1	V205	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage UL3_U31	63	1	V206	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
	BS1	63	1	V207	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	63	1	V208	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	63	1	V209	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	63	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	63	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	63	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage UL1_U12	63	1	V304	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage UL2_U23	63	1	V305	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage UL3_U31	63	1	V306	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31

	BS1	63	1	V307	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	63	1	V308	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	63	1	V309	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	63	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	63	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	63	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage UL1_U12	63	1	V404	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage UL2_U23	63	1	V405	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage UL3_U31	63	1	V406	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
	BS1	63	1	V407	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	63	1	V408	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	63	1	V409	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Actual Parameters											
	Operation mode	63	1	S1	0..1[0 = Not in use; 1 = Definite time]	-	1	R/M	-	0	Selection of operation mode
	Start voltage	63	1	S2	0.10...1.60	x Un	1.10	R/M	-	0	Start voltage
	Operate time	63	1	S3	0.05...300.00	s	0.05	R/M	-	0	Operate time at DT mode
Setting Group 1											
	Operation mode	63	1	S41	0..1[0 = Not in use; 1 = Definite time]	-	1	R/W	R	2	Selection of operation mode
	Start voltage	63	1	S42	0.10...1.60	x Un	1.10	R/W	R	2	Start voltage
	Operate time	63	1	S43	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
Setting Group 2											
	Operation mode	63	1	S71	0..1[0 = Not in use; 1 = Definite time]	-	1	R/W	R	2	Selection of operation mode
	Start voltage	63	1	S72	0.10...1.60	x Un	1.10	R/W	R	2	Start voltage
	Operate time	63	1	S73	0.05...300.00	s	0.05	R/W	R	2	Operate time at DT mode
Control Settings											
	Measuring mode	63	1	V1	0..2[0 = Mode 1; 1 = Mode 2; 2 = Mode 3]	-	0	R/W	R	2	Selection of measuring mode
	Group selection	63	1	V2	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	63	1	V3	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group

	Start pulse	63	1	V4	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	63	1	V5	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	63	1	V6	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP
	Oper. hysteresis	63	1	V7	1.0...5.0	%	4.0	R/W	R	2	Operation hysteresis
	Reset registers	63	3	V13	0..1[0 = 0; 1= Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	63	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	63	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Event mask 1	63	1	V101	0...1023	-	15	R/W	R	2	Event mask 1 for event transmission (E0 ... E9)
	Event mask 2	63	1	V103	0...1023	-	15	R/W	R	2	Event mask 2 for event transmission (E0 ... E9)
	Event mask 3	63	1	V105	0...1023	-	15	R/W	R	2	Event mask 3 for event transmission (E0 ... E9)
	Event mask 4	63	1	V107	0...1023	-	15	R/W	R	2	Event mask 4 for event transmission (E0 ... E9)
Three-phase undervoltage protection, low-set stage /*100064 / Rev D UV3Low */											
Input Data											
	Voltage UL1_U12	64	1	I1	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U12 or phase-to-earth voltage UL1
	Voltage UL2_U23	64	1	I2	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U23 or phase-to-earth voltage UL2
	Voltage UL3_U31	64	1	I3	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U31 or phase-to-earth voltage UL3
	Input BS1	64	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	64	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input TRIGG	64	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers

	Input GROUP	64	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	64	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of UV3Low
Output Data											
	Output START	64	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	64	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
Firmware Parameters											
	Date	64	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	64	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	64	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage UL1_U12	64	1	V204	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage UL2_U23	64	1	V205	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage UL3_U31	64	1	V206	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
	BS1	64	1	V207	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	64	1	V208	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	64	1	V209	0..1[0=Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	64	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	64	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	64	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage UL1_U12	64	1	V304	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage UL2_U23	64	1	V305	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage UL3_U31	64	1	V306	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
	BS1	64	1	V307	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	64	1	V308	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	64	1	V309	0..1[0=Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	64	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	64	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	64	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage UL1_U12	64	1	V404	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage UL2_U23	64	1	V405	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage UL3_U31	64	1	V406	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31

	BS1	64	1	V407	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	64	1	V408	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	64	1	V409	0..1[0=Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
Actual Parameters											
	Operation mode	64	1	S1	0..2[0 = Not in use; 1 = Definite time; 2 = C curve]	-	1	R/M	-	0	Selection of operation mode and inverse time curve at IDMT mode
	Start voltage	64	1	S2	0.10...1.20	x Un	0.90	R/M	-	0	Start voltage
	Operate time	64	1	S3	0.1...300.0	s	0.1	R/M	-	0	Operate time at DT mode
	Time multiplier	64	1	S4	0.1...1.0	-	0.1	R/M	-	0	Time multiplier at IDMTmode
Setting Group 1											
	Operation mode	64	1	S41	0..2[0 = Not in use; 1 = Definite time; 2 = C curve]	-	1	R/W	R	2	Selection of operation mode and inverse time curve at IDMT mode
	Start voltage	64	1	S42	0.10...1.20	x Un	0.90	R/W	R	2	Start voltage
	Operate time	64	1	S43	0.1...300.0	s	0.1	R/W	R	2	Operate time at DT mode
	Time multiplier	64	1	S44	0.1...1.0	-	0.1	R/W	R	2	Time multiplier at IDMT mode
Setting Group 2											
	Operation mode	64	1	S71	0..2[0 = Not in use; 1 = Definite time; 2 = C curve]	-	1	R/W	R	2	Selection of operation mode and inverse time curve at IDMT mode
	Start voltage	64	1	S72	0.10...1.20	x Un	0.90	R/W	R	2	Start voltage
	Operate time	64	1	S73	0.1...300.0	s	0.1	R/W	R	2	Operate time at DT mode
	Time multiplier	64	1	S74	0.1...1.0	-	0.1	R/W	R	2	Time multiplier at IDMT mode
Control Settings											
	Measuring mode	64	1	V1	0..2[0 = Mode 1; 1 = Mode 2; 2 = Mode 3]	-	0	R/W	R	2	Selection of measuring mode
	Voltage select.	64	1	V2	1..7[1 = U12; 2 = U23; 3 = U12 & U23; 4 = U31; 5 = U12 & U31; 6 = U23 & U31; 7 = U12 & U23 & U31]	-	7	R/W	R	2	Selection of voltages
	Group selection	64	1	V3	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group

	Active group	64	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	64	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	64	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	64	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP
	Intern. blocking	64	1	V8	0..1[0 = Disabled; 1 = Enabled]	-	1	R/W	R	2	Enabling of internal undervoltage blocking
	Oper. hysteresis	64	1	V9	1.0...5.0	%	4.0	R/W	R	2	Operation hysteresis
	Reset registers	64	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	64	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	64	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Event mask 1	64	1	V101	0...1023	-	15	R/W	R	2	Event mask 1 for event transmission (E0 ... E9)
	Event mask 2	64	1	V103	0...1023	-	15	R/W	R	2	Event mask 2 for event transmission (E0 ... E9)
	Event mask 3	64	1	V105	0...1023	-	15	R/W	R	2	Event mask 3 for event transmission (E0 ... E9)
	Event mask 4	64	1	V107	0...1023	-	15	R/W	R	2	Event mask 4 for event transmission (E0 ... E9)
Three-phase undervoltage protection, high-set stage /*100065 / Rev D UV3High */											
Actual Parameters											
	Operation mode	65	1	S1	0..1[0 = Not in use; 1 = Definite time]	-	1	R/M	-	0	Selection of operation mode
	Start voltage	65	1	S2	0.10...1.20	x Un	0.90	R/M	-	0	Start voltage
	Operate time	65	1	S3	0.1...300.0	s	0.1	R/M	-	0	Operate time at DT mode
Setting Group 1											
	Operation mode	65	1	S41	0..1[0 = Not in use; 1 = Definite time]	-	1	R/W	R	2	Selection of operation mode
	Start voltage	65	1	S42	0.10...1.20	x Un	0.90	R/W	R	2	Start voltage
	Operate time	65	1	S43	0.1...300.0	s	0.1	R/W	R	2	Operate time at DT mode
Setting Group 2											

	Operation mode	65	1	S71	0..1[0 = Not in use; 1 = Definite time]	-	1	R/W	R	2	Selection of operation mode
	Start voltage	65	1	S72	0.10...1.20	x Un	0.90	R/W	R	2	Start voltage
	Operate time	65	1	S73	0.1...300.0	s	0.1	R/W	R	2	Operate time at DT mode
Control Settings											
	Measuring mode	65	1	V1	0..2[0 = Mode 1; 1 = Mode 2; 2 = Mode 3]	-	0	R/W	R	2	Selection of measuring mode
	Voltage select.	65	1	V2	1..7[1 = U12; 2 = U23; 3 = U12 & U23; 4 = U31; 5 = U12 & U31; 6 = U23 & U31; 7 = U12 & U23 & U31]	-	7	R/W	R	2	Selection of voltages
	Group selection	65	1	V3	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	65	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	65	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	65	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	65	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP
	Intern. blocking	65	1	V8	0..1[0 = Disabled; 1 = Enabled]	-	1	R/W	R	2	Enabling of internal undervoltage blocking
	Oper. hysteresis	65	1	V9	1.0...5.0	%	4.0	R/W	R	2	Operation hysteresis
	Reset registers	65	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	65	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	65	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Event mask 1	65	1	V101	0...1023	-	15	R/W	R	2	Event mask 1 for event transmission (E0 ... E9)
	Event mask 2	65	1	V103	0...1023	-	15	R/W	R	2	Event mask 2 for event transmission (E0 ... E9)
	Event mask 3	65	1	V105	0...1023	-	15	R/W	R	2	Event mask 3 for event transmission (E0 ... E9)
	Event mask 4	65	1	V107	0...1023	-	15	R/W	R	2	Event mask 4 for event transmission (E0 ... E9)
Input Data											

	Voltage UL1_U12	65	1	I1	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U12 or phase-to-earth voltage UL1
	Voltage UL2_U23	65	1	I2	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U23 or phase-to-earth voltage UL2
	Voltage UL3_U31	65	1	I3	0.00...2.00	x Un	0.00	R/M	-	0	Phase-to-phase voltage U31 or phase-to-earth voltage UL3
	Input BS1	65	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	65	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input TRIGG	65	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	65	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	65	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of UV3High
Output Data											
	Output START	65	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	65	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
Firmware Parameters											
	Date	65	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	65	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	65	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage UL1_U12	65	1	V204	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage UL2_U23	65	1	V205	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage UL3_U31	65	1	V206	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
	BS1	65	1	V207	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	65	1	V208	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	65	1	V209	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	65	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	65	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	65	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation

	Voltage UL1_U12	65	1	V304	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage UL2_U23	65	1	V305	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage UL3_U31	65	1	V306	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
	BS1	65	1	V307	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	65	1	V308	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	65	1	V309	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
	Date	65	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	65	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	65	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Voltage UL1_U12	65	1	V404	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U12
	Voltage UL2_U23	65	1	V405	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U23
	Voltage UL3_U31	65	1	V406	0.00...2.00	x Un	0.00	R/M	R	0	Filtered value of U31
	BS1	65	1	V407	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	65	1	V408	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	65	1	V409	0..1[0 = Group 1; 1=Group 2]	-	0	R/M	R	0	Active setting group
Synchro-check/voltage check function stage 1, SCVCSt1 /*100070 / Rev K SCVCSt1 */											
Actual Parameters											
	Umax	70	1	S1	0.50...1.00	x Un	1.00	R/M	-	0	Upper threshold voltage
	Umin	70	1	S2	0.10...0.80	x Un	0.10	R/M	-	0	Lower threshold voltage
	dU	70	1	S3	0.02...0.60	x Un	0.02	R/M	-	0	Voltage difference
	dphase	70	1	S4	5...90	°	5	R/M	-	0	Phase angle difference
	df	70	1	S5	0.02...5.00	Hz	0.02	R/M	-	0	Frequency differense
Setting Group 1											
	Umax	70	1	S41	0.50...1.00	x Un	1.00	R/W	R	2	Upper threshold voltage
	Umin	70	1	S42	0.10...0.80	x Un	0.10	R/W	R	2	Lower threshold voltage
	dU	70	1	S43	0.02...0.60	x Un	0.02	R/W	R	2	Voltage difference
	dphase	70	1	S44	5...90	°	5	R/W	R	2	Phase angle difference
	df	70	1	S45	0.02...5.00	Hz	0.02	R/W	R	2	Frequency differense
Setting Group 2											
	Umax	70	1	S71	0.50...1.00	x Un	1.00	R/W	R	2	Upper threshold voltage
	Umin	70	1	S72	0.10...0.80	x Un	0.10	R/W	R	2	Lower threshold voltage

	dU	70	1	S73	0.02...0.60	x Un	0.02	R/W	R	2	Voltage difference
	dphase	70	1	S74	5...90	°	5	R/W	R	2	Phase angle difference
	df	70	1	S75	0.02...5.00	Hz	0.02	R/W	R	2	Frequency differense
Control Settings											
	Energizing mode	70	1	V1	0..4[0 = Not in use; 1 = U1->U2, U2->U1; 2 = U1->U2; 3 = U2->U1; 4 = U1>U2,U2>U1,0>0]	-	1	R/W	R	2	Selection of energizing mode
	Operation mode	70	1	V2	0..1[0 = Command mode; 1 = Continuous mode]	-	0	R/W	R	2	Selection of operation mode
	Synchro mode	70	1	V3	0..2[0 = Not in use; 1 = Asynchr. mode; 2 = Synchr. mode]	-	1	R/W	R	2	Selection of synchro mode
	Operate time	70	1	V4	0.1...20.0	s	0.1	R/W	R	2	Operate time (dead time)
	Check time	70	1	V5	0.05...300.00	s	0.05	R/W	R	2	Check time in command mode operation
	Close pulse	70	1	V6	0.2...20.0	s	0.2	R/W	R	2	Closing signal length (command mode only)
	Oper.time of CB	70	1	V7	0.00...0.25	s	0.05	R/W	R	2	Operate time of circuit breaker
	Basic angle	70	1	V8	-90...90	°	0	R/W	R	2	Basic angle setting
	Group selection	70	1	V9	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	70	1	V10	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Reset registers	70	3	V11	0..1[0 = 0; 1= Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Voltage combine	70	1	V12	0..1[0 = Disabled; 1 = Enabled]	-	0	R/W	R	2	Enabling of voltage combining
	Event mask 1	70	1	V101	0...255	-	255	R/W	R	2	Event mask 1 for event transmission (E0 ... E7)
	Event mask 2	70	1	V103	0...255	-	255	R/W	R	2	Event mask 2 for event transmission (E0 ... E7)
	Event mask 3	70	1	V105	0...255	-	255	R/W	R	2	Event mask 3 for event transmission (E0 ... E7)
	Event mask 4	70	1	V107	0...255	-	255	R/W	R	2	Event mask 4 for event transmission (E0 ... E7)
Input Data											
	U1	70	1	I1	0.00...1.30	x Un	0.00	R/M	-	0	Measurement value U1
	U2	70	1	I2	0.00...1.30	x Un	0.00	R/M	-	0	Measurement value U2

	dU	70	1	I3	-1.30...1.30	x Un	0.00	R/M	-	0	Measurement delta value (U1-U2)
	f1	70	1	I4	45.00...65.00	Hz	0.00	R/M	-	0	Measurement value f1
	f2	70	1	I5	45.00...65.00	Hz	0.00	R/M	-	0	Measurement value f2
	df	70	1	I6	-20.00...20.00	Hz	0.00	R/M	-	0	Measurement delta value (f1-f2)
	phi1	70	1	I7	-180...180	°	0	R/M	-	0	Measurement value phi1
	phi2	70	1	I8	-180...180	°	0	R/M	-	0	Measurement value phi2
	dphi	70	1	I9	-180...180	°	0	R/M	-	0	Measurement delta value (phi1-phi2)
	Input Command	70	1	I10	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of Command singnal
	Input BLOCK	70	1	I11	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of BLOCK singnal
	Input GROUP	70	1	I12	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of GROUP singnal
	Input RESET	70	1	I13	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of RESET singnal
Output Data											
	SC_DUE	70	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of SC_DUE signal
	SC_OK	70	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of SC_OK signal
	ALARM_NC	70	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of ALARM_NS signal
	ALARM_CO	70	1	O4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of ALARM_CO signal
Firmware Parameters											
	Date	70	1	V201	YYYY-MM-DD	-	0	R/M	R	0	Registration Date
	Time	70	1	V202	hh:mm:ss.000	-	0	R/M	R	0	Registration Time
	U1	70	1	V203	0.00...1.30	x Un	0.00	R/M	R	0	Voltage 1 value
	U2	70	1	V204	0.00...1.30	x Un	0.00	R/M	R	0	Voltage 2 value
	dU	70	1	V205	-1.30...1.30	x Un	0.00	R/M	R	0	Voltage difference
	f1	70	1	V206	45.00...65.00	Hz	0.00	R/M	R	0	Frequency f1
	f2	70	1	V207	45.00...65.00	Hz	0.00	R/M	R	0	Frequency f2
	df	70	1	V208	-20.00...20.00	Hz	0.00	R/M	R	0	Frequency difference
	phi1	70	1	V209	-180...180	°	0	R/M	R	0	Phase 1
	phi2	70	1	V210	-180...180	°	0	R/M	R	0	Phase 2
	dphase	70	1	V211	-180...180	°	0	R/M	R	0	Phase difference
	Active group	70	1	V212	0..1[0 = Setting group 1; 1 = Setting group 2]	-	0	R/M	R	0	Active setting group

	Date	70	1	V301	YYYY-MM-DD	-	0	R/M	R	0	Registration Date
	Time	70	1	V302	hh:mm:ss.000	-	0	R/M	R	0	Registration Time
	U1	70	1	V303	0.00...1.30	x Un	0.00	R/M	R	0	Voltage 1 value
	U2	70	1	V304	0.00...1.30	x Un	0.00	R/M	R	0	Voltage 2 value
	dU	70	1	V305	-1.30...1.30	x Un	0.00	R/M	R	0	Voltage difference
	f1	70	1	V306	45.00...65.00	Hz	0.00	R/M	R	0	Frequency f1
	f2	70	1	V307	45.00...65.00	Hz	0.00	R/M	R	0	Frequency f2
	df	70	1	V308	-20.00...20.00	Hz	0.00	R/M	R	0	Frequency difference
	phi1	70	1	V309	-180...180	°	0	R/M	R	0	Phase 1
	phi2	70	1	V310	-180...180	°	0	R/M	R	0	Phase 2
	dphase	70	1	V311	-180...180	°	0	R/M	R	0	Phase difference
	Active group	70	1	V312	0..1[0 = Setting group 1; 1 = Setting group 2]	-	0	R/M	R	0	Active setting group
	Date	70	1	V401	YYYY-MM-DD	-	0	R/M	R	0	Registration Date
	Time	70	1	V402	hh:mm:ss.000	-	0	R/M	R	0	Registration Time
	U1	70	1	V403	0.00...1.30	x Un	0.00	R/M	R	0	Voltage 1 value
	U2	70	1	V404	0.00...1.30	x Un	0.00	R/M	R	0	Voltage 2 value
	dU	70	1	V405	-1.30...1.30	x Un	0.00	R/M	R	0	Voltage difference
	f1	70	1	V406	45.00...65.00	Hz	0.00	R/M	R	0	Frequency f1
	f2	70	1	V407	45.00...65.00	Hz	0.00	R/M	R	0	Frequency f2
	df	70	1	V408	-20.00...20.00	Hz	0.00	R/M	R	0	Frequency difference
	phi1	70	1	V409	-180...180	°	0	R/M	R	0	Phase 1
	phi2	70	1	V410	-180...180	°	0	R/M	R	0	Phase 2
	dphase	70	1	V411	-180...180	°	0	R/M	R	0	Phase difference
	Active group	70	1	V412	0..1[0 = Setting group 1; 1 = Setting group 2]	-	0	R/M	R	0	Active setting group
Underfrequency or overfrequency protection stage 1 /*100072 / Rev G Freq1St1 */											
Actual Parameters											
	Operation mode	72	1	S1	0..6[0 = Not in use; 1 = f</f> 1 timer; 2 = f</f> 2 timers; 3 = f</f> OR df/dt>; 4 = f</f>AND df/dt>; 5 = f</f> OR df/dt<; 6 = f</f>AND df/dt<]	-	1	R/M	-	0	Operation mode for frequency protection
	Voltage limit	72	1	S2	0.30...0.90	x Un	0.30	R/M	-	0	Undervoltage limit for blocking

	Start frequency	72	1	S3	25.00...75.00	Hz	48.70	R/M	-	0	Start value for U/O frequency protection
	Operate time 1	72	1	S4	0.10...300.00	s	20.00	R/M	-	0	Operate time for U/O frequency protection
	Start df/dt	72	1	S5	0.2...10.0	Hz/s	10.0	R/M	-	0	Start value for frequency rate of change prot.
	Operate time 2	72	1	S6	0.12...300.00	s	20.00	R/M	-	0	Timer for df/dt prot. or U/O frequency prot.
Setting Group 1											
	Operation mode	72	1	S41	0..6[0 = Not in use; 1 = f</f> 1 timer; 2 = f</f> 2 timers; 3 = f</f> OR df/dt>; 4 = f</f>AND df/dt>; 5 = f</f> OR df/dt<; 6 = f</f>AND df/dt<]	-	1	R/W	R	2	Operation mode for frequency protection
	Voltage limit	72	1	S42	0.30...0.90	x Un	0.30	R/W	R	2	Undervoltage limit for blocking
	Start frequency	72	1	S43	25.00...75.00	Hz	48.70	R/W	R	2	Start value for U/O frequency protection
	Operate time 1	72	1	S44	0.10...300.00	s	20.00	R/W	R	2	Operate time for U/O frequency protection
	Start df/dt	72	1	S45	0.2...10.0	Hz/s	10.0	R/W	R	2	Start value for frequency rate of change prot.
	Operate time 2	72	1	S46	0.12...300.00	s	20.00	R/W	R	2	Timer for df/dt prot. or U/O frequency prot.
Setting Group 2											
	Operation mode	72	1	S71	0..6[0 = Not in use; 1 = f</f> 1 timer; 2 = f</f> 2 timers; 3 = f</f> OR df/dt>; 4 = f</f>AND df/dt>; 5 = f</f> OR df/dt<; 6 = f</f>AND df/dt<]	-	1	R/W	R	2	Operation mode for frequency protection
	Voltage limit	72	1	S72	0.30...0.90	x Un	0.30	R/W	R	2	Undervoltage limit for blocking
	Start frequency	72	1	S73	25.00...75.00	Hz	48.70	R/W	R	2	Start value for U/O frequency protection
	Operate time 1	72	1	S74	0.10...300.00	s	20.00	R/W	R	2	Operate time for U/O frequency protection
	Start df/dt	72	1	S75	0.2...10.0	Hz/s	10.0	R/W	R	2	Start value for frequency rate of change prot.

	Operate time 2	72	1	S76	0.12...300.00	s	20.00	R/W	R	2	Timer for df/dt prot. or U/O frequency prot.
Control Settings											
	Group selection	72	1	V1	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	72	1	V2	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	72	1	V3	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signals
	Trip signal	72	1	V4	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP outputs
	Trip pulse	72	1	V5	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	Reset registers	72	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START1	72	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START1
	Test TRIP1	72	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP1
	Test START2	72	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START2
	Test TRIP2	72	1	V34	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP2
	Event mask 1	72	1	V101	0...16383	-	255	R/W	R	2	Event mask 1 for event transmission (E0 ... E13)
	Event mask 2	72	1	V103	0...16383	-	255	R/W	R	2	Event mask 2 for event transmission (E0 ... E13)
	Event mask 3	72	1	V105	0...16383	-	255	R/W	R	2	Event mask 3 for event transmission (E0 ... E13)
	Event mask 4	72	1	V107	0...16383	-	255	R/W	R	2	Event mask 4 for event transmission (E0 ... E13)
Input Data											
	Frequency	72	1	I1	20.00...80.00	Hz	0.0	R/M	-	0	System frequency
	Rate of change	72	1	I2	-15.0...+15.0	Hz/s	0.0	R/M	-	0	Freq. rate of change
	Voltage U	72	1	I3	0.0...2.0	x Un	0.0	R/M	-	0	Voltage U
	Input BS1	72	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	72	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2

	Input TRIGG	72	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	72	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	72	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of Freq1St1
Output Data											
	Output START1	72	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal 1
	Output TRIP1	72	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal 1
	Output START2	72	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal 2
	Output TRIP2	72	1	O4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal 2
Firmware Parameters											
	Date	72	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	72	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Start1	72	1	V203	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of START1
	Start2	72	1	V204	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of START2
	Duration1	72	1	V205	0...100	%	0.0	R/M	R	0	Duration of start situation
	Duration2	72	1	V206	0...100	%	0.0	R/M	R	0	Duration of start situation
	Trip1	72	1	V207	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP1
	Trip2	72	1	V208	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP2
	Frequency	72	1	V209	20.00...80.00	Hz	0.0	R/M	R	0	Meas. system frequency
	Rate of change	72	1	V210	-15.0...+15.0	Hz/s	0.0	R/M	R	0	Freq. rate of change
	Voltage U	72	1	V211	0.0...2.0	x Un	0.0	R/M	R	0	Meas. voltage
	BS1	72	1	V212	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1
	BS2	72	1	V213	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2
	TRIGG	72	1	V214	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIGG
	Active group	72	1	V215	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	72	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date

Time	72	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Start1	72	1	V303	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of START1
Start2	72	1	V304	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of START2
Duration1	72	1	V305	0...100	%	0.0	R/M	R	0	Duration of start situation
Duration2	72	1	V306	0...100	%	0.0	R/M	R	0	Duration of start situation
Trip1	72	1	V307	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP1
Trip2	72	1	V308	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP2
Frequency	72	1	V309	20.00...80.00	Hz	0.0	R/M	R	0	Meas. system frequency
Rate of change	72	1	V310	-15.0...+15.0	Hz/s	0.0	R/M	R	0	Freq. rate of change
Voltage U	72	1	V311	0.0...2.0	x Un	0.0	R/M	R	0	Meas. voltage
BS1	72	1	V312	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1
BS2	72	1	V313	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2
TRIGG	72	1	V314	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIGG
Active group	72	1	V315	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Date	72	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	72	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Start1	72	1	V403	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of START1
Start2	72	1	V404	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of START2
Duration1	72	1	V405	0...100	%	0.0	R/M	R	0	Duration of start situation
Duration2	72	1	V406	0...100	%	0.0	R/M	R	0	Duration of start situation
Trip1	72	1	V407	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP1
Trip2	72	1	V408	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP2
Frequency	72	1	V409	20.00...80.00	Hz	0.0	R/M	R	0	Meas. system frequency
Rate of change	72	1	V410	-15.0...+15.0	Hz/s	0.0	R/M	R	0	Freq. rate of change
Voltage U	72	1	V411	0.0...2.0	x Un	0.0	R/M	R	0	Meas. voltage
BS1	72	1	V412	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1
BS2	72	1	V413	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2

	TRIGG	72	1	V414	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIGG
	Active group	72	1	V415	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Underfrequency or overfrequency protection stage 2 /*100073 / Rev G Freq1St2 */											
Actual Parameters											
	Operation mode	73	1	S1	0..6[0 = Not in use; 1 = f</f> 1 timer; 2 = f</f> 2 timers; 3 = f</f> OR df/dt>; 4 = f</f>AND df/dt>; 5 = f</f> OR df/dt<; 6 = f</f>AND df/dt<]	-	1	R/M	-	0	Operation mode for frequency protection
	Voltage limit	73	1	S2	0.30...0.90	x Un	0.30	R/M	-	0	Undervoltage limit for blocking
	Start frequency	73	1	S3	25.00...75.00	Hz	48.70	R/M	-	0	Start value for U/O frequency protection
	Operate time 1	73	1	S4	0.10...300.00	s	20.00	R/M	-	0	Operate time for U/O frequency protection
	Start df/dt	73	1	S5	0.2...10.0	Hz/s	10.0	R/M	-	0	Start value for frequency rate of change prot.
	Operate time 2	73	1	S6	0.12...300.00	s	20.00	R/M	-	0	Timer for df/dt prot. or U/O frequency prot.
Setting Group 1											
	Operation mode	73	1	S41	0..6[0 = Not in use; 1 = f</f> 1 timer; 2 = f</f> 2 timers; 3 = f</f> OR df/dt>; 4 = f</f>AND df/dt>; 5 = f</f> OR df/dt<; 6 = f</f>AND df/dt<]	-	1	R/W	R	2	Operation mode for frequency protection
	Voltage limit	73	1	S42	0.30...0.90	x Un	0.30	R/W	R	2	Undervoltage limit for blocking
	Start frequency	73	1	S43	25.00...75.00	Hz	48.70	R/W	R	2	Start value for U/O frequency protection
	Operate time 1	73	1	S44	0.10...300.00	s	20.00	R/W	R	2	Operate time for U/O frequency protection
	Start df/dt	73	1	S45	0.2...10.0	Hz/s	10.0	R/W	R	2	Start value for frequency rate of change prot.

	Operate time 2	73	1	S46	0.12...300.00	s	20.00	R/W	R	2	Timer for df/dt prot. or U/O frequency prot.
Setting Group 2											
	Operation mode	73	1	S71	0..6[0 = Not in use; 1 = f</f> 1 timer; 2 = f</f> 2 timers; 3 = f</f> OR df/dt>; 4 = f</f>AND df/dt>; 5 = f</f> OR df/dt<; 6 = f</f>AND df/dt<]	-	1	R/W	R	2	Operation mode for frequency protection
	Voltage limit	73	1	S72	0.30...0.90	x Un	0.30	R/W	R	2	Undervoltage limit for blocking
	Start frequency	73	1	S73	25.00...75.00	Hz	48.70	R/W	R	2	Start value for U/O frequency protection
	Operate time 1	73	1	S74	0.10...300.00	s	20.00	R/W	R	2	Operate time for U/O frequency protection
	Start df/dt	73	1	S75	0.2...10.0	Hz/s	10.0	R/W	R	2	Start value for frequency rate of change prot.
	Operate time 2	73	1	S76	0.12...300.00	s	20.00	R/W	R	2	Timer for df/dt prot. or U/O frequency prot.
Control Settings											
	Group selection	73	1	V1	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	73	1	V2	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	73	1	V3	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signals
	Trip signal	73	1	V4	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP outputs
	Trip pulse	73	1	V5	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	Reset registers	73	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START1	73	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START1
	Test TRIP1	73	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP1
	Test START2	73	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START2
	Test TRIP2	73	1	V34	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP2

	Event mask 1	73	1	V101	0...16383	-	255	R/W	R	2	Event mask 1 for event transmission (E0 ... E13)
	Event mask 2	73	1	V103	0...16383	-	255	R/W	R	2	Event mask 2 for event transmission (E0 ... E13)
	Event mask 3	73	1	V105	0...16383	-	255	R/W	R	2	Event mask 3 for event transmission (E0 ... E13)
	Event mask 4	73	1	V107	0...16383	-	255	R/W	R	2	Event mask 4 for event transmission (E0 ... E13)
Input Data											
	Frequency	73	1	I1	20.00...80.00	Hz	0.0	R/M	-	0	System frequency
	Rate of change	73	1	I2	-15.0...+15.0	Hz/s	0.0	R/M	-	0	Freq. rate of change
	Voltage U	73	1	I3	0.0...2.0	x Un	0.0	R/M	-	0	Voltage U
	Input BS1	73	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	73	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input TRIGG	73	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	73	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	73	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of Freq1St12
Output Data											
	Output START1	73	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal 1
	Output TRIP1	73	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal 1
	Output START2	73	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal 2
	Output TRIP2	73	1	O4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal 2
Firmware Parameters											
	Date	73	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	73	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Start1	73	1	V203	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of START1
	Start2	73	1	V204	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of START2
	Duration1	73	1	V205	0...100	%	0.0	R/M	R	0	Duration of start situation
	Duration2	73	1	V206	0...100	%	0.0	R/M	R	0	Duration of start situation

Trip1	73	1	V207	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP1
Trip2	73	1	V208	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP2
Frequency	73	1	V209	20.00...80.00	Hz	0.0	R/M	R	0	Meas. system frequency
Rate of change	73	1	V210	-15.0...+15.0	Hz/s	0.0	R/M	R	0	Freq. rate of change
Voltage U	73	1	V211	0.0...2.0	x Un	0.0	R/M	R	0	Meas. voltage
BS1	73	1	V212	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1
BS2	73	1	V213	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2
TRIGG	73	1	V214	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIGG
Active group	73	1	V215	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Date	73	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	73	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
Start1	73	1	V303	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of START1
Start2	73	1	V304	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of START2
Duration1	73	1	V305	0...100	%	0.0	R/M	R	0	Duration of start situation
Duration2	73	1	V306	0...100	%	0.0	R/M	R	0	Duration of start situation
Trip1	73	1	V307	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP1
Trip2	73	1	V308	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP2
Frequency	73	1	V309	20.00...80.00	Hz	0.0	R/M	R	0	Meas. system frequency
Rate of change	73	1	V310	-15.0...+15.0	Hz/s	0.0	R/M	R	0	Freq. rate of change
Voltage U	73	1	V311	0.0...2.0	x Un	0.0	R/M	R	0	Meas. voltage
BS1	73	1	V312	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1
BS2	73	1	V313	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2
TRIGG	73	1	V314	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIGG
Active group	73	1	V315	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Date	73	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
Time	73	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time

	Start1	73	1	V403	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of START1
	Start2	73	1	V404	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of START2
	Duration1	73	1	V405	0...100	%	0.0	R/M	R	0	Duration of start situation
	Duration2	73	1	V406	0...100	%	0.0	R/M	R	0	Duration of start situation
	Trip1	73	1	V407	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP1
	Trip2	73	1	V408	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIP2
	Frequency	73	1	V409	20.00...80.00	Hz	0.0	R/M	R	0	Meas. system frequency
	Rate of change	73	1	V410	-15.0...+15.0	Hz/s	0.0	R/M	R	0	Freq. rate of change
	Voltage U	73	1	V411	0.0...2.0	x Un	0.0	R/M	R	0	Meas. voltage
	BS1	73	1	V412	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1
	BS2	73	1	V413	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2
	TRIGG	73	1	V414	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of TRIGG
	Active group	73	1	V415	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group

Negative-phase-sequence (NPS) protection, low-set stage
/*100077 / Rev G NPS3Low */
Actual Parameters

	Operation mode	77	1	S1	0..2[0 = Not in use; 1 = Definite time; 2 = Inverse time]	-	1	R/M	-	0	Selection of operation mode (definite or inverse time mode)
	Start value	77	1	S2	0.01...0.50	x In	0.20	R/M	-	0	Start value of negative sequence current I2
	Operate time	77	1	S3	0.1...120.0	s	1.0	R/M	-	0	Operate time in definite time mode
	K	77	1	S4	5.0...100.0	-	5.0	R/M	-	0	Operating characteristic constant
	Start delay	77	1	S5	0.1...60.0	s	1.0	R/M	-	0	Definite start time in inverse time mode
	Minimum time	77	1	S6	0.1...120.0	s	0.1	R/M	-	0	Definite minimum operating time

	Maximum time	77	1	S7	500...10000	s	1000	R/M	-	0	Maximum operating time regardless of inverse characteristic
	Cooling time	77	1	S8	5...10000	s	50	R/M	-	0	Time taken to cool the machine
Setting Group 1											
	Operation mode	77	1	S41	0..2[0 = Not in use; 1 = Definite time; 2 = Inverse time]	-	1	R/W	R	2	Selection of operation mode (definite or inverse time mode)
	Start value	77	1	S42	0.01...0.50	x In	0.20	R/W	R	2	Start value of negative sequence current I2
	Operate time	77	1	S43	0.1...120.0	s	1.0	R/W	R	2	Operate time in definite time mode
	K	77	1	S44	5.0...100.0	-	5.0	R/W	R	2	Operating characteristic constant
	Start delay	77	1	S45	0.1...60.0	s	1.0	R/W	R	2	Definite start time in inverse time mode
	Minimum time	77	1	S46	0.1...120.0	s	0.1	R/W	R	2	Definite minimum operating time
	Maximum time	77	1	S47	500...10000	s	1000	R/W	R	2	Maximum operating time regardless of inverse characteristic
	Cooling time	77	1	S48	5...10000	s	50	R/W	R	2	Time taken to cool the machine
Setting Group 2											
	Operation mode	77	1	S71	0..2[0 = Not in use; 1 = Definite time; 2 = Inverse time]	-	1	R/W	R	2	Selection of operation mode (definite or inverse time mode)
	Start value	77	1	S72	0.01...0.50	x In	0.20	R/W	R	2	Start value of negative sequence current I2
	Operate time	77	1	S73	0.1...120.0	s	1.0	R/W	R	2	Operate time in definite time mode
	K	77	1	S74	5.0...100.0	-	5.0	R/W	R	2	Operating characteristic constant
	Start delay	77	1	S75	0.1...60.0	s	1.0	R/W	R	2	Definite start time in inverse time mode
	Minimum time	77	1	S76	0.1...120.0	s	0.1	R/W	R	2	Definite minimum operating time
	Maximum time	77	1	S77	500...10000	s	1000	R/W	R	2	Maximum operating time regardless of inverse characteristic

	Cooling time	77	1	S78	5...10000	s	50	R/W	R	2	Time taken to cool the machine
Control Settings											
	Num. of phases	77	1	V1	2...3	-	3	R/W	R	2	Selection of two phase or three phase measurement
	Group selection	77	1	V2	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	77	1	V3	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Dir. selection	77	1	V4	0..2[0 = Forward; 1 = Reverse; 2 = Input rot. dir.]	-	0	R/W	R	2	Selection of rotation direction
	Rotation dir.	77	1	V5	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	-	0	Rotation direction
	Drop-off time	77	1	V6	0...1000	ms	0	R/W	R	2	Resetting time of the operate time counter at DT mode
	Start pulse	77	1	V7	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	77	1	V8	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	77	1	V9	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	CBFP time	77	1	V10	100...1000	ms	100	R/W	R	2	Operate time of the delayed trip CBFP
	Reset registers	77	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	77	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	77	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test CBFP	77	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
	Event mask 1	77	1	V101	0...4095	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E11)
	Event mask 2	77	1	V103	0...4095	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E11)
	Event mask 3	77	1	V105	0...4095	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E11)
	Event mask 4	77	1	V107	0...4095	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E11)

Input Data											
	Neg. seq. cur.	77	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Negative sequence current I2
	Current IL1	77	1	I2	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL1
	Current IL2	77	1	I3	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL2
	Current IL3	77	1	I4	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL3
	Input Rot. dir.	77	1	I5	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	-	0	Input signal for selecting rotation direction of generator
	Input BLOCK	77	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal for blocking FB
	Input GROUP	77	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	77	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of NPS3Low
Output Data											
	Output START	77	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	77	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output BLOCK	77	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of BLOCK signal (signal for separating machine from the power system)
	Output CBFP	77	1	O4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP trip signal
Firmware Parameters											
	Date	77	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	77	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	77	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Neg. seq. cur.	77	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Negative sequence current
	Current IL1	77	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	Current IL2	77	1	V206	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	Current IL3	77	1	V207	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	Rotation dir.	77	1	V208	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	R	0	Status of rotation direction
	BLOCK	77	1	V209	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BLOCK input
	Active group	77	1	V210	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group

	Date	77	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	77	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	77	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Neg. seq. cur.	77	1	V304	0.00...60.00	x In	0.00	R/M	R	0	Negative sequence current
	Current IL1	77	1	V305	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	Current IL2	77	1	V306	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	Current IL3	77	1	V307	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	Rotation dir.	77	1	V308	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	R	0	Status of rotation direction
	BLOCK	77	1	V309	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BLOCK input
	Active group	77	1	V310	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	77	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	77	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	77	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Neg. seq. cur.	77	1	V404	0.00...60.00	x In	0.00	R/M	R	0	Negative sequence current
	Current IL1	77	1	V405	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	Current IL2	77	1	V406	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	Current IL3	77	1	V407	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	Rotation dir.	77	1	V408	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	R	0	Status of rotation direction
	BLOCK	77	1	V409	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BLOCK input
	Active group	77	1	V410	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Negative phase sequence (NPS) protection, high-set stage /*100078 / Rev G NPS3High */ Input Data											
	Neg. seq. cur.	78	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Negative sequence current I2
	Current IL1	78	1	I2	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL1
	Current IL2	78	1	I3	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL2
	Current IL3	78	1	I4	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL3
	Input Rot. dir.	78	1	I5	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	-	0	Input signal for selecting rotation direction of generator

	Input BLOCK	78	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal for blocking FB
	Input GROUP	78	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	78	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of NPS3High
Output Data											
	Output START	78	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	78	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output BLOCK	78	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of BLOCK signal (signal for separating machine from the power system)
	Output CBFP	78	1	O4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP trip signal
Firmware Parameters											
	Date	78	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	78	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	78	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Neg. seq. cur.	78	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Negative sequence current
	Current IL1	78	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	Current IL2	78	1	V206	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	Current IL3	78	1	V207	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	Rotation dir.	78	1	V208	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	R	0	Status of rotation direction
	BLOCK	78	1	V209	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BLOCK input
	Active group	78	1	V210	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	78	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	78	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	78	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Neg. seq. cur.	78	1	V304	0.00...60.00	x In	0.00	R/M	R	0	Negative sequence current
	Current IL1	78	1	V305	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	Current IL2	78	1	V306	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	Current IL3	78	1	V307	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	Rotation dir.	78	1	V308	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	R	0	Status of rotation direction

	BLOCK	78	1	V309	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BLOCK input
	Active group	78	1	V310	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	78	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	78	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	78	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Neg. seq. cur.	78	1	V404	0.00...60.00	x In	0.00	R/M	R	0	Negative sequence current
	Current IL1	78	1	V405	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	Current IL2	78	1	V406	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	Current IL3	78	1	V407	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	Rotation dir.	78	1	V408	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	R	0	Status of rotation direction
	BLOCK	78	1	V409	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BLOCK input
	Active group	78	1	V410	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Actual Parameters											
	Operation mode	78	1	S1	0..2[0 = Not in use; 1 = Definite time; 2 = Inverse time]	-	1	R/M	-	0	Selection of operation mode (definite or inverse time mode)
	Start value	78	1	S2	0.01...0.50	x In	0.20	R/M	-	0	Start value of negative sequence current I2
	Operate time	78	1	S3	0.1...120.0	s	1.0	R/M	-	0	Operate time in definite time mode
	K	78	1	S4	5.0...100.0	-	5.0	R/M	-	0	Operating characteristic constant
	Start delay	78	1	S5	0.1...60.0	s	1.0	R/M	-	0	Definite start time in inverse time mode
	Minimum time	78	1	S6	0.1...120.0	s	0.1	R/M	-	0	Definite minimum operating time
	Maximum time	78	1	S7	500...10000	s	1000	R/M	-	0	Maximum operating time regardless of inverse characteristic
	Cooling time	78	1	S8	5...10000	s	50	R/M	-	0	Time taken to cool the machine
Setting Group 1											
	Operation mode	78	1	S41	0..2[0 = Not in use; 1 = Definite time; 2 = Inverse time]	-	1	R/W	R	2	Selection of operation mode (definite or inverse time mode)

	Start value	78	1	S42	0.01...0.50	x In	0.20	R/W	R	2	Start value of negative sequence current I2
	Operate time	78	1	S43	0.1...120.0	s	1.0	R/W	R	2	Operate time in definite time mode
	K	78	1	S44	5.0...100.0	-	5.0	R/W	R	2	Operating characteristic constant
	Start delay	78	1	S45	0.1...60.0	s	1.0	R/W	R	2	Definite start time in inverse time mode
	Minimum time	78	1	S46	0.1...120.0	s	0.1	R/W	R	2	Definite minimum operating time
	Maximum time	78	1	S47	500...10000	s	1000	R/W	R	2	Maximum operating time regardless of inverse characteristic
	Cooling time	78	1	S48	5...10000	s	50	R/W	R	2	Time taken to cool the machine
Setting Group 2											
	Operation mode	78	1	S71	0..2[0 = Not in use; 1 = Definite time; 2 = Inverse time]	-	1	R/W	R	2	Selection of operation mode (definite or inverse time mode)
	Start value	78	1	S72	0.01...0.50	x In	0.20	R/W	R	2	Start value of negative sequence current I2
	Operate time	78	1	S73	0.1...120.0	s	1.0	R/W	R	2	Operate time in definite time mode
	K	78	1	S74	5.0...100.0	-	5.0	R/W	R	2	Operating characteristic constant
	Start delay	78	1	S75	0.1...60.0	s	1.0	R/W	R	2	Definite start time in inverse time mode
	Minimum time	78	1	S76	0.1...120.0	s	0.1	R/W	R	2	Definite minimum operating time
	Maximum time	78	1	S77	500...10000	s	1000	R/W	R	2	Maximum operating time regardless of inverse characteristic
	Cooling time	78	1	S78	5...10000	s	50	R/W	R	2	Time taken to cool the machine
Control Settings											
	Num. of phases	78	1	V1	2...3	-	3	R/W	R	2	Selection of two phase or three phase measurement
	Group selection	78	1	V2	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group

Active group	78	1	V3	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
Dir. selection	78	1	V4	0..2[0 = Forward; 1 = Reverse; 2 = Input rot. dir.]	-	0	R/W	R	2	Selection of rotation direction
Rotation dir.	78	1	V5	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	-	0	Rotation direction
Drop-off time	78	1	V6	0...1000	ms	0	R/W	R	2	Resetting time of the operate time counter at DT mode
Start pulse	78	1	V7	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
Trip signal	78	1	V8	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
Trip pulse	78	1	V9	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
CBFP time	78	1	V10	100...1000	ms	100	R/W	R	2	Operate time of the delayed trip CBFP
Reset registers	78	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
Test START	78	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
Test TRIP	78	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
Test CBFP	78	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
Event mask 1	78	1	V101	0...4095	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E11)
Event mask 2	78	1	V103	0...4095	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E11)
Event mask 3	78	1	V105	0...4095	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E11)
Event mask 4	78	1	V107	0...4095	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E11)

Auto-reclosure function
AR5Func (86)
/*100080 / Rev D AR5Func
*/
Actual Parameters

	AR1 init mode	86	1	S2	0..1[0 = No operation; 1 = Init Final Trip] (0=No operation; 1=Final trip initiated)	-	0	R/W	R	2	AR1 initiation mode for final trip
	AR2 init mode	86	1	S3	0..1[0 = No operation; 1 = Init Final Trip] (0=No operation; 1=Final trip initiated)	-	0	R/W	R	2	AR2 initiation mode for final trip
	AR3 init mode	86	1	S4	0..1[0 = No operation; 1 = Init Final Trip] (0=No operation; 1=Final trip initiated)	-	0	R/W	R	2	AR3 initiation mode for final trip
	AR4 init mode	86	1	S5	0..1[0 = No operation; 1 = Init Final Trip] (0=No operation; 1=Final trip initiated)	-	0	R/W	R	2	AR4 initiation mode for final trip
	AR1 trip delay	86	1	S6	0.00...5.00	s	0.00	R/W	R	2	Final trip delay, when initiated by AR1
	AR2 trip delay	86	1	S7	0.00...5.00	s	0.00	R/W	R	2	Final trip delay, when initiated by AR2
	AR3 trip delay	86	1	S8	0.00...5.00	s	0.00	R/W	R	2	Final trip delay, when initiated by AR3
	AR4 trip delay	86	1	S9	0.00...5.00	s	0.00	R/W	R	2	Final trip delay, when initiated by AR4
Control Settings											
	Event mask 1	86	1	V101	0...31	-	1	R/W	R	2	Event mask 1 for event transmission (E0 ... E4)
	Event mask 2	86	1	V103	0...31	-	1	R/W	R	2	Event mask 2 for event transmission (E0 ... E4)
	Event mask 3	86	1	V105	0...31	-	1	R/W	R	2	Event mask 3 for event transmission (E0 ... E4)
	Event mask 4	86	1	V107	0...31	-	1	R/W	R	2	Event mask 4 for event transmission (E0 ... E4)
Actual Parameters											
	Initiation mode	81	1	S1	0..1[0 = Trip; 1 = Start]	-	0	R/W	R	2	Shot 1 initiation mode
	AR1 oper. mode	81	1	S2	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR1 operation mode for shot 1

	AR2 oper. mode	81	1	S3	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR2 operation mode for shot 1
	AR3 oper. mode	81	1	S4	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR3 operation mode for shot 1
	AR4 oper. mode	81	1	S5	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR4 operation mode for shot 1
	AR1 start delay	81	1	S6	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR1 signal
	AR2 start delay	81	1	S7	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR2 signal
	AR3 start delay	81	1	S8	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR3 signal
	AR4 start delay	81	1	S9	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR4 signal
	Dead time	81	1	S10	0.20...300.00	s	5.00	R/W	R	2	Dead time for AR shot 1
	Synchrocheck	81	1	S11	0..1[0 = Not in use; 1 = ARSYNC in use]	-	0	R/W	R	2	Use of synchrocheck for AR shot 1
	Discr. time td	81	1	S12	0.00...30.00	s	0.00	R/W	R	2	Discriminating time for AR shot 1
Control Settings											
	Event mask 1	81	1	V101	0...127	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E6)
	Event mask 2	81	1	V103	0...127	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E6)
	Event mask 3	81	1	V105	0...127	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E6)
	Event mask 4	81	1	V107	0...127	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E6)
Recorded Data 1											
	Num shots AR1	81	1	V2	0...255	-	0	R/W	R	2	Number of shots initiated by AR1
	Num shots AR2	81	1	V3	0...255	-	0	R/W	R	2	Number of shots initiated by AR2
	Num shots AR3	81	1	V4	0...255	-	0	R/W	R	2	Number of shots initiated by AR3

	Num shots AR4	81	1	V5	0...255	-	0	R/W	R	2	Number of shots initiated by AR4
	Successful AR1	81	1	V6	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR1
	Successful AR2	81	1	V7	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR2
	Successful AR3	81	1	V8	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR3
	Successful AR4	81	1	V9	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR4
Actual Parameters											
	Reclaim time tr	80	1	S1	0.20...300.00	s	10.00	R/W	R	2	Reclaim time of AR-function
	AR operations	80	1	S3	0..2[0 = OFF; 1 = ON; 2 = ON input select] (0=OFF; 1=ON; 2=Selected by the ON input)	-	0	R/W	R	2	Operation mode of AR-function
	AR oper. status	80	1	S4	0..1[0 = OFF; 1 = ON]	-	0	R/M	-	0	AR-function currently in use or not
	Lock-out mode	80	1	S5	0..1[0 = Automatic; 1 = Manual]	-	0	R/W	R	2	Lock-out reset mode: Automatic, Manual
	Shot alarm level	80	1	S6	0...4	-	0	R/W	R	2	Number of shots required in AR sequence to activate the SHOT_ALARM output
	Man. close inh.	80	1	S7	0..2[0 = Shots and FT; 1 = Shots only; 2 = Nothing] (0=Shots / Final Trip inhibited; 1=Shots inhibited; 2=Closing does not affect)	-	0	R/W	R	2	Function at manual CB closing
	Shots enabled	80	1	S9	0..1[0 = All Shots; 1 = Next Shot only] (0=Enable all shots >= Shot Pointer; 1=Enable the next shot (=Shot Pointer) only)	-	0	R/W	R	2	Enable all shots or only the next one
	Frequent op. cnt	80	1	S17	0...100	-	0	R/W	R	2	Frequent Operation Counter: current value in shots
	Freq. op. limit	80	1	S18	0..100(0=Frequent Operation Counter disabled; 1...100=Number of shots)	-	0	R/W	R	2	Lock-out limit of the Frequent Operation Counter in shots

	Freq. op. leak	80	1	S19	1...50	-	1	R/W	R	2	Leakage of the Frequent Operation Counter in shots per half an hour
	At stress cnt 0	80	1	S20	0..1[0 = Alarm only; 1 = Inh. closing] (0=Alarm only; 1=Inhibit closing / auto-reclosing)	-	0	R/W	R	2	Operation of CB maintenance monitor when 0
	Manual stress	80	1	S21	0...50	-	0	R/W	R	2	Stress factor, when CB opened manually
	AR1 stress	80	1	S22	0...50	-	0	R/W	R	2	Stress factor, when CB opened via AR1
	AR2 stress	80	1	S23	0...50	-	0	R/W	R	2	Stress factor, when CB opened via AR2
	AR3 stress	80	1	S24	0...50	-	0	R/W	R	2	Stress factor, when CB opened via AR3
	AR4 stress	80	1	S25	0...50	-	0	R/W	R	2	Stress factor, when CB opened via AR4
	Stress pre-alarm	80	1	S26	0...50	-	0	R/W	R	2	Pre-alarm level of CB maintenance monitor
	Stress counter	80	1	S27	0...999	-	999	R/W	R	2	Value of CB maintenance monitor
	Close pulse	80	1	S28	0.10...7.00	s	0.20	R/W	R	2	Length of closing pulse
	Open pulse	80	1	S29	0.10...7.00	s	0.20	R/W	R	2	Length of opening pulse
Control Settings											
	AR in progress	80	1	V1	0..5[0 = Not in progress; 1 = Shot 1; 2 = Shot 2; 3 = Shot 3; 4 = Shot 4; 5 = Shot 5] (0=AR not in progress; 1=AR shot 1 in progress; 2=AR shot 2 in progress; 3=AR shot 3 in progress; 4=AR shot 4 in progress; 5=AR shot 5 in progress)	-	0	R/M	-	0	AR5Func status
	Shot Pointer	80	1	V2	1...7	-	1	R/M	-	0	Current value of Shot Pointer
	CB position	80	1	V3	0..2[0 = Unknown; 1 = Closed; 2 = Open]	-	0	R/M	-	0	Circuit Breaker status as seen by AR5Func
	Open select	80	0	V6	0..1[0 = 0; 1 = Open select]	-	0	W	-	0	Open operation selection of the secured control
	Close select	80	0	V7	0..1[0 = 0; 1 = Close select]	-	0	W	-	0	Close operation selection of the secured control

	Deselect	80	0	V10	0..1[0 = 0; 1 = Deselect]	-	0	W	-	0	Deselection of the secured control
	Execute	80	0	V11	0..1[0 = 0; 1 = Execute]	-	0	W	-	0	Execution of the secured control
	Reset registers	80	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Parameter for register reset Note: Same effect as RESET input signal of AR5Func
	CB pos. inputs	80	0	V90	0..1[0 = 0; 1 = Disconnect]	-	0	W	-	2	Enter test mode
	Event mask 1A	80	1	V101	0...4294967295	-	4231790787	R/W	R	2	Event mask 1 for event transmission (E0 ... E32)
	Event mask 1B	80	1	V102	0...16383	-	127	R/W	R	2	Event mask 1 for event transmission (E32 ... E45)
	Event mask 2A	80	1	V103	0...4294967295	-	4231790787	R/W	R	2	Event mask 2 for event transmission (E0 ... E32)
	Event mask 2B	80	1	V104	0...16383	-	127	R/W	R	2	Event mask 2 for event transmission (E32 ... E45)
	Event mask 3A	80	1	V105	0...4294967295	-	4231790787	R/W	R	2	Event mask 3 for event transmission (E0 ... E32)
	Event mask 3B	80	1	V106	0...16383	-	127	R/W	R	2	Event mask 3 for event transmission (E32 ... E45)
	Event mask 4A	80	1	V107	0...4294967295	-	4231790787	R/W	R	2	Event mask 4 for event transmission (E0 ... E32)
	Event mask 4B	80	1	V108	0...16383	-	127	R/W	R	2	Event mask 4 for event transmission (E32 ... E45)
Input Data											
	In AR1	80	1	I1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal AR1
	In AR2	80	1	I2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal AR2
	In AR3	80	1	I3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal AR3
	In AR4	80	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal AR4
	In ARINH	80	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal ARINH
	In ARSYNC	80	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal ARSYNC
	In CBOPEN	80	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal CBOPEN

	In CBCLOSE	80	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal CBCLOSE
	In CINH	80	1	I9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal CINH
	In ON	80	1	I10	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal ON
	In RESET	80	1	I11	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal RESET
	In LOCKOUT_RES	80	1	I12	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal LOCKOUT_RES
	In SHOT_INC	80	1	I13	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input signal SHOT_INC
Output Data											
	Out OPEN	80	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of OPEN signal
	Out CLOSE	80	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CLOSE signal
	Out SHOT1	80	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of AR shot 1 due signal SHOT1
	Out SHOT2	80	1	O4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of AR shot 2 due signal SHOT2
	Out SHOT3	80	1	O5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of AR shot 3 due signal SHOT3
	Out SHOT4	80	1	O6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of AR shot 4 due signal SHOT4
	Out SHOT5	80	1	O7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of AR shot 5 due signal SHOT5
	Out AR1TRIP	80	1	O8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of DEF.TRIP alarm signal AR1TRIP
	Out AR2TRIP	80	1	O9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of DEF.TRIP alarm signal AR2TRIP
	Out AR3TRIP	80	1	O10	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of DEF.TRIP alarm signal AR3TRIP
	Out AR4TRIP	80	1	O11	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of DEF.TRIP alarm signal AR4TRIP
	Out CBFAIL	80	1	O12	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFAIL signal
	Out DEFTRIP	80	1	O13	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of DEFTRIP signal
	Out LOCKOUT	80	1	O14	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of LOCKOUT signal

	Out TRDUE	80	1	O15	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of TRDUE signal
	Out TDDUE	80	1	O16	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of TDDUE signal
	Out ACTIVE	80	1	O17	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of ACTIVE signal
	Out SHOT_ALARM	80	1	O18	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of SHOT_ALARM signal
Recorded Data 1											
	Num DEF.TRIP AR1	80	1	V22	0...255	-	0	R/W	R	2	Number of DEF.TRIP alarms initiated by AR1
	Num DEF.TRIP AR2	80	1	V23	0...255	-	0	R/W	R	2	Number of DEF.TRIP alarms initiated by AR2
	Num DEF.TRIP AR3	80	1	V24	0...255	-	0	R/W	R	2	Number of DEF.TRIP alarms initiated by AR3
	Num DEF.TRIP AR4	80	1	V25	0...255	-	0	R/W	R	2	Number of DEF.TRIP alarms initiated by AR4
	Num shots last	80	1	V31	0..11[0 = Not registered; 1 = 1 Shot; 2 = 2 Shots; 3 = 3 Shots; 4 = 4 Shots; 5 = 5 Shots; 6 = Final Trip only; 7 = 1 Shot +FT; 8 = 2 Shots +FT; 9 = 3 Shots +FT; 10 = 4 Shots +FT; 11 = 5 Shots +FT] (0=Dummy data, 1...5=Shot count, 6...11=Shot count (+6) with Def Trip)	-	0	R/W	R	2	Shots / last AR sequence
	Num shots 2nd	80	1	V32	0..11[0 = Not registered; 1 = 1 Shot; 2 = 2 Shots; 3 = 3 Shots; 4 = 4 Shots; 5 = 5 Shots; 6 = Final Trip only; 7 = 1 Shot +FT; 8 = 2 Shots +FT; 9 = 3 Shots +FT; 10 = 4 Shots +FT; 11 = 5 Shots +FT] (0=Dummy data, 1...5=Shot count, 6...11=Shot count (+6) with Def Trip)	-	0	R/W	R	2	Shots / second last AR sequence

Num shots 3rd	80	1	V33	0..11[0 = Not registered; 1 = 1 Shot; 2 = 2 Shots; 3 = 3 Shots; 4 = 4 Shots; 5 = 5 Shots; 6 = Final Trip only; 7 = 1 Shot +FT; 8 = 2 Shots +FT; 9 = 3 Shots +FT; 10 = 4 Shots +FT; 11 = 5 Shots +FT] (0=Dummy data, 1...5=Shot count, 6...11=Shot count (+6) with Def Trip)	-	0	R/W	R	2	Shots / third last AR sequence
Num shots 4th	80	1	V34	0..11[0 = Not registered; 1 = 1 Shot; 2 = 2 Shots; 3 = 3 Shots; 4 = 4 Shots; 5 = 5 Shots; 6 = Final Trip only; 7 = 1 Shot +FT; 8 = 2 Shots +FT; 9 = 3 Shots +FT; 10 = 4 Shots +FT; 11 = 5 Shots +FT] (0=Dummy data, 1...5=Shot count, 6...11=Shot count (+6) with Def Trip)	-	0	R/W	R	2	Shots / fourth last AR sequence
Num shots 5th	80	1	V35	0..11[0 = Not registered; 1 = 1 Shot; 2 = 2 Shots; 3 = 3 Shots; 4 = 4 Shots; 5 = 5 Shots; 6 = Final Trip only; 7 = 1 Shot +FT; 8 = 2 Shots +FT; 9 = 3 Shots +FT; 10 = 4 Shots +FT; 11 = 5 Shots +FT] (0=Dummy data, 1...5=Shot count, 6...11=Shot count (+6) with Def Trip)	-	0	R/W	R	2	Shots / fifth last AR sequence
Num shots AR1	83	1	V2	0...255	-	0	R/W	R	2	Number of shots initiated by AR1
Num shots AR2	83	1	V3	0...255	-	0	R/W	R	2	Number of shots initiated by AR2
Num shots AR3	83	1	V4	0...255	-	0	R/W	R	2	Number of shots initiated by AR3
Num shots AR4	83	1	V5	0...255	-	0	R/W	R	2	Number of shots initiated by AR4

	Successful AR1	83	1	V6	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR1
	Successful AR2	83	1	V7	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR2
	Successful AR3	83	1	V8	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR3
	Successful AR4	83	1	V9	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR4
Actual Parameters											
	Initiation mode	83	1	S1	0..1[0 = Trip; 1 = Start]	-	0	R/W	R	2	Shot 3 initiation mode
	AR1 oper. mode	83	1	S2	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR1 operation mode for shot 3
	AR2 oper. mode	83	1	S3	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR2 operation mode for shot 3
	AR3 oper. mode	83	1	S4	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR3 operation mode for shot 3
	AR4 oper. mode	83	1	S5	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR4 operation mode for shot 3
	AR1 start delay	83	1	S6	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR1 signal
	AR2 start delay	83	1	S7	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR2 signal
	AR3 start delay	83	1	S8	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR3 signal
	AR4 start delay	83	1	S9	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR4 signal
	Dead time	83	1	S10	0.20...300.00	s	5.00	R/W	R	2	Dead time for AR shot 3
	Synchrocheck	83	1	S11	0..1[0 = Not in use; 1 = ARSYNC in use]	-	0	R/W	R	2	Use of synchrocheck for AR shot 3
	Discr. time td	83	1	S12	0.00...30.00	s	0.00	R/W	R	2	Discriminating time for AR shot 3
Control Settings											

	Event mask 1	83	1	V101	0...127	-	2	R/W	R	2	Event mask for event transmission
	Event mask 2	83	1	V103	0...127	-	2	R/W	R	2	Event mask for event transmission
	Event mask 3	83	1	V105	0...127	-	2	R/W	R	2	Event mask for event transmission
	Event mask 4	83	1	V107	0...127	-	2	R/W	R	2	Event mask for event transmission
Actual Parameters											
	Initiation mode	85	1	S1	0..1[0 = Trip; 1 = Start]	-	0	R/W	R	2	Shot 5 initiation mode
	AR1 oper. mode	85	1	S2	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR1 operation mode for shot 5
	AR2 oper. mode	85	1	S3	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR2 operation mode for shot 5
	AR3 oper. mode	85	1	S4	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR3 operation mode for shot 5
	AR4 oper. mode	85	1	S5	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR4 operation mode for shot 5
	AR1 start delay	85	1	S6	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR1 signal
	AR2 start delay	85	1	S7	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR2 signal
	AR3 start delay	85	1	S8	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR3 signal
	AR4 start delay	85	1	S9	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR4 signal
	Dead time	85	1	S10	0.20...300.00	s	5.00	R/W	R	2	Dead time for AR shot 5
	Synchrocheck	85	1	S11	0..1[0 = Not in use; 1 = ARSYNC in use]	-	0	R/W	R	2	Use of synchrocheck for AR shot 5
	Discr. time td	85	1	S12	0.00...30.00	s	0.00	R/W	R	2	Discriminating time for AR shot 5
Control Settings											

	Event mask 1	85	1	V101	0...127	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E6)
	Event mask 2	85	1	V103	0...127	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E6)
	Event mask 3	85	1	V105	0...127	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E6)
	Event mask 4	85	1	V107	0...127	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E6)
Recorded Data 1											
	Num shots AR1	85	1	V2	0...255	-	0	R/W	R	2	Number of shots initiated by AR1
	Num shots AR2	85	1	V3	0...255	-	0	R/W	R	2	Number of shots initiated by AR2
	Num shots AR3	85	1	V4	0...255	-	0	R/W	R	2	Number of shots initiated by AR3
	Num shots AR4	85	1	V5	0...255	-	0	R/W	R	2	Number of shots initiated by AR4
	Successful AR1	85	1	V6	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR1
	Successful AR2	85	1	V7	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR2
	Successful AR3	85	1	V8	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR3
	Successful AR4	85	1	V9	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR4
Actual Parameters											
	Initiation mode	82	1	S1	0..1[0 = Trip; 1 = Start]	-	0	R/W	R	2	Shot 2 initiation mode
	AR1 oper. mode	82	1	S2	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR1 operation mode for shot 2
	AR2 oper. mode	82	1	S3	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR2 operation mode for shot 2

	AR3 oper. mode	82	1	S4	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR3 operation mode for shot 2
	AR4 oper. mode	82	1	S5	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR4 operation mode for shot 2
	AR1 start delay	82	1	S6	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR1 signal
	AR2 start delay	82	1	S7	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR2 signal
	AR3 start delay	82	1	S8	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR3 signal
	AR4 start delay	82	1	S9	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR4 signal
	Dead time	82	1	S10	0.20...300.00	s	5.00	R/W	R	2	Dead time for AR shot 2
	Synchrocheck	82	1	S11	0..1[0 = Not in use; 1 = ARSYNC in use]	-	0	R/W	R	2	Use of synchrocheck for AR shot 2
	Discr. time td	82	1	S12	0.00...30.00	s	0.00	R/W	R	2	Discriminating time for AR shot 2
Control Settings											
	Event mask 1	82	1	V101	0...127	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E6)
	Event mask 2	82	1	V103	0...127	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E6)
	Event mask 3	82	1	V105	0...127	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E6)
	Event mask 4	82	1	V107	0...127	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E6)
Recorded Data 1											
	Num shots AR1	82	1	V2	0...255	-	0	R/W	R	2	Number of shots initiated by AR1
	Num shots AR2	82	1	V3	0...255	-	0	R/W	R	2	Number of shots initiated by AR2
	Num shots AR3	82	1	V4	0...255	-	0	R/W	R	2	Number of shots initiated by AR3
	Num shots AR4	82	1	V5	0...255	-	0	R/W	R	2	Number of shots initiated by AR4
	Successful AR1	82	1	V6	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR1
	Successful AR2	82	1	V7	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR2

	Successful AR3	82	1	V8	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR3
	Successful AR4	82	1	V9	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR4
	Num shots AR1	84	1	V2	0...255	-	0	R/W	R	2	Number of shots initiated by AR1
	Num shots AR2	84	1	V3	0...255	-	0	R/W	R	2	Number of shots initiated by AR2
	Num shots AR3	84	1	V4	0...255	-	0	R/W	R	2	Number of shots initiated by AR3
	Num shots AR4	84	1	V5	0...255	-	0	R/W	R	2	Number of shots initiated by AR4
	Successful AR1	84	1	V6	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR1
	Successful AR2	84	1	V7	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR2
	Successful AR3	84	1	V8	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR3
	Successful AR4	84	1	V9	0...255	-	0	R/W	R	2	Number of successful shots initiated by AR4
Actual Parameters											
	Initiation mode	84	1	S1	0..1[0 = Trip; 1 = Start]	-	0	R/W	R	2	Shot 4 initiation mode
	AR1 oper. mode	84	1	S2	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR1 operation mode for shot 4
	AR2 oper. mode	84	1	S3	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR2 operation mode for shot 4
	AR3 oper. mode	84	1	S4	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR3 operation mode for shot 4

	AR4 oper. mode	84	1	S5	0..2[0 = No operation; 1 = Init Shot; 2 = Block Shot] (0 = No operation; 1 = AR shot initiated; 2 = Initiation of AR shot blocked)	-	0	R/W	R	2	AR4 operation mode for shot 4
	AR1 start delay	84	1	S6	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR1 signal
	AR2 start delay	84	1	S7	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR2 signal
	AR3 start delay	84	1	S8	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR3 signal
	AR4 start delay	84	1	S9	0.00...10.00	s	0.00	R/W	R	2	Start delay of AR4 signal
	Dead time	84	1	S10	0.20...300.00	s	5.00	R/W	R	2	Dead time for AR shot 4
	Synchrocheck	84	1	S11	0..1[0 = Not in use; 1 = ARSYNC in use]	-	0	R/W	R	2	Use of synchrocheck for AR shot 4
	Discr. time td	84	1	S12	0.00...30.00	s	0.00	R/W	R	2	Discriminating time for AR shot 4
Control Settings											
	Event mask 1	84	1	V101	0...127	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E6)
	Event mask 2	84	1	V103	0...127	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E6)
	Event mask 3	84	1	V105	0...127	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E6)
	Event mask 4	84	1	V107	0...127	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E6)
3-phase non-directional undercurrent protection, stage 1 /*100088 / Rev F NUC3St1 */											
Actual Parameters											
	Operation mode	88	1	S1	0..2[0 = Not in use; 1 = Alarm; 2 = Trip]	-	2	R/M	-	0	Selection of operation mode
	Oper. criteria	88	1	S2	0..1[0 = 1,2,3-phase; 1 = 3-phase]	-	0	R/M	-	0	Selection of operation criteria
	Start current	88	1	S3	0.10...0.99	x In	0.50	R/M	-	0	Start current
	Operate time	88	1	S4	0.1...600.0	s	2.0	R/M	-	0	Operate time at ALARM and TRIP modes
	Intern. blocking	88	1	S5	0..1[0 = Disable; 1 = Enable]	-	1	R/M	-	0	Enabling of internal undercurrent blocking
	Blocking time	88	1	S6	0...7200	s	0	R/M	-	0	Blocking time from motor start-up
Setting Group 1											

	Operation mode	88	1	S41	0..2[0 = Not in use; 1 = Alarm; 2 = Trip]	-	2	R/W	R	2	Selection of operation mode
	Oper. criteria	88	1	S42	0..1[0 = 1,2,3-phase; 1 = 3-phase]	-	0	R/W	R	2	Selection of operation criteria
	Start current	88	1	S43	0.10...0.99	x In	0.50	R/W	R	2	Start current
	Operate time	88	1	S44	0.1...600.0	s	2.0	R/W	R	2	Operate time at ALARM and TRIP modes
	Intern. blocking	88	1	S45	0..1[0 = Disable; 1 = Enable]	-	1	R/W	R	2	Enabling of internal undercurrent blocking
	Blocking time	88	1	S46	0...7200	s	0	R/W	R	2	Blocking time from motor start-up
Setting Group 2											
	Operation mode	88	1	S71	0..2[0 = Not in use; 1 = Alarm; 2 = Trip]	-	2	R/W	R	2	Selection of operation mode
	Oper. criteria	88	1	S72	0..1[0 = 1,2,3-phase; 1 = 3-phase]	-	0	R/W	R	2	Selection of operation criteria
	Start current	88	1	S73	0.10...0.99	x In	0.50	R/W	R	2	Start current
	Operate time	88	1	S74	0.1...600.0	s	2.0	R/W	R	2	Operate time at ALARM and TRIP modes
	Intern. blocking	88	1	S75	0..1[0 = Disable; 1 = Enable]	-	1	R/W	R	2	Enabling of internal overcurrent
	Blocking time	88	1	S76	0...7200	s	0	R/W	R	2	Blocking time from motor start-up
Control Settings											
	Measuring mode	88	1	V1	0..1[0 = Peak-to-peak; 1 = Fundam. freq.]	-	0	R/W	R	2	Selection of measuring mode
	Drop-off time	88	1	V2	0.00...60.00	s	0	R/W	R	2	Resetting time of the operate time counter
	Group selection	88	1	V3	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the actiive setting group
	Active group	88	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	88	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	88	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	88	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP
	CBFP time	88	1	V8	100...1000	ms	500	R/W	R	2	Operate time of delayed trip CBFP

	Alarm signal	88	1	V9	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for ALARM output
	Reset registers	88	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched alarm or trip signal and registers
	Test START	88	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	-	R/W	-	2	Testing of START
	Test TRIP	88	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	-	R/W	-	2	Testing of TRIP
	Test CBFP	88	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	-	R/W	-	2	Testing of CBFP
	Test ALARM	88	1	V34	0..1[0 = Do not activate; 1 = Activate]	-	-	R/W	-	2	Testing of ALARM
	Event mask 1	88	1	V101	0...16383	-	255	R/W	R	2	Event mask 1 for event transmission (E0...E13)
	Event mask 2	88	1	V103	0...16383	-	255	R/W	R	2	Event mask 2 for event transmission (E0...E13)
	Event mask 3	88	1	V105	0...16383	-	255	R/W	R	2	Event mask 3 for event transmission (E0...E13)
	Event mask 4	88	1	V107	0...16383	-	255	R/W	R	2	Event mask 4 for event tarnsmission (E0...E13)
Input Data											
	Current IL1	88	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL1
	Current IL2	88	1	I2	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL2
	Current IL3	88	1	I3	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL3
	Extern. BLOCK	88	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	External BLOCK signal
	Intern. BLOCK	88	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Internal BLOCK signal
	Input TRIGG	88	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	88	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input BSREG	88	1	I8	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for blocking the recording function
	Input RESET	88	1	I9	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of NUC3St1
Output Data											
	Output START	88	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of START signal

	Output TRIP	88	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of TRIP signal
	Output CBFP	88	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP signal
	Output ALARM	88	1	O4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of ALARM signal
Firmware Parameters											
	Date	88	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	88	1	V202	hh:mm:ss.mss	-	-	R/M	R	0	Recording time
	Duration	88	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	IL1 mean	88	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	IL2 mean	88	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	IL3 mean	88	1	V206	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	Extern. BLOCK	88	1	V207	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of Extern. BLOCK input
	Intern. BLOCK	88	1	V208	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of Intern. BLOCKB input
	Active group	88	1	V209	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	88	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	88	1	V302	hh:mm:ss.mss	-	-	R/M	R	0	Recording time
	Duration	88	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	IL1 mean	88	1	V304	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	IL2 mean	88	1	V305	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	IL3 mean	88	1	V306	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	Extern. BLOCK	88	1	V307	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of Extern. BLOCK input
	Intern. BLOCK	88	1	V308	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of Intern. BLOCK input
	Active group	88	1	V309	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	88	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	88	1	V402	hh:mm:ss.mss	-	-	R/M	R	0	Recording time
	Duration	88	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	IL1 mean	88	1	V404	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL1
	IL2 mean	88	1	V405	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL2
	IL3 mean	88	1	V406	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of IL3
	Extern. BLOCK	88	1	V407	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of Extern. BLOCK input
	Intern. BLOCK	88	1	V408	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of Intern. BLOCK input

	Active group	88	1	V409	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Non-directional earth-fault protection function, instantaneous stage /*100090 / Rev D NEF1Inst */											
Actual Parameters											
	Operation mode	90	1	S1	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R	-	0	Selection of operation mode
	Start current	90	1	S2	0.10...12.00	x In	0.10	R	-	0	Start current
	Operate time	90	1	S3	0.05...300.00	s	0.05	R	-	0	Operate time
Setting Group 1											
	Operation mode	90	1	S41	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2	Selection of operation mode
	Start current	90	1	S42	0.10...12.00	x In	0.10	R/W	R	2	Start current
	Operate time	90	1	S43	0.05...300.00	s	0.05	R/W	R	2	Operate time
Setting Group 2											
	Operation mode	90	1	S71	0..2[0 = Not in use; 1 = Definite time; 2 = Instantaneous]	-	1	R/W	R	2	Selection of operation mode
	Start current	90	1	S72	0.10...12.00	x In	0.10	R/W	R	2	Start current
	Operate time	90	1	S73	0.05...300.00	s	0.05	R/W	R	2	Operate time
Control Settings											
	Measuring mode	90	1	V1	0..1[0 = Peak-to-peak; 1 = Fundam.freq.]	-	1	R/W	R	2	Selection of measuring mode
	Drop-off time	90	1	V2	0...1000	ms	0	R/W	R	2	Resetting time of the operate time counter
	Group selection	90	1	V3	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	90	1	V4	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Start pulse	90	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	90	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	90	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP and CBFP

	CBFP time	90	1	V8	100...1000	ms	100	R/W	R	2	Operate time of CBFP
	Reset registers	90	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	90	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of START
	Test TRIP	90	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of TRIP
	Test CBFP	90	1	V33	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of CBFP
	Event mask 1	90	1	V101	0...4095	-	63	R/W	R	2	Event mask 1 for event transmission (E0 ... E11)
	Event mask 2	90	1	V103	0...4095	-	63	R/W	R	2	Event mask 2 for event transmission (E0 ... E11)
	Event mask 3	90	1	V105	0...4095	-	63	R/W	R	2	Event mask 3 for event transmission (E0 ... E11)
	Event mask 4	90	1	V107	0...4095	-	63	R/W	R	2	Event mask 4 for event transmission (E0 ... E11)
Input Data											
	Current Io	90	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Neutral current Io
	Input BS1	90	1	I2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS1
	Input BS2	90	1	I3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Block signal BS2
	Input TRIGG	90	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for triggering the registers
	Input GROUP	90	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input BSREG	90	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for blocking the recording function
	Input RESET	90	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting trip signal and registers NEF1Inst
Output Data											
	Output START	90	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	90	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output CBFP	90	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of CBFP signal
Firmware Parameters											
	Date	90	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date

	Time	90	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	90	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Io mean	90	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of Io
	Io peak	90	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of Io
	BS1	90	1	V206	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	90	1	V207	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	90	1	V208	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	90	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	90	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	90	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Io mean	90	1	V304	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of Io
	Io peak	90	1	V305	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of Io
	BS1	90	1	V306	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	90	1	V307	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	90	1	V308	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	90	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	90	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration	90	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation
	Io mean	90	1	V404	0.00...60.00	x In	0.00	R/M	R	0	Filtered value of Io
	Io peak	90	1	V405	0.00...60.00	x In	0.00	R/M	R	0	Momentary peak of Io
	BS1	90	1	V406	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS1 input
	BS2	90	1	V407	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BS2 input
	Active group	90	1	V408	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group

Phase sequence voltage protection, stage 1
/*100112 / Rev D PSV3St1 */
Input Data

	Pos. seq. volt.	112	1	I1	0.00...2.00	x Un	0.00	R/M	-	0	Positive phase sequence voltage
	Neg. seq. volt.	112	1	I2	0.00...2.00	x Un	0.00	R/M	-	0	Negative phase sequence voltage

	Input ROT_DIR	112	1	I3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between forward and reverse rotation
	Input BLOCK	112	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input for blocking he function
	Input GROUP	112	1	I5	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for switching between group 1 and 2
	Input RESET	112	1	I6	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting output signals and registers of PSV3St1
Output Data											
	Output START	112	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of start signal
	Output TRIP	112	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of trip signal
	Output ERR	112	1	O3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of error output signal
Firmware Parameters											
	Date	112	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	112	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration U2>	112	1	V203	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation of U2> stage
	Duration U1<	112	1	V204	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation of U1< stage
	Duration U1>	112	1	V205	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation of U1> stage
	Pos. seq. volt.	112	1	V206	0.00...2.00	x Un	0.00	R/M	R	0	Positive sequence voltage
	Neg. seq. volt.	112	1	V207	0.00...2.00	x Un	0.00	R/M	R	0	Negative sequence voltage
	BLOCK	112	1	V208	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BLOCK input
	Active group	112	1	V209	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	112	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	112	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration U2>	112	1	V303	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation of U2> stage
	Duration U1<	112	1	V304	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation of U1< stage
	Duration U1>	112	1	V305	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation of U1> stage
	Pos. seq. volt.	112	1	V306	0.00...2.00	x Un	0.00	R/M	R	0	Positive sequence voltage
	Neg. seq. volt.	112	1	V307	0.00...2.00	x Un	0.00	R/M	R	0	Negative sequence voltage

	BLOCK	112	1	V308	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BLOCK input
	Active group	112	1	V309	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
	Date	112	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	112	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Duration U2>	112	1	V403	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation of U2> stage
	Duration U1<	112	1	V404	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation of U1< stage
	Duration U1>	112	1	V405	0.0...100.0	%	0.0	R/M	R	0	Duration of start situation of U1> stage
	Pos. seq. volt.	112	1	V406	0.00...2.00	x Un	0.00	R/M	R	0	Positive sequence voltage
	Neg. seq. volt.	112	1	V407	0.00...2.00	x Un	0.00	R/M	R	0	Negative sequence voltage
	BLOCK	112	1	V408	0..1[0 = Not active; 1 = Active]	-	0	R/M	R	0	Status of BLOCK input
	Active group	112	1	V409	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	R	0	Active setting group
Actual Parameters											
	Operation mode	112	1	S1	0..7[0 = Not in use; 1 = U1< & U2> & U1>; 2 = U1< & U2>; 3 = U2> & U1>; 4 = U1< & U1>; 5 = U2>; 6 = U1<; 7 = U1>]	-	1	R/M	-	0	Selection of operation mode
	Start value U2>	112	1	S2	0.01...1.00	x Un	0.03	R/M	-	0	Start voltage of negative phase sequence overvoltage operation
	Start value U1<	112	1	S3	0.01...1.20	x Un	0.90	R/M	-	0	Start voltage of positive phase sequence undervoltage operation
	Start value U1>	112	1	S4	0.80...1.60	x Un	1.10	R/M	-	0	Start voltage of positive phase sequence overvoltage operation
	Operate time U2>	112	1	S5	0.04...60.00	s	0.04	R/M	-	0	Operate time of negative phase sequence overvoltage operation
	Operate time U1<	112	1	S6	0.04...60.00	s	0.04	R/M	-	0	Operate time of positive phase sequence undervoltage operation

	Operate time U1>	112	1	S7	0.04...60.00	s	0.04	R/M	-	0	Operate time of positive phase sequence overvoltage operation
Setting Group 1											
	Operation mode	112	1	S41	0..7[0 = Not in use; 1 = U1< & U2> & U1>; 2 = U1< & U2>; 3 = U2> & U1>; 4 = U1< & U1>; 5 = U2>; 6 = U1<; 7 = U1>]	-	1	R/W	R	2	Selection of operation mode
	Start value U2>	112	1	S42	0.01...1.00	x Un	0.03	R/W	R	2	Start voltage of negative phase sequence overvoltage operation
	Start value U1<	112	1	S43	0.01...1.20	x Un	0.90	R/W	R	2	Start voltage of positive phase sequence undervoltage operation
	Start value U1>	112	1	S44	0.80...1.60	x Un	1.10	R/W	R	2	Start voltage of positive phase sequence overvoltage operation
	Operate time U2>	112	1	S45	0.04...60.00	s	0.04	R/W	R	2	Operate time of negative phase sequence overvoltage operation
	Operate time U1<	112	1	S46	0.04...60.00	s	0.04	R/W	R	2	Operate time of positive phase sequence undervoltage operation
	Operate time U1>	112	1	S47	0.04...60.00	s	0.04	R/W	R	2	Operate time of positive phase sequence overvoltage operation
Setting Group 2											
	Operation mode	112	1	S71	0..7[0 = Not in use; 1 = U1< & U2> & U1>; 2 = U1< & U2>; 3 = U2> & U1>; 4 = U1< & U1>; 5 = U2>; 6 = U1<; 7 = U1>]	-	1	R/W	R	2	Selection of operation mode
	Start value U2>	112	1	S72	0.01...1.00	x Un	0.03	R/W	R	2	Start voltage of negative phase sequence overvoltage operation
	Start value U1<	112	1	S73	0.01...1.20	x Un	0.90	R/W	R	2	Start voltage of positive phase sequence undervoltage operation

	Start value U1>	112	1	S74	0.80...1.60	x Un	1.10	R/W	R	2	Start voltage of positive phase sequence overvoltage operation
	Operate time U2>	112	1	S75	0.04...60.00	s	0.04	R/W	R	2	Operate time of negative phase sequence overvoltage operation
	Operate time U1<	112	1	S76	0.04...60.00	s	0.04	R/W	R	2	Operate time of positive phase sequence undervoltage operation
	Operate time U1>	112	1	S77	0.04...60.00	s	0.04	R/W	R	2	Operate time of positive phase sequence overvoltage operation
Control Settings											
	Group selection	112	1	V1	0..2[0 = Group 1; 1 = Group 2; 2 = GROUP input]	-	0	R/W	R	2	Selection of the active setting group
	Active group	112	1	V2	0..1[0 = Group 1; 1 = Group 2]	-	0	R/M	-	0	Active setting group
	Dir. selection	112	1	V3	0..2[0 = Forward; 1 = Reverse; 2 = Input ROT_DIR]	-	0	R/W	R	2	Selection of rotation direction
	Rotation dir.	112	1	V4	0..1[0 = Forward; 1 = Reverse]	-	0	R/M	-	0	Rotation direction
	Start pulse	112	1	V5	0...1000	ms	0	R/W	R	2	Minimum pulse length of START signal
	Trip signal	112	1	V6	0..1[0 = Non-latching; 1 = Latching]	-	0	R/W	R	2	Selection of self-holding for TRIP output
	Trip pulse	112	1	V7	40...1000	ms	40	R/W	R	2	Minimum pulse length of TRIP
	Intern. blocking	112	1	V8	0..1[0 = Disabled; 1 = Enabled]	-	1	R/W	R	2	Enabling of internal positive phase sequence undervoltage blocking
	Reset registers	112	3	V13	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of latched trip signal and registers
	Test START	112	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	R	2	Testing of START
	Test TRIP	112	1	V32	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	R	2	Testing of TRIP
	Event mask 1	112	1	V101	0...65535	-	4095	R/W	R	2	Event mask 1 for event transmission (E0 ... E15)

	Event mask 2	112	1	V103	0...65535	-	4095	R/W	R	2	Event mask 2 for event transmission (E0 ... E15)
	Event mask 3	112	1	V105	0...65535	-	4095	R/W	R	2	Event mask 3 for event transmission (E0 ... E15)
	Event mask 4	112	1	V107	0...65535	-	4095	R/W	R	2	Event mask 4 for event transmission (E0 ... E15)
Fuse failure supervision /*100118 / Rev D FuseFail */											
Input Data											
	Input BLOCK	118	1	I1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of signal for blocking the function block
	Input MCB	118	1	I2	0..1[0 = Open; 1 = Closed]	-	1	R/M	-	0	Position of the miniature circuit breaker contacts
Output Data											
	Output BSOUT	118	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of blocking signal for protection functions
	Output ERR	118	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of configuration error signal
Setting Group 1											
	Ratio U2/U1 >	118	1	S41	10...50	%	25	R/W	R	2	Minimum ratio of negative sequence voltage to positive sequence voltage to allow blocking
	Ratio I2/I1 <	118	1	S42	10...50	%	20	R/W	R	2	Maximum ratio of negative sequence current to positive sequence current to allow blocking
Control Settings											
	FuseFail	118	1	V1	0..1[0 = Not in use; 1 = In use]	-	0	R/W	R	2	Function block in use or not in use
	Test BSOUT	118	1	V2	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing BSOUT
	Event mask 1	118	1	V101	0...255	-	15	R/W	R	2	Event mask 1 for event transmission (E0 ... E7)
	Event mask 2	118	1	V103	0...255	-	15	R/W	R	2	Event mask 2 for event transmission (E0 ... E7)
	Event mask 3	118	1	V105	0...255	-	15	R/W	R	2	Event mask 3 for event transmission (E0 ... E7)
	Event mask 4	118	1	V107	0...255	-	15	R/W	R	2	Event mask 4 for event transmission (E0 ... E7)

Circuit breaker 1 (2 state inputs / 2 control outputs)
/*100120 / Rev C COCB1
*/

Output Data											
	Open alarm	120	1	O3	0..1[0 = Inactive; 1 = Active]	-	0	R/M	-	0	Opening time alarm status
	Close alarm	120	1	O4	0..1[0 = Inactive; 1 = Active]	-	0	R/M	-	0	Closing time alarm status
	Inactive alarm	120	1	O5	0..1[0 = Inactive; 1 = Active]	-	0	R/M	-	0	Inactive time alarm status
	Cycle alarm	120	1	O6	0..1[0 = Inactive; 1 = Active]	-	0	R/M	-	0	Cycle count alarm status
Actual Parameters											
	Fixed pulse	120	1	S1	0..1[0 = Variable pulse; 1 = Fixed pulse]	-	0	R/W	R	2	Selection of fixed pulse length
	Forced pulse	120	1	S2	0..1[0 = Single pulse; 1 = Forced pulse]	-	1	R/W	R	2	Execution of control command regardless the recent state (repeated command)
	Event delay	120	1	S3	0.000...60.000	s	0.200	R/W	R	2	Event delay for undefined state
	Open pulse	120	1	S6	0.04...100.000	s	0.100	R/W	R	2	Opening time pulse length
	Open alarm	120	1	S7	0.00...100.000	s	0.100	R/W	R	2	Opening time alarm limit
	Close pulse	120	1	S8	0.04...100.000	s	0.100	R/W	R	2	Closing time pulse length
	Close alarm	120	1	S9	0.00...100.000	s	0.100	R/W	R	2	Closing time alarm limit
	Inactive alarm	120	1	S10	0...1825	days	1825	R/W	R	2	Inactive time alarm limit
	Cycle alarm	120	1	S11	0...30000	-	5000	R/W	R	2	Cycle count alarm limit
	Open compens	120	1	S12	0.000...0.020	s	0.007	R/W	R	2	Output relay delay compensation parameter for opening time measurements
	Close compens	120	1	S13	0.000...0.020	s	0.007	R/W	R	2	Output relay delay compensation parameter for closing time measurements
Control Settings											
	Object state	120	1	V1	0..3[0 = Undefined(00); 1 = Close(01); 2 = Open(10); 3 = Undefined(11)]	-	0	R/M	-	0	2-bit value of the object state
	Interlock close	120	1	V30	0..1[0 = Enabled; 1 = Interlocked]	-	1	R/M	-	0	Close command interlocking

Interlock open	120	1	V31	0..1[0 = Enabled; 1 = Interlocked]	-	1	R/M	-	0	Open command interlocking
Direct open	120	0	V4	0..1[0 = 0; 1 = Direct open]	-	0	W	-	0	Direct open command
Direct close	120	0	V5	0..1[0 = 0; 1 = Direct close]	-	0	W	-	0	Direct close command
Open select	120	0	V6	0..1[0 = 0; 1 = Open select]	-	0	W	-	0	Open operation selection of the secured control
Close select	120	0	V7	0..1[0 = 0; 1 = Close select]	-	0	W	-	0	Close operation selection of the secured control
Cancel	120	0	V10	0..1[0 = 0; 1 = Cancel]	-	0	W	-	0	Cancel of the secured command
Execute	120	0	V11	0..1[0 = 0; 1 = Execute]	-	0	W	-	0	Execute of the secured command
Cycle count	120	1	V12	0...30000	-	0	R/W	R	2	Cycle count process value
Inactive time	120	1	V13	0...3650	days	0	R/W	R	2	Inactive time
Alarm time	120	1	V40	0.00...23.59	-	8.00	R/W	R	2	Inactive time alarm time setting
Last open	120	1	V14	0.000...100.000	s	0.000	R/M	R	0	Last opening time
Max open	120	1	V15	0.000...100.000	s	0.000	R/M	R	0	Maximum opening time
Last close	120	1	V17	0.000...100.000	s	0.000	R/M	R	0	Last closing time
Max close	120	1	V18	0.000...100.000	s	0.000	R/M	R	0	Maximum closing time
IV state	120	1	V34	0..1[0 = Valid; 1 = Invalid]	-	0	R/M	-	0	Object state validitity from IV-signal
Block state	120	1	V35	0..1[0 = Inactive; 1 = Active]	-	0	R/M	-	0	Object block signal state
Summarized stat	120	3	V50	0..1023[B0=BINCLOSE; B1=BINOPEN; B3=IV; B4=CLOSEENA; B5=OPENENA; B8=BLOCK; B9=reserved]	-	0	R/M	-	0	Summarized status of the object
Regist clear	120	1	V98	0..1[0 = 0; 1 = Clear]	-	0	W	-	2	Clear internal registrations (last and maximum)
Alarm ack	120	1	V99	0..1[0 = 0; 1 = Acknowledge]	-	0	W	-	2	Acknowlege alarms
Event mask 1	120	1	V101	0...536870911	-	145403647	R/W	R	2	Event mask 1 for event transmission (E0 ... E28)
Event mask 2	120	1	V103	0...536870911	-	145403647	R/W	R	2	Event mask 2 for event transmission (E0 ... E28)
Event mask 3	120	1	V105	0...536870911	-	145403647	R/W	R	2	Event mask 3 for event transmission (E0 ... E28)

	Event mask 4	120	1	V107	0...536870911	-	145403647	R/W	R	2	Event mask 4 for event transmission (E0 ... E28)
	Last change	120	0	V41	0...2000000000	-	2000000000	R/M	R	0	Object state change time (internally used)
Object indication 1 (2 state inputs) /*100127 / Rev C COIND1 */											
Actual Parameters											
	Event delay	127	1	S3	0.0...60.000	s	0.100	R/W	R	2	Event delay for undefined state
Control Settings											
	Object state	127	1	V1	0..3[0 = Undefined(00); 1 = Close(01); 2 = Open(10); 3 = Undefined(11)]	-	0	R/M	-	0	2-bit state of the object
	Cycle count	127	1	V12	0...30000	-	0	R/W	R	2	Cycle count process value
	IV state	127	1	V34	0..1[0 = Valid; 1 = Invalid]	-	0	R/M	-	0	Object state validitity from IV-signal
	Summarized stat	127	3	V50	0..65535[B0=BINCLOSE; B1=BINOPEN; B3=IV]	-	0	R/M	-	0	Summarized status of the object
	Event mask 1	127	1	V101	0...783	-	527	R/W	R	2	Event mask 1 for event transmission (E0 ... E9)
	Event mask 2	127	1	V103	0...783	-	527	R/W	R	2	Event mask 2 for event transmission (E0 ... E9)
	Event mask 3	127	1	V105	0...783	-	527	R/W	R	2	Event mask 3 for event transmission (E0 ... E9)
	Event mask 4	127	1	V107	0...783	-	527	R/W	R	2	Event mask 4 for event transmission (E0 ... E9)
Object indication 2 (2 state inputs) /*100128 / Rev C COIND2 */											
Actual Parameters											
	Event delay	128	1	S3	0.0...60.000	s	0.100	R/W	R	2	Event delay for undefined state
Control Settings											
	Object state	128	1	V1	0..3[0 = Undefined(00); 1 = Close(01); 2 = Open(10); 3 = Undefined(11)]	-	0	R/M	-	0	2-bit state of the object
	Cycle count	128	1	V12	0...30000	-	0	R/W	R	2	Cycle count process value

	IV state	128	1	V34	0..1[0 = Valid; 1 = Invalid]	-	0	R/M	-	0 Object state validitity from IV-signal
	Summarized stat	128	3	V50	0..65535[B0=BINCLOSE; B1=BINOPEN; B3=IV]	-	0	R/M	-	0 Summarized status of the object
	Event mask 1	128	1	V101	0...783	-	527	R/W	R	2 Event mask 1 for event transmission (E0 ... E9)
	Event mask 2	128	1	V103	0...783	-	527	R/W	R	2 Event mask 2 for event transmission (E0 ... E9)
	Event mask 3	128	1	V105	0...783	-	527	R/W	R	2 Event mask 3 for event transmission (E0 ... E9)
	Event mask 4	128	1	V107	0...783	-	527	R/W	R	2 Event mask 4 for event transmission (E0 ... E9)
Object indication 3 (2 state inputs) /*100129 / Rev C COIND3 */										
Actual Parameters										
	Event delay	129	1	S3	0.0...60.000	s	0.100	R/W	R	2 Event delay for undefined state
Control Settings										
	Object state	129	1	V1	0..3[0 = Undefined(00); 1 = Close(01); 2 = Open(10); 3 = Undefined(11)]	-	0	R/M	-	0 2-bit state of the object
	Cycle count	129	1	V12	0...30000	-	0	R/W	R	2 Cycle count process value
	IV state	129	1	V34	0..1[0 = Valid; 1 = Invalid]	-	0	R/M	-	0 Object state validitity from IV-signal
	Summarized stat	129	3	V50	0..65535[B0=BINCLOSE; B1=BINOPEN; B3=IV]	-	0	R/M	-	0 Summarized status of the object
	Event mask 1	129	1	V101	0...783	-	527	R/W	R	2 Event mask 1 for event transmission (E0 ... E9)
	Event mask 2	129	1	V103	0...783	-	527	R/W	R	2 Event mask 2 for event transmission (E0 ... E9)
	Event mask 3	129	1	V105	0...783	-	527	R/W	R	2 Event mask 3 for event transmission (E0 ... E9)
	Event mask 4	129	1	V107	0...783	-	527	R/W	R	2 Event mask 4 for event transmission (E0 ... E9)
Logic control position selector /*100142 / Rev B COLOCAT */										
Control Settings										

	Logic setting	142	3	V1	0..1[0 = Inactive; 1 = Active]	-	0	R	-	0	Reset logic position setting
	Binary position	142	3	V2	0..2[0 = Disable state; 1 = Local state; 2 = Remote state]	-	0	R/M	-	0	Recent binary input position (to be validated by the system software)
	Event mask 1	142	1	V101	0...3	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E1)
	Event mask 2	142	1	V103	0...3	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E1)
	Event mask 3	142	1	V105	0...3	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E1)
	Event mask 4	142	1	V107	0...3	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E1)
Alarm 1 (MMI, remote) /*100162 / Rev C MMIALAR1 */											
Control Settings											
	Object mode	162	1	V1	0..3[0 = Nonlatched; 1 = Latched; 2 = Latched blink; 3 = Uninitialized]	-	3	R/W	R	0	Object mode from mimic file
	Object status	162	3	V2	0..7[B0 = ON-signal state; B1 = Alarm latched; B2 = Alarm or state (non-latched) acknowledged]	-	0	R/M	-	0	Object status
	Alarm ack	162	1	V99	0..1[0 = 0; 1 = Acknowledge]	-	0	W	-	2	Acknowlege alarm
	Event mask 1	162	1	V101	0...11	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E3)
	Event mask 2	162	1	V103	0...11	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E3)
	Event mask 3	162	1	V105	0...11	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E3)
	Event mask 4	162	1	V107	0...11	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E3)
Input Data											
	ON-state	162	3	I1	0..1[0 = OFF; 1 = ON]	-	0	R/M	-	0	ON-signals state
Alarm 2 (MMI, remote) /*100163 / Rev C MMIALAR2 */											
Input Data											
	ON-state	163	3	I1	0..1[0 = OFF; 1 = ON]	-	0	R/M	-	0	ON-signals state

Control Settings											
	Object mode	163	1	V1	0..3[0 = Nonlatched; 1 = Latched; 2 = Latched blink; 3 = Uninitialized]	-	3	R/W	R	0	Object mode from mimic file
	Object status	163	3	V2	0..7[B0 = ON-signal state; B1 = Alarm latched; B2 = Alarm or state (non-latched) acknowledged]	-	0	R/M	-	0	Object status
	Alarm ack	163	1	V99	0..1[0 = 0; 1 = Acknowledge]	-	0	W	-	2	Acknowlege alarm
	Event mask 1	163	1	V101	0...11	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E3)
	Event mask 2	163	1	V103	0...11	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E3)
	Event mask 3	163	1	V105	0...11	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E3)
	Event mask 4	163	1	V107	0...11	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E3)
Alarm 3 (MMI, remote) /*100164 / Rev C MMIALAR3 */											
Control Settings											
	Object mode	164	1	V1	0..3[0 = Nonlatched; 1 = Latched; 2 = Latched blink; 3 = Uninitialized]	-	3	R/W	R	0	Object mode from mimic file
	Object status	164	3	V2	0..7[B0 = ON-signal state; B1 = Alarm latched; B2 = Alarm or state (non-latched) acknowledged]	-	0	R/M	-	0	Object status
	Alarm ack	164	1	V99	0..1[0 = 0; 1 = Acknowledge]	-	0	W	-	2	Acknowlege alarm
	Event mask 1	164	1	V101	0...11	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E3)
	Event mask 2	164	1	V103	0...11	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E3)
	Event mask 3	164	1	V105	0...11	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E3)
	Event mask 4	164	1	V107	0...11	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E3)
Input Data											
	ON-state	164	3	I1	0..1[0 = OFF; 1 = ON]	-	0	R/M	-	0	ON-signals state

Alarm 4 (MMI, remote)
/*100165 / Rev C
MMIALAR4 */
Control Settings

	Object mode	165	1	V1	0..3[0 = Nonlatched; 1 = Latched; 2 = Latched blink; 3 = Uninitialized]	-	3	R/W	R	0	Object mode from mimic file
	Object status	165	3	V2	0..7[B0 = ON-signal state; B1 = Alarm latched; B2 = Alarm or state (non-latched) acknowledged]	-	0	R/M	-	0	Object status
	Alarm ack	165	1	V99	0..1[0 = 0; 1 = Acknowledge]	-	0	W	-	2	Acknowlege alarm
	Event mask 1	165	1	V101	0...11	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E3)
	Event mask 2	165	1	V103	0...11	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E3)
	Event mask 3	165	1	V105	0...11	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E3)
	Event mask 4	165	1	V107	0...11	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E3)

Input Data

	ON-state	165	3	I1	0..1[0 = OFF; 1 = ON]	-	0	R/M	-	0	ON-signals state

Alarm 5 (MMI, remote)
/*100166 / Rev C
MMIALAR5 */
Control Settings

	Object mode	166	1	V1	0..3[0 = Nonlatched; 1 = Latched; 2 = Latched blink; 3 = Uninitialized]	-	3	R/W	R	0	Object mode from mimic file
	Object status	166	3	V2	0..7[B0 = ON-signal state; B1 = Alarm latched; B2 = Alarm or state (non-latched) acknowledged]	-	0	R/M	-	0	Object status
	Alarm ack	166	1	V99	0..1[0 = 0; 1 = Acknowledge]	-	0	W	-	2	Acknowlege alarm
	Event mask 1	166	1	V101	0...11	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E3)
	Event mask 2	166	1	V103	0...11	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E3)

	Event mask 3	166	1	V105	0...11	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E3)
	Event mask 4	166	1	V107	0...11	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E3)
Input Data											
	ON-state	166	3	I1	0..1[0 = OFF; 1 = ON]	-	0	R/M	-	0	ON-signals state
Alarm 6 (MMI, remote) /*100167 / Rev C MMIALAR6 */											
Control Settings											
	Object mode	167	1	V1	0..3[0 = Nonlatched; 1 = Latched; 2 = Latched blink; 3 = Uninitialized]	-	3	R/W	R	0	Object mode from mimic file
	Object status	167	3	V2	0..7[B0 = ON-signal state; B1 = Alarm latched; B2 = Alarm or state (non-latched) acknowledged]	-	0	R/M	-	0	Object status
	Alarm ack	167	1	V99	0..1[0 = 0; 1 = Acknowledge]	-	0	W	-	2	Acknowlege alarm
	Event mask 1	167	1	V101	0...11	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E3)
	Event mask 2	167	1	V103	0...11	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E3)
	Event mask 3	167	1	V105	0...11	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E3)
	Event mask 4	167	1	V107	0...11	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E3)
Input Data											
	ON-state	167	3	I1	0..1[0 = OFF; 1 = ON]	-	0	R/M	-	0	ON-signals state
Alarm 7 (MMI, remote) /*100168 / Rev C MMIALAR7 */											
Control Settings											
	Object mode	168	1	V1	0..3[0 = Nonlatched; 1 = Latched; 2 = Latched blink; 3 = Uninitialized]	-	3	R/W	R	0	Object mode from mimic file
	Object status	168	3	V2	0..7[B0 = ON-signal state; B1 = Alarm latched; B2 = Alarm or state (non-latched) acknowledged]	-	0	R/M	-	0	Object status

	Alarm ack	168	1	V99	0..1[0 = 0; 1 = Acknowledge]	-	0	W	-	2	Acknowlege alarm
	Event mask 1	168	1	V101	0...11	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E3)
	Event mask 2	168	1	V103	0...11	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E3)
	Event mask 3	168	1	V105	0...11	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E3)
	Event mask 4	168	1	V107	0...11	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E3)
Input Data											
	ON-state	168	3	I1	0..1[0 = OFF; 1 = ON]	-	0	R/M	-	0	ON-signals state
Alarm 8 (MMI, remote) /*100169 / Rev C MMIALAR8 */											
Control Settings											
	Object mode	169	1	V1	0..3[0 = Nonlatched; 1 = Latched; 2 = Latched blink; 3 = Uninitialized]	-	3	R/W	R	0	Object mode from mimic file
	Object status	169	3	V2	0..7[B0 = ON-signal state; B1 = Alarm latched; B2 = Alarm or state (non-latched) acknowledged]	-	0	R/M	-	0	Object status
	Alarm ack	169	1	V99	0..1[0 = 0; 1 = Acknowledge]	-	0	W	-	2	Acknowlege alarm
	Event mask 1	169	1	V101	0...11	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E3)
	Event mask 2	169	1	V103	0...11	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E3)
	Event mask 3	169	1	V105	0...11	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E3)
	Event mask 4	169	1	V107	0...11	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E3)
Input Data											
	ON-state	169	3	I1	0..1[0 = OFF; 1 = ON]	-	0	R/M	-	0	ON-signals state
Supervision Function of the Energizing Current Input Circuit /*100181 / Rev C CMCU3 */											
Input Data											

	Current IL1	181	1	I1	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL1
	Current IL2	181	1	I2	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL2
	Current IL3	181	1	I3	0.00...60.00	x In	0.00	R/M	-	0	Phase current IL3
Output Data											
	Output ALARM	181	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of alarm signal
Firmware Parameters											
	Date	181	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	181	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Current IL1	181	1	V203	0.00...60.00	x In	0.00	R/M	R	0	Value of current IL1
	Current IL2	181	1	V204	0.00...60.00	x In	0.00	R/M	R	0	Value of current IL2
	Current IL3	181	1	V205	0.00...60.00	x In	0.00	R/M	R	0	Value of current IL3
	Date	181	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	181	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Current IL1	181	1	V303	0.00...60.00	x In	0.00	R/M	R	0	Value of current IL1
	Current IL2	181	1	V304	0.00...60.00	x In	0.00	R/M	R	0	Value of current IL2
	Current IL3	181	1	V305	0.00...60.00	x In	0.00	R/M	R	0	Value of current IL3
	Date	181	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	181	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Current IL1	181	1	V403	0.00...60.00	x In	0.00	R/M	R	0	Value of current IL1
	Current IL2	181	1	V404	0.00...60.00	x In	0.00	R/M	R	0	Value of current IL2
	Current IL3	181	1	V405	0.00...60.00	x In	0.00	R/M	R	0	Value of current IL3
Control Settings											
	Operation mode	181	1	V1	0..1[0 = Not in use; 1 = In use]	-	1	R/W	R	2	Switching between the modes: "In use" and "Not in use"
	Current select.	181	1	V2	1..4[1 = L1 & L2 & L3; 2 = L1 & L2; 3 = L1 & L3; 4 = L2 & L3]	-	1	R/W	R	2	Selection of phase currents used for supervision
	High limit	181	1	V3	10...20	% In	12	R/W	R	2	Set high limit for phase current supervision
	Low limit	181	1	V4	2...8	% In	6	R/W	R	2	Set low limit for phase current supervision
	Alarm delay	181	1	V5	3.00...60.00	s	15.00	R/W	R	2	Set alarm operate time delay
	Test ALARM	181	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of alarm output
	Event mask 1	181	1	V101	0...3	-	3	R/W	R	2	Event mask 1 for event transmission (E0 ... E1)
	Event mask 2	181	1	V103	0...3	-	3	R/W	R	2	Event mask 2 for event transmission (E0 ... E1)

	Event mask 3	181	1	V105	0...3	-	3	R/W	R	2	Event mask 3 for event transmission (E0 ... E1)
	Event mask 4	181	1	V107	0...3	-	3	R/W	R	2	Event mask 4 for event transmission (E0 ... E1)
Supervision of the Energizing Voltage Input Circuit /*100182 / Rev D CMVO3 */											
Input Data											
	Voltage UL1_U12	182	1	I1	0.00...2.00	x Un	0.00	R/M	-	0	Voltage UL1 / U12
	Voltage UL2_U23	182	1	I2	0.00...2.00	x Un	0.00	R/M	-	0	Voltage UL2 / U23
	Voltage UL3_U31	182	1	I3	0.00...2.00	x Un	0.00	R/M	-	0	Voltage UL3 / U31
Output Data											
	Output ALARM	182	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of alarm signal
Firmware Parameters											
	Date	182	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	182	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Voltage U1_12	182	1	V203	0.00...2.00	x Un	0.00	R/M	R	0	Voltage U1
	Voltage U2_23	182	1	V204	0.00...2.00	x Un	0.00	R/M	R	0	Voltage U2
	Voltage U3_31	182	1	V205	0.00...2.00	x Un	0.00	R/M	R	0	Voltage U3
	Date	182	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	182	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Voltage U1_12	182	1	V303	0.00...2.00	x Un	0.00	R/M	R	0	Voltage U1
	Voltage U2_23	182	1	V304	0.00...2.00	x Un	0.00	R/M	R	0	Voltage U2
	Voltage U3_31	182	1	V305	0.00...2.00	x Un	0.00	R/M	R	0	Voltage U3
	Date	182	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Recording date
	Time	182	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Recording time
	Voltage U1_12	182	1	V403	0.00...2.00	x Un	0.00	R/M	R	0	Voltage U1
	Voltage U2_23	182	1	V404	0.00...2.00	x Un	0.00	R/M	R	0	Voltage U2
	Voltage U3_31	182	1	V405	0.00...2.00	x Un	0.00	R/M	R	0	Voltage U3
Control Settings											
	Operation mode	182	1	V1	0..1[0 = Not in use; 1 = In use]	-	1	R/W	R	2	Switching between the modes: "In use" and "Not in use"
	Voltage select.	182	1	V2	1..4[1 = L1 & L2 & L3; 2 = L1 & L2; 3 = L1 & L3; 4 = L2 & L3]	-	1	R/W	R	2	Selection of voltages used for supervision
	High limit	182	1	V3	10...110	% Un	12	R/W	R	2	Set high limit for voltage supervision

	Low limit	182	1	V4	2...90	% Un	6	R/W	R	2	Set low limit for voltage supervision
	Alarm delay	182	1	V5	3...60	s	15	R/W	R	2	Set alarm operate time delay
	Test ALARM	182	1	V31	0..1[0 = Do not activate; 1 = Activate]	-	0	R/W	-	2	Testing of alarm output
	Event mask 1	182	1	V101	0...3	-	3	R/W	R	2	Event mask 1 for event transmission (E0 ... E1)
	Event mask 2	182	1	V103	0...3	-	3	R/W	R	2	Event mask 2 for event transmission (E0 ... E1)
	Event mask 3	182	1	V105	0...3	-	3	R/W	R	2	Event mask 3 for event transmission (E0 ... E1)
	Event mask 4	182	1	V107	0...3	-	3	R/W	R	2	Event mask 4 for event transmission (E0 ... E1)
Operate Time Counter 1 for the Used Operate Time (motors) /*100184 / Rev B CMTIME1 */											
Input Data											
	BININP state	184	1	I1	0..1[0 = Inactive; 1 = Active]	-	0	R/M	-	0	Binary input state
Output Data											
	Alarm state	184	1	O1	0..1[0 = Inactive; 1 = Active]	-	0	R/M	-	0	Alarm state
Actual Parameters											
	Max hours	184	1	S1	0...87600	hours	0	R/W	R	2	Maximum accumulated time alarm limit hours
	Max mins	184	1	S2	0...59	min	0	R/W	R	2	Maximum accumulated time alarm limit minutes
Control Settings											
	Accum. hours	184	1	V1	0...87600	hours	0	R/W	R	2	Accumulated time hours
	Accum. min	184	1	V2	0...59	min	0	R/W	R	2	Accumulated time minutes
	Alarm ack	184	1	V99	0..1[0 = 0; 1 = Acknowledge]	-	0	W	-	2	Acknowledge alarm
	Event mask 1	184	1	V101	0...15	-	10	R/W	R	2	Event mask 1 for event transmission (E0 ... E3)
	Event mask 2	184	1	V103	0...15	-	10	R/W	R	2	Event mask 2 for event transmission (E0 ... E3)
	Event mask 3	184	1	V105	0...15	-	10	R/W	R	2	Event mask 3 for event transmission (E0 ... E3)

	Event mask 4	184	1	V107	0...15	-	10	R/W	R	2	Event mask 4 for event transmission (E0 ... E3)
Circuit Breaker Electric Wear 1 /*100187 / Rev C CMBWEAR1 */ Actual Parameters											
	Alarm limit	187	1	S1	1.00...30000.00	-	5000.00	R/W	R	2	Breaker wear alarm limit for accumulated breaker wear
Control Settings											
	Wear L1	187	1	V1	0.00...30000.00	-	0.00	R/W	R	2	Accumulated breaker wear at pole 1
	Wear L2	187	1	V2	0.00...30000.00	-	0.00	R/W	R	2	Accumulated breaker wear at pole 2
	Wear L3	187	1	V3	0.00...30000.00	-	0.00	R/W	R	2	Accumulated breaker wear at pole 3
	Alarm ack	187	1	V99	0..1[0 = 0; 1=Acknowledge]	-	0	W	-	2	Acknowledge alarm
	Event mask 1	187	1	V101	0...3	-	2	R/W	R	2	Event mask 1 for event transmission (E0 ... E1)
	Event mask 2	187	1	V103	0...3	-	2	R/W	R	2	Event mask 2 for event transmission (E0 ... E1)
	Event mask 3	187	1	V105	0...3	-	2	R/W	R	2	Event mask 3 for event transmission (E0 ... E1)
	Event mask 4	187	1	V107	0...3	-	2	R/W	R	2	Event mask 4 for event transmission (E0 ... E1)
	Current 1/16	187	3	V13	0.00...1000.00	kA	0.00	R/W	R	2	Current value in breaker wear table (1/16)
	Wear 1/16	187	3	V14	0.00...10000.00	-	0.00	R/W	R	2	Wear value in breaker wear table (1/16)
	Current 2/16	187	3	V15	0.00...1000.00	kA	4.00	R/W	R	2	Current value in breaker wear table (2/16)
	Wear 2/16	187	3	V16	0.00...10000.00	-	4.00	R/W	R	2	Wear value in breaker wear table (2/16)
	Current 3/16	187	3	V17	0.00...1000.00	kA	8.00	R/W	R	2	Current value in breaker wear table (3/16)
	Wear 3/16	187	3	V18	0.00...10000.00	-	33.00	R/W	R	2	Wear value in breaker wear table (3/16)
	Current 4/16	187	3	V19	0.00...1000.00	kA	12.00	R/W	R	2	Current value in breaker wear table (4/16)

Wear 4/16	187	3	V20	0.00...10000.00	-	92.00	R/W	R	2	Wear value in breaker wear table (4/16)
Current 5/16	187	3	V21	0.00...1000.00	kA	16.00	R/W	R	2	Current value in breaker wear table (5/16)
Wear 5/16	187	3	V22	0.00...10000.00	-	164.00	R/W	R	2	Wear value in breaker wear table (5/16)
Current 6/16	187	3	V23	0.00...1000.00	kA	20.00	R/W	R	2	Current value in breaker wear table (6/16)
Wear 6/16	187	3	V24	0.00...10000.00	-	256.00	R/W	R	2	Wear value in breaker wear table (6/16)
Current 7/16	187	3	V25	0.00...1000.00	kA	24.00	R/W	R	2	Current value in breakerwear table (7/16)
Wear 7/16	187	3	V26	0.00...10000.00	-	369.00	R/W	R	2	Wear value in breaker wear table (7/16)
Current 8/16	187	3	V27	0.00...1000.00	kA	28.00	R/W	R	2	Current value in breaker wear table (8/16)
Wear 8/16	187	3	V28	0.00...10000.00	-	502.00	R/W	R	2	Wear value in breaker wear table (8/16)
Current 9/16	187	3	V29	0.00...1000.00	kA	32.00	R/W	R	2	Current value in breaker wear table (9/16)
Wear 9/16	187	3	V30	0.00...10000.00	-	655.00	R/W	R	2	Wear value in breaker wear table (9/16)
Current 10/16	187	3	V31	0.00...1000.00	kA	36.00	R/W	R	2	Current value in breaker wear table (10/16)
Wear 10/16	187	3	V32	0.00...10000.00	-	829.00	R/W	R	2	Wear value in breaker wear table (10/16)
Current 11/16	187	3	V33	0.00...1000.00	kA	40.00	R/W	R	2	Current value in breaker wear table (11/16)
Wear 11/16	187	3	V34	0.00...10000.00	-	1024.00	R/W	R	2	Wear value in breaker wear table (11/16)
Current 12/16	187	3	V35	0.00...1000.00	kA	44.00	R/W	R	2	Current value in breaker wear table (12/16)
Wear 12/16	187	3	V36	0.00...10000.00	-	1239.00	R/W	R	2	Wear value in breaker wear table (12/16)
Current 13/16	187	3	V37	0.00...1000.00	kA	48.00	R/W	R	2	Current value in breaker wear table (13/16)
Wear 13/16	187	3	V38	0.00...10000.00	-	1475.00	R/W	R	2	Wear value in breaker wear table (13/16)
Current 14/16	187	3	V39	0.00...1000.00	kA	52.00	R/W	R	2	Current value in breaker wear table (14/16)

	Wear 14/16	187	3	V40	0.00...10000.00	-	1731.00	R/W	R	2	Wear value in breaker wear table (14/16)
	Current 15/16	187	3	V41	0.00...1000.00	kA	56.00	R/W	R	2	Current value in breaker wear table (15/16)
	Wear 15/16	187	3	V42	0.00...10000.00	-	2007.00	R/W	R	2	Wear value in breaker wear table (15/16)
	Current 16/16	187	3	V43	0.00...1000.00	kA	60.00	R/W	R	2	Current value in breaker wear table (16/16)
	Wear 16/16	187	3	V44	0.00...10000.00	-	2304.00	R/W	R	2	Wear value in breaker wear table (16/16)
Output Data											
	Alarm state	187	1	O1	0..1[0 = Inactive; 1 = Active]	-	0	R/M	-	0	Breaker wear alarm state
Trip Circuit Supervision 1 /*100191 / Rev B CMTCS1 */											
Actual Parameters											
	Alarm delay	191	1	S1	0...300.000	s	3	R/W	R	2	Alarm delay
	Activation	191	1	S2	0..1[0 = Inactive; 1 = Active]	-	1	R/W	R	2	Activation of TCS function
Control Settings											
	Event mask 1	191	1	V101	0...15	-	10	R/W	R	2	Event mask 1 for event transmission (E0 ... E3)
	Event mask 2	191	1	V103	0...15	-	10	R/W	R	2	Event mask 2 for event transmission (E0 ... E3)
	Event mask 3	191	1	V105	0...15	-	10	R/W	R	2	Event mask 3 for event transmission (E0 ... E3)
	Event mask 4	191	1	V107	0...15	-	10	R/W	R	2	Event mask 4 for event transmission (E0 ... E3)
Input Data											
	BS state	191	1	I2	0..1[0 = Inactive; 1 = Active]	-	0	R/M	-	0	Blocking signal state
Output Data											
	Alarm state	191	1	O1	0..1[0 = Inactive; 1 = Active]	-	0	R/M	-	0	Alarm state
Three-phase current measurement /*100200 / Rev D MECU3A */											
Control Settings											

Phase selection	200	1	V1	0..6[0 = L1,L2,L3; 1 = L1,L2; 2 = L2,L3; 3 = L1,L3; 4 = L1; 5 = L2; 6 = L3]	-	0	R/W	R	2	Selection of phase currents to be measured
Demand interval	200	1	V2	0..5[0 = 1 min; 1 = 5 min; 2 = 10 min; 3 = 15 min; 4 = 30 min; 5 = 60 min]	-	1	R/W	R	2	Time interval for demand supervision
Threshold select	200	1	V3	0..3[0 = Not in use; 1 = Absolute alg.; 2 = Integrat. alg.; 3 = Time interval]	-	0	R/W	R	2	Selection of threshold supervision algorithm
Threshold value	200	1	V4	0.1...25.0	% In	1.0	R/W	R	2	Threshold value for threshold supervision
Limit selection	200	1	V5	0..9[0 = Not in use; 1= HW, HA, LW, LA; 2 = HW, HA; 3 = LW, LA; 4 = HW, LW; 5 = HA, LA; 6 = HW; 7 = HA; 8 = LW; 9 = LA]	-	0	R/W	R	2	Selection of monitored limits
High warning	200	1	V6	80.0...500.0	% In	100.0	R/W	R	2	High warning limit value
High alarm	200	1	V7	80.0...500.0	% In	120.0	R/W	R	2	High alarm limit value
Low warning	200	1	V8	0.0...80.0	% In	0.0	R/W	R	2	Low warning limit value
Low alarm	200	1	V9	0.0...80.0	% In	0.0	R/W	R	2	Low alarm limit value
Time interval	200	1	V10	1...600	s	1	R/W	R	2	Time interval for threshold supervision
Event mask 1	200	1	V101	0...721420287	-	0	R/W	R	2	Event mask 1 for event transmission (E0 ... E29)
Event mask 2	200	1	V103	0...721420287	-	0	R/W	R	2	Event mask 2 for event transmission (E0 ... E29)
Event mask 3	200	1	V105	0...721420287	-	0	R/W	R	2	Event mask 3 for event transmission (E0 ... E29)
Event mask 4	200	1	V107	0...721420287	-	0	R/W	R	2	Event mask 4 for event transmission (E0 ... E29)
Input Data										
IL1	200	1	I1	0.0...20000.0	A	0.0	R/M	-	0	Current IL1 in amperes
IL2	200	1	I2	0.0...20000.0	A	0.0	R/M	-	0	Current IL2 in amperes
IL3	200	1	I3	0.0...20000.0	A	0.0	R/M	-	0	Current IL3 in amperes
IL1	200	1	I4	0.0...1000.0	% In	0.0	R/M	-	0	Current IL1 in percents
IL2	200	1	I5	0.0...1000.0	% In	0.0	R/M	-	0	Current IL2 in percents
IL3	200	1	I6	0.0...1000.0	% In	0.0	R/M	-	0	Current IL3 in percents
IL1 demand	200	1	I7	0.0...20000.0	A	0.0	R/M	-	0	IL1 demand in amperes
IL2 demand	200	1	I8	0.0...20000.0	A	0.0	R/M	-	0	IL2 demand in amperes

	IL3 demand	200	1	I9	0.0...20000.0	A	0.0	R/M	-	0 IL3 demand in amperes
	IL1 demand	200	1	I10	0.0...1000.0	% In	0.0	R/M	-	0 IL1 demand in percents
	IL2 demand	200	1	I11	0.0...1000.0	% In	0.0	R/M	-	0 IL2 demand in percents
	IL3 demand	200	1	I12	0.0...1000.0	% In	0.0	R/M	-	0 IL3 demand in percents
	Input RESET	200	1	I13	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0 Signal for resetting demand values and registers of MECU3A
Firmware Parameters										
	IL1 maximum date	200	1	V201	YYYY-MM-DD	-	-	R/M	R	0 Date of IL1 max demand
	IL1 maximum time	200	1	V202	hh:mm:ss.000	-	-	R/M	R	0 Time of IL1 max demand
	IL1 maximum (A)	200	1	V203	0.0...20000.0	A	0.0	R/M	R	0 Maximum demand for IL1 in amperes
	IL1 maximum (%)	200	1	V204	0.0...1000.0	% In	0.0	R/M	R	0 Maximum demand for IL1 in percents
	IL2 maximum date	200	1	V205	YYYY-MM-DD	-	-	R/M	R	0 Date of IL2 max demand
	IL2 maximum time	200	1	V206	hh:mm:ss.000	-	-	R/M	R	0 Time of IL2 max demand
	IL2 maximum (A)	200	1	V207	0.0...20000.0	A	0.0	R/M	R	0 Maximum demand for IL2 in amperes
	IL2 maximum (%)	200	1	V208	0.0...1000.0	% In	0.0	R/M	R	0 Maximum demand for IL2 in percents
	IL3 maximum date	200	1	V209	YYYY-MM-DD	-	-	R/M	R	0 Date of IL3 max demand
	IL3 maximum time	200	1	V210	hh:mm:ss.000	-	-	R/M	R	0 Time of IL3 max demand
	IL3 maximum (A)	200	1	V211	0.0...20000.0	A	0.0	R/M	R	0 Maximum demand for IL3 in amperes
	IL3 maximum (%)	200	1	V212	0.0...1000.0	% In	0.0	R/M	R	0 Maximum demand for IL3 in percents
Neutral current measurement /*100201 / Rev D MECU1A */										
Input Data										
	Io	201	1	I1	0.0...20000.0	A	0.0	R/M	-	0 Current Io in amperes
	Io	201	1	I2	0.0...80.0	% In	0.0	R/M	-	0 Current Io in percents

	Input RESET	201	1	I3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting demand values and registers of MECU1A
Firmware Parameters											
	Io Peak Date	201	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Date of Io peak
	Io Peak Time	201	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Time of Io peak
	Io Peak Amps	201	1	V203	0.0...20000.0	A	0.0	R/M	R	0	Io peak in amperes
	Io Peak %	201	1	V204	0.0...80.0	% In	0.0	R/M	R	0	Io peak in percents
Control Settings											
	Threshold select	201	1	V1	0..3[0 = Not in use; 1 = Absolute alg.; 2 = Integrat. alg.; 3 = Time interval]	-	0	R/W	R	2	Selection of threshold supervision algorithm
	Threshold value	201	1	V2	0.1...25.0	% In	1.0	R/W	R	2	Threshold value for threshold supervision
	Limit selection	201	1	V3	0..3[0= Not in use; 1= HW,HA; 2= HW; 3= HA]	-	0	R/W	R	2	Selection of monitored limits
	High warning	201	1	V4	0.0...80.0	% In	0.0	R/W	R	2	High warning limit value
	High alarm	201	1	V5	0.0...80.0	% In	0.0	R/W	R	2	High alarm limit value
	Time interval	201	1	V6	1...600	s	1	R/W	R	2	Time interval for threshold supervision
	Event mask 1	201	1	V101	0...47	-	0	R/W	R	2	Event mask 1 for event transmission (E0 ... E5)
	Event mask 2	201	1	V103	0...47	-	0	R/W	R	2	Event mask 2 for event transmission (E0 ... E5)
	Event mask 3	201	1	V105	0...47	-	0	R/W	R	2	Event mask 3 for event transmission (E0 ... E5)
	Event mask 4	201	1	V107	0...47	-	0	R/W	R	2	Event mask 4 for event transmission (E0 ... E5)
Three-phase voltage measurement /*100204 / Rev E MEVO3A */											
Control Settings											
	Phase selection	204	1	V1	0..6[0 = Uch1&Uch2&Uch3; 1 = Uch1 & Uch2; 2 = Uch2 & Uch3; 3 = Uch1 & Uch3; 4 = Uch1; 5 = Uch2; 6 = Uch3]	-	0	R/W	R	2	Selection of channels to be measured

	Average interval	204	1	V2	0..5[0 = 1 min; 1 = 5 min; 2 = 10 min; 3 = 15 min; 4 = 30 min; 5 = 60 min]	-	1	R/W	R	2	Time interval for average value
	Threshold select	204	1	V3	0..3[0 = Not in use; 1 = Absolute alg.; 2 = Integrat. alg.; 3 = Time interval]	-	0	R/W	R	2	Selection of threshold supervision algorithm
	Threshold value	204	1	V4	0.01...1.00	x Un	0.01	R/W	R	2	Threshold value for threshold supervision
	Limit selection	204	1	V5	0..9[0 = Not in use; 1 = HW, HA, LW, LA; 2 = HW, HA; 3 = LW, LA; 4 = HW, LW; 5 = HA, LA; 6 = HW; 7 = HA; 8 = LW; 9 = LA]	-	0	R/W	R	2	Selection of monitored limits
	High warning	204	1	V6	0.80...1.50	x Un	1.00	R/W	R	2	High warning limit value
	High alarm	204	1	V7	0.80...1.50	x Un	1.10	R/W	R	2	High alarm limit value
	Low warning	204	1	V8	0.00...0.99	x Un	0.00	R/W	R	2	Low warning limit value
	Low alarm	204	1	V9	0.00...0.99	x Un	0.00	R/W	R	2	Low alarm limit value
	Time interval	204	1	V10	1...600	s	1	R/W	R	2	Time interval for threshold supervision
	Event mask 1A	204	1	V101	0...721420287	-	0	R/W	R	2	Event mask 1 for event transmission (E0 ... E29)
	Event mask 1B	204	1	V102	0...721420287	-	0	R/W	R	2	Event mask 1 for event transmission (E32 ... E61)
	Event mask 2A	204	1	V103	0...721420287	-	0	R/W	R	2	Event mask 2 for event transmission (E0 ... E29)
	Event mask 2B	204	1	V104	0...721420287	-	0	R/W	R	2	Event mask 2 for event transmission (E32 ... E61)
	Event mask 3A	204	1	V105	0...721420287	-	0	R/W	R	2	Event mask 3 for event transmission (E0 ... E29)
	Event mask 3B	204	1	V106	0...721420287	-	0	R/W	R	2	Event mask 3 for event transmission (E32 ... E61)
	Event mask 4A	204	1	V107	0...721420287	-	0	R/W	R	2	Event mask 4 for event transmission (E0 ... E29)
	Event mask 4B	204	1	V108	0...721420287	-	0	R/W	R	2	Event mask 4 for event transmission (E32 ... E61)
Input Data											
	UL1_U12	204	1	I1	0.00...999.99	kV	0.00	R/M	-	0	Voltage UL1_U12 in kilovolts
	UL2_U23	204	1	I2	0.00...999.99	kV	0.00	R/M	-	0	Voltage UL2_U23 in kilovolts
	UL3_U31	204	1	I3	0.00...999.99	kV	0.00	R/M	-	0	Voltage UL3_U31 in kilovolts

	UL1_U12	204	1	I4	0.00...2.00	x Un	0.00	R/M	-	0 Voltage UL1_U12 in percents
	UL2_U23	204	1	I5	0.00...2.00	x Un	0.00	R/M	-	0 Voltage UL2_U23 in percents
	UL3_U31	204	1	I6	0.00...2.00	x Un	0.00	R/M	-	0 Voltage UL3_U31 in percents
	UL1_U12 average	204	1	I7	0.00...999.99	kV	0.00	R/M	-	0 Average value of UL1_U12 in voltages
	UL2_U23 average	204	1	I8	0.00...999.99	kV	0.00	R/M	-	0 Average value of UL2_U23 in voltages
	UL3_U31 average	204	1	I9	0.00...999.99	kV	0.00	R/M	-	0 Average value of UL3_U31 in voltages
	UL1_U12 average	204	1	I10	0.00...2.00	x Un	0.00	R/M	-	0 Average value of UL1_U12 in percents
	UL2_U23 average	204	1	I11	0.00...2.00	x Un	0.00	R/M	-	0 Average value of UL2_U23 in percents
	UL3_U31 average	204	1	I12	0.00...2.00	x Un	0.00	R/M	-	0 Average value of UL3_U31 in percents
	Input RESET	204	1	I13	0..1[0=Not active; 1=Active]	-	0	R/M	-	0 Signal for resetting demand values and registers of MEVO3A
Firmware Parameters										
	U1_12 max date	204	1	V201	YYYY-MM-DD	-	-	R/M	R	0 Date of UL1_U12 maximum average voltage
	U1_12 max time	204	1	V202	hh:mm:ss.000	-	-	R/M	R	0 Time of UL1_U12 maximum average voltage
	U1_12 max (kV)	204	1	V203	0.00...999.99	kV	0.00	R/M	R	0 Maximum average of UL1_U12 in voltages
	U1_12 max (pu)	204	1	V204	0.00...2.00	x Un	0.00	R/M	R	0 Maximum average of UL1_U12 in percents
	U2_23 max date	204	1	V205	YYYY-MM-DD	-	-	R/M	R	0 Date of UL2_U23 maximum average voltage
	U2_23 max time	204	1	V206	hh:mm:ss.000	-	-	R/M	R	0 Time of UL2_U23 maximum average voltage
	U2_23 max (kV)	204	1	V207	0.00...999.99	kV	0.00	R/M	R	0 Maximum average of UL2_U23 in voltages
	U2_23 max (pu)	204	1	V208	0.00...2.00	x Un	0.00	R/M	R	0 Maximum average of UL2_U23 in percents
	U3_31 max date	204	1	V209	YYYY-MM-DD	-	-	R/M	R	0 Date of UL3_U31 maximum average voltage

	U3_31 max time	204	1	V210	hh:mm:ss.000	-	-	R/M	R	0	Time of UL3_U31 maximum average voltage
	U3_31 max (kV)	204	1	V211	0.00...999.99	kV	0.00	R/M	R	0	Maximum average of UL3_U31 in voltages
	U3_31 max (pu)	204	1	V212	0.00...2.00	x Un	0.00	R/M	R	0	Maximum average of UL3_U31 in percents
	U1_12 min date	204	1	V213	YYYY-MM-DD	-	-	R/M	R	0	Date of UL1_U12 minimum average voltage
	U1_12 min time	204	1	V214	hh:mm:ss.000	-	-	R/M	R	0	Time of UL1_U12 minimum average voltage
	U1_12 min (kV)	204	1	V215	0.00...999.99	kV	999.99	R/M	R	0	Minimum average of UL1_U12 in voltages
	U1_12 min (pu)	204	1	V216	0.00...2.00	x Un	2.00	R/M	R	0	Minimum average of UL1_U12 in percents
	U2_23 min date	204	1	V217	YYYY-MM-DD	-	-	R/M	R	0	Date of UL2_U23 minimum average voltage
	U2_23 min time	204	1	V218	hh:mm:ss.000	-	-	R/M	R	0	Time of UL2_U23 minimum average voltage
	U2_23 min (kV)	204	1	V219	0.00...999.99	kV	999.99	R/M	R	0	Minimum average of UL2_U23 in voltages
	U2_23 min (pu)	204	1	V220	0.00...2.00	x Un	2.00	R/M	R	0	Minimum average of UL2_U23 in percents
	U3_31 min date	204	1	V221	YYYY-MM-DD	-	-	R/M	R	0	Date of UL3_U31 minimum average voltage
	U3_31 min time	204	1	V222	hh:mm:ss.000	-	-	R/M	R	0	Time of UL3_U31 minimum average voltage
	U3_31 min (kV)	204	1	V223	0.00...999.99	kV	999.99	R/M	R	0	Minimum average of UL3_U31 in voltages
	U3_31 min (pu)	204	1	V224	0.00...2.00	x Un	2.00	R/M	R	0	Minimum average of UL3_U31 in percents
Residual voltage measurement /*100205 / Rev F MEVO1A */											
Input Data											
	Uo	205	1	I1	0...440000	V	0	R/M	-	0	Residual voltage Uo in volts
	Uo	205	1	I2	0.0...120.0	% Un	0.0	R/M	-	0	Residual voltage Uo in percents
	Input RESET	205	1	I3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting demand values and registers of MEVO1A

Firmware Parameters											
	Uo peak date	205	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Date of Uo peak
	Uo peak time	205	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Time of Uo peak
	Uo peak volts	205	1	V203	0...440000	V	0	R/M	R	0	Uo peak in volts
	Uo peak %	205	1	V204	0.0...120.0	% Un	0.0	R/M	R	0	Uo peak in percents
Control Settings											
	Threshold select	205	1	V1	0..3[0 = Not in use; 1 = Absolute alg.; 2 = Integrat. alg.; 3 = Time interval]	-	0	R/W	R	2	Selection of threshold supervision algorithm
	Threshold value	205	1	V2	0.1...25.0	% Un	1.0	R/W	R	2	Threshold value for threshold supervision
	Limit selection	205	1	V3	0..3[0 = Not in use; 1 = HW,HA; 2 = HW; 3 = HA]	-	0	R/W	R	2	Selection of monitored limits
	High warning	205	1	V4	2.0...100.0	% Un	2.0	R/W	R	2	High warning limit value
	High alarm	205	1	V5	2.0...100.0	% Un	10.0	R/W	R	2	High alarm limit value
	Time interval	205	1	V6	1...600	s	1	R/W	R	2	Time interval for threshold supervision
	Measuring mode	205	1	V7	0..1[0 = True RMS; 1 = Fundam.freq.]	-	0	R/W	R	2	Selection of measuring mode
	Event mask 1	205	1	V101	0...47	-	0	R/W	R	2	Event mask 1 for event transmission (E0 ... E5)
	Event mask 2	205	1	V103	0...47	-	0	R/W	R	2	Event mask 2 for event transmission (E0 ... E5)
	Event mask 3	205	1	V105	0...47	-	0	R/W	R	2	Event mask 3 for event transmission (E0 ... E5)
	Event mask 4	205	1	V107	0...47	-	0	R/W	R	2	Event mask 4 for event transmission (E0 ... E5)
Three-phase voltage measurement (LV-side) /*100206 / Rev C MEVO3B */											
Input Data											
	UL1_U12	206	1	I1	0.00...999.99	kV	0.00	R/M	-	0	Voltage UL1_U12 in kilovolts
	UL2_U23	206	1	I2	0.00...999.99	kV	0.00	R/M	-	0	Voltage UL2_U23 in kilovolts
	UL3_U31	206	1	I3	0.00...999.99	kV	0.00	R/M	-	0	Voltage UL3_U31 in kilovolts
	UL1_U12	206	1	I4	0.00...2.00	x Un	0.00	R/M	-	0	Voltage UL1_U12 in percents
	UL2_U23	206	1	I5	0.00...2.00	x Un	0.00	R/M	-	0	Voltage UL2_U23 in percents
	UL3_U31	206	1	I6	0.00...2.00	x Un	0.00	R/M	-	0	Voltage UL3_U31 in percents

	UL1_U12 average	206	1	I7	0.00...999.99	kV	0.00	R/M	-	0	Average value of UL1_U12 in voltages
	UL2_U23 average	206	1	I8	0.00...999.99	kV	0.00	R/M	-	0	Average value of UL2_U23 in voltages
	UL3_U31 average	206	1	I9	0.00...999.99	kV	0.00	R/M	-	0	Average value of UL3_U31 in voltages
	UL1_U12 average	206	1	I10	0.00...2.00	x Un	0.00	R/M	-	0	Average value of UL1_U12 in percents
	UL2_U23 average	206	1	I11	0.00...2.00	x Un	0.00	R/M	-	0	Average value of UL2_U23 in percents
	UL3_U31 average	206	1	I12	0.00...2.00	x Un	0.00	R/M	-	0	Average value of UL3_U31 in percents
	Input RESET	206	1	I13	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting demand values and registers of MEVO3B
Firmware Parameters											
	U1_12 max date	206	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Date of U1_12 maximum average voltage
	U1_12 max time	206	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Time of U1_12 maximum average voltage
	U1_12 max (kV)	206	1	V203	0.00...999.99	kV	0.00	R/M	R	0	Maximum average of U1_12 in voltages
	U1_12 max (pu)	206	1	V204	0.00...2.00	x Un	0.00	R/M	R	0	Maximum average of U1_12 in percents
	U2_23 max date	206	1	V205	YYYY-MM-DD	-	-	R/M	R	0	Date of U2_23 maximum average voltage
	U2_23 max time	206	1	V206	hh:mm:ss.000	-	-	R/M	R	0	Time of U2_23 maximum average voltage
	U2_23 max (kV)	206	1	V207	0.00...999.99	kV	0.00	R/M	R	0	Maximum average of U2_23 in voltages
	U2_23 max (pu)	206	1	V208	0.00...2.00	x Un	0.00	R/M	R	0	Maximum average of U2_23 in percents
	U3_31 max date	206	1	V209	YYYY-MM-DD	-	-	R/M	R	0	Date of U3_31 maximum average voltage
	U3_31 max time	206	1	V210	hh:mm:ss.000	-	-	R/M	R	0	Time of U3_31 maximum average voltage
	U3_31 max (kV)	206	1	V211	0.00...999.99	kV	0.00	R/M	R	0	Maximum average of U3_31 in voltages
	U3_31 max (pu)	206	1	V212	0.00...2.00	x Un	0.00	R/M	R	0	Maximum average of U3_31 in percents

	U1_12 min date	206	1	V213	YYYY-MM-DD	-	-	R/M	R	0	Date of U1_12 minimum average voltage
	U1_12 min time	206	1	V214	hh:mm:ss.000	-	-	R/M	R	0	Time of U1_12 minimum average voltage
	U1_12 min (kV)	206	1	V215	0.00...999.99	kV	999.99	R/M	R	0	Minimum average of U1_12 in voltages
	U1_12 min (pu)	206	1	V216	0.00...2.00	x Un	2.00	R/M	R	0	Minimum average of U1_12 in percents
	U2_23 min date	206	1	V217	YYYY-MM-DD	-	-	R/M	R	0	Date of U2_23 minimum average voltage
	U2_23 min time	206	1	V218	hh:mm:ss.000	-	-	R/M	R	0	Time of U2_23 minimum average voltage
	U2_23 min (kV)	206	1	V219	0.00...999.99	kV	999.99	R/M	R	0	Minimum average of U2_23 in voltages
	U2_23 min (pu)	206	1	V220	0.00...2.00	x Un	2.00	R/M	R	0	Minimum average of U2_23 in percents
	U3_31 min date	206	1	V221	YYYY-MM-DD	-	-	R/M	R	0	Date of U3_31 minimum average voltage
	U3_31 min time	206	1	V222	hh:mm:ss.000	-	-	R/M	R	0	Time of U3_31 minimum average voltage
	U3_31 min (kV)	206	1	V223	0.00...999.99	kV	999.99	R/M	R	0	Minimum average of U3_31 in voltages
	U3_31 min (pu)	206	1	V224	0.00...2.00	x Un	2.00	R/M	R	0	Minimum average of U3_31 in percents
Control Settings											
	Phase selection	206	1	V1	0..6[0 = Uch1&Uch2&Uch3; 1 = Uch1 & Uch2; 2 = Uch2 & Uch3; 3 = Uch1 & Uch3; 4 = Uch1; 5 = Uch2; 6 = Uch3]	-	0	R/W	R	2	Selection of channels to be measured
	Average interval	206	1	V2	0..5[0 = 1 min; 1 = 5 min; 2 = 10 min; 3 = 15 min; 4 = 30 min; 5 = 60 min]	-	1	R/W	R	2	Time interval for average value
	Threshold select	206	1	V3	0..3[0 = Not in use; 1 = Absolute alg.; 2 = Integrat. alg.; 3 = Time interval]	-	0	R/W	R	2	Selection of threshold supervision algorithm
	Threshold value	206	1	V4	0.01...1.00	x Un	0.01	R/W	R	2	Threshold value for threshold supervision

	Limit selection	206	1	V5	0..9[0 = Not in use; 1 = HW, HA, LW, LA; 2 = HW, HA; 3 = LW, LA; 4 = HW, LW; 5 = HA, LA; 6 = HW; 7 = HA; 8 = LW; 9 = LA]	-	0	R/W	R	2	Selection of monitored limits
	High warning	206	1	V6	0.80...1.50	x Un	1.00	R/W	R	2	High warning limit value
	High alarm	206	1	V7	0.80...1.50	x Un	1.10	R/W	R	2	High alarm limit value
	Low warning	206	1	V8	0.00...0.99	x Un	0.00	R/W	R	2	Low warning limit value
	Low alarm	206	1	V9	0.00...0.99	x Un	0.00	R/W	R	2	Low alarm limit value
	Time interval	206	1	V10	1...600	s	1	R/W	R	2	Time interval for threshold supervision
	Event mask 1A	206	1	V101	0...721420287	-	0	R/W	R	2	Event mask 1 for event transmission (E0 ... E29)
	Event mask 1B	206	1	V102	0...721420287	-	0	R/W	R	2	Event mask 1 for event transmission (E32 ... E61)
	Event mask 2A	206	1	V103	0...721420287	-	0	R/W	R	2	Event mask 2 for event transmission (E0 ... E29)
	Event mask 2B	206	1	V104	0...721420287	-	0	R/W	R	2	Event mask 2 for event transmission (E32 ... E61)
	Event mask 3A	206	1	V105	0...721420287	-	0	R/W	R	2	Event mask 3 for event transmission (E0 ... E29)
	Event mask 3B	206	1	V106	0...721420287	-	0	R/W	R	2	Event mask 3 for event transmission (E32 ... E61)
	Event mask 4A	206	1	V107	0...721420287	-	0	R/W	R	2	Event mask 4 for event transmission (E0 ... E29)
	Event mask 4B	206	1	V108	0...721420287	-	0	R/W	R	2	Event mask 4 for event transmission (E32 ... E61)
Three-Phase Power and Energy Measurement /*100207 / Rev G MEPE7 */											
Input Data											
	P3 (kW)	207	1	I1	-999999...999999	kW	0	R/M	-	0	3-phase active power
	Q3 (kvar)	207	1	I2	-999999...999999	kvar	0	R/M	-	0	3-phase reactive power
	Power factor DPF	207	1	I3	-1.00...1.00	-	0.00	R/M	-	0	Displacement power factor cos(j)
	Power factor PF	207	1	I4	-1.00...1.00	-	0.00	R/M	-	0	Power factor
	P3 demand (kW)	207	1	I5	-999999...999999	kW	0	R/M	-	0	Active power demand
	Q3 demand (kvar)	207	1	I6	-999999...999999	kvar	0	R/M	-	0	Reactive power demand

	Input RESET	207	1	I7	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting demand values and registers of MEPE7
Firmware Parameters										
	P3 maximum date	207	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Date of P3 max demand
	P3 maximum time	207	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Time of P3 max demand
	P3 maximum	207	1	V203	-999999...999999	kW	-999999	R/M	R	0	Maximum demand for P3
	Q3 maximum date	207	1	V204	YYYY-MM-DD	-	-	R/M	R	0	Date of Q3 max demand
	Q3 maximum time	207	1	V205	hh:mm:ss.000	-	-	R/M	R	0	Time of Q3 max demand
	Q3 maximum	207	1	V206	-999999...999999	kvar	-999999	R/M	R	0	Maximum demand for Q3
	Energy kWh	207	1	V207	0...999999999	kWh	0	R/M	R	0	Active energy in kWh (Accumulated)
	Reverse kWh	207	1	V208	0...999999999	kWh	0	R/M	R	0	Reversed active energy in kWh (Accumulated)
	Energy kvarh	207	1	V209	0...999999999	kvarh	0	R/M	R	0	Reactive energy in kvarh (Accumulated)
	Reverse kvarh	207	1	V210	0...999999999	kvarh	0	R/M	R	0	Reversed reactive energy in kvarh (Accumulated)
	Ener. kWh (1)	207	3	V211	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
	Ener. kWh (2)	207	3	V212	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
	Ener. kWh (3)	207	3	V213	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
	Ener. kWh (4)	207	3	V214	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
	Ener. kWh (5)	207	3	V215	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
	Ener. kWh (6)	207	3	V216	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
	Ener. kWh (7)	207	3	V217	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
	Ener. kWh (8)	207	3	V218	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
	Ener. kWh (9)	207	3	V219	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)

Ener. kWh (10)	207	3	V220	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (11)	207	3	V221	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (12)	207	3	V222	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (13)	207	3	V223	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (14)	207	3	V224	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (15)	207	3	V225	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (16)	207	3	V226	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (17)	207	3	V227	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (18)	207	3	V228	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (19)	207	3	V229	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (20)	207	3	V230	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (21)	207	3	V231	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (22)	207	3	V232	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (23)	207	3	V233	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (24)	207	3	V234	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (25)	207	3	V235	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (26)	207	3	V236	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (27)	207	3	V237	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (28)	207	3	V238	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (29)	207	3	V239	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)

Ener. kWh (30)	207	3	V240	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (31)	207	3	V241	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (32)	207	3	V242	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (33)	207	3	V243	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (34)	207	3	V244	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (35)	207	3	V245	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (36)	207	3	V246	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (37)	207	3	V247	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (38)	207	3	V248	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (39)	207	3	V249	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (40)	207	3	V250	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (41)	207	3	V251	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (42)	207	3	V252	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (43)	207	3	V253	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (44)	207	3	V254	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (45)	207	3	V255	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (46)	207	3	V256	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (47)	207	3	V257	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (48)	207	3	V258	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Ener. kWh (49)	207	3	V259	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)

Ener. kWh (50)	207	3	V260	0...999999	kWh	0	R	R	0	Active energy in kWh (50 latest)
Rev. kWh (1)	207	3	V261	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (2)	207	3	V262	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (3)	207	3	V263	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (4)	207	3	V264	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (5)	207	3	V265	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (6)	207	3	V266	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (7)	207	3	V267	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (8)	207	3	V268	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (9)	207	3	V269	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (10)	207	3	V270	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (11)	207	3	V271	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (12)	207	3	V272	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (13)	207	3	V273	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (14)	207	3	V274	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (15)	207	3	V275	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (16)	207	3	V276	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (17)	207	3	V277	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (18)	207	3	V278	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (19)	207	3	V279	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)

Rev. kWh (20)	207	3	V280	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (21)	207	3	V281	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (22)	207	3	V282	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (23)	207	3	V283	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (24)	207	3	V284	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (25)	207	3	V285	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (26)	207	3	V286	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (27)	207	3	V287	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (28)	207	3	V288	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (29)	207	3	V289	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (30)	207	3	V290	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (31)	207	3	V291	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (32)	207	3	V292	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (33)	207	3	V293	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (34)	207	3	V294	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (35)	207	3	V295	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (36)	207	3	V296	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (37)	207	3	V297	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (38)	207	3	V298	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (39)	207	3	V299	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)

Rev. kWh (40)	207	3	V300	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (41)	207	3	V301	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (42)	207	3	V302	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (43)	207	3	V303	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (44)	207	3	V304	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (45)	207	3	V305	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (46)	207	3	V306	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (47)	207	3	V307	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (48)	207	3	V308	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (49)	207	3	V309	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Rev. kWh (50)	207	3	V310	0...999999	kWh	0	R	R	0	Reversed active energy in kWh (50 latest)
Ener. kvarh (1)	207	3	V311	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (2)	207	3	V312	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (3)	207	3	V313	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (4)	207	3	V314	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (5)	207	3	V315	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (6)	207	3	V316	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (7)	207	3	V317	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (8)	207	3	V318	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (9)	207	3	V319	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)

Ener. kvarh (10)	207	3	V320	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (11)	207	3	V321	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (12)	207	3	V322	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (13)	207	3	V323	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (14)	207	3	V324	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (15)	207	3	V325	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (16)	207	3	V326	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (17)	207	3	V327	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (18)	207	3	V328	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (19)	207	3	V329	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (20)	207	3	V330	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (21)	207	3	V331	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (22)	207	3	V332	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (23)	207	3	V333	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (24)	207	3	V334	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (25)	207	3	V335	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (26)	207	3	V336	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (27)	207	3	V337	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (28)	207	3	V338	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (29)	207	3	V339	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)

Ener. kvarh (30)	207	3	V340	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (31)	207	3	V341	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (32)	207	3	V342	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (33)	207	3	V343	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (34)	207	3	V344	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (35)	207	3	V345	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (36)	207	3	V346	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (37)	207	3	V347	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (38)	207	3	V348	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (39)	207	3	V349	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (40)	207	3	V350	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (41)	207	3	V351	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (42)	207	3	V352	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (43)	207	3	V353	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (44)	207	3	V354	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (45)	207	3	V355	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (46)	207	3	V356	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (47)	207	3	V357	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (48)	207	3	V358	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Ener. kvarh (49)	207	3	V359	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)

Ener. kvarh (50)	207	3	V360	0...999999	kvarh	0	R	R	0	Reactive energy in kvarh (50 latest)
Rev. kvarh (1)	207	3	V361	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (2)	207	3	V362	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (3)	207	3	V363	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (4)	207	3	V364	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (5)	207	3	V365	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (6)	207	3	V366	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (7)	207	3	V367	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (8)	207	3	V368	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (9)	207	3	V369	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (10)	207	3	V370	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (11)	207	3	V371	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (12)	207	3	V372	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (13)	207	3	V373	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (14)	207	3	V374	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (15)	207	3	V375	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (16)	207	3	V376	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (17)	207	3	V377	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (18)	207	3	V378	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (19)	207	3	V379	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)

Rev. kvarh (20)	207	3	V380	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (21)	207	3	V381	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (22)	207	3	V382	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (23)	207	3	V383	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (24)	207	3	V384	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (25)	207	3	V385	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (26)	207	3	V386	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (27)	207	3	V387	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (28)	207	3	V388	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (29)	207	3	V389	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (30)	207	3	V390	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (31)	207	3	V391	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (32)	207	3	V392	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (33)	207	3	V393	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (34)	207	3	V394	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (35)	207	3	V395	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (36)	207	3	V396	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (37)	207	3	V397	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (38)	207	3	V398	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (39)	207	3	V399	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)

Rev. kvarh (40)	207	3	V400	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (41)	207	3	V401	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (42)	207	3	V402	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (43)	207	3	V403	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (44)	207	3	V404	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (45)	207	3	V405	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (46)	207	3	V406	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (47)	207	3	V407	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (48)	207	3	V408	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (49)	207	3	V409	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Rev. kvarh (50)	207	3	V410	0...999999	kvarh	0	R	R	0	Rev. reactive energy in kvarh (50 latest)
Last save date	207	1	V411	YYYY-MM-DD	-	-	R/M	R	0	Date of last registered energy values
Last save time	207	1	V412	hh:mm:ss.000	-	-	R/M	R	0	Time of last registered energy values
Last save pos.	207	3	V413	0...50	-	0	R	R	0	Position of last registered energy values (1...50, 0=No registered values)
Last ener. kWh	207	1	V414	0...999999	-	0	R/M	R	0	Last registered active energy
Last rev. kWh	207	1	V415	0...999999	-	0	R/M	R	0	Last registered reversed active energy
Last ener. kvarh	207	1	V416	0...999999	-	0	R/M	R	0	Last registered reactive energy
Last rev. kvarh	207	1	V417	0...999999	-	0	R/M	R	0	Last registered reversed reactive energy
Reset flag	207	3	V418	0..1[0 = Valid; 1 = Invalid]	-	1	R	R	0	Indication of valid energy history; 0= All values valid, 1= "Last save Pos." values valid

Control Settings

Power direction	207	1	V1	0..1[0 = Forward; 1= Reverse]	-	0	R/W	R	2	Direction of power flow
Demand interval	207	1	V2	0..5[0 = 1 min; 1 = 5 min; 2 = 10 min; 3 = 15 min; 4 = 30 min; 5 = 60 min]	-	3	R/W	R	2	Time interval for demand supervision
Energy interval	207	1	V3	0..6[0 = 1 min; 1 = 5 min; 2 = 10 min; 3 = 15 min; 4 = 30 min; 5 = 60 min; 6 = 120 min]	-	3	R/W	R	2	Time interval for energy calculation
Threshold select	207	1	V4	0..2[0 = Not in use; 1 = Absolute alg.; 2 = Integrat. alg.; 3 = Time interval]	-	0	R/W	R	2	Selection of threshold supervision algorithm
P3 threshold	207	1	V5	1...999999	kW	999999	R/W	R	2	Threshold value for active power
Q3 threshold	207	1	V6	1...999999	kvar	999999	R/W	R	2	Threshold value for reactive power
P3 limit select.	207	1	V7	0..8[0 = Not in use; 1 = HW,HA,LW,LA; 2 = HW,HA; 3 = LW,LA; 4 = HW,LW; 5 = HA,LA; 6 = HW; 7 = HA; 8 = LW; 9 = LA]	-	0	R/W	R	2	Selection of active power limits to be monitored
Q3 limit select.	207	1	V8	0..8[0 = Not in use; 1 = HW,HA,LW,LA; 2 = HW,HA; 3 = LW,LA; 4 = HW,LW; 5 = HA,LA; 6 = HW; 7 = HA; 8 = LW; 9 = LA]	-	0	R/W	R	2	Selection of reactive power limits to be monitored
P3 high warning	207	1	V9	-999999...999999	kW	0	R/W	R	2	High warning limit value for active power
P3 high alarm	207	1	V10	-999999...999999	kW	0	R/W	R	2	High alarm limit value for active power
P3 low warning	207	1	V11	-999999...999999	kW	0	R/W	R	2	Low warning limit value for active power
P3 low alarm	207	1	V12	-999999...999999	kW	0	R/W	R	2	Low alarm limit value for active power
Q3 high warning	207	1	V13	-999999...999999	kvar	0	R/W	R	2	High warning limit value for reactive power
Q3 high alarm	207	1	V14	-999999...999999	kvar	0	R/W	R	2	High alarm limit value for reactive power

	Q3 low warning	207	1	V15	-999999...999999	kvar	0	R/W	R	2	Low warning limit value for reactive power
	Q3 low alarm	207	1	V16	-999999...999999	kvar	0	R/W	R	2	Low alarm limit value for reactive power
	Energy meas.	207	1	V17	0..1[0 = No energy reg.; 1 = Energy reg. on]	-	0	R/W	R	2	Parameter for enable energy measurement and registration
	MEPEmode	207	1	V18	0..13[0 = Not in use; 1 = U1,U2,U3 &...; 2 = U12,U23,U0 &...; 3 = U23,U31,U0 &...; 4 = U12,U31,U0 &...; 5 = U12,U23 &...; 6 = U23,U31 &...; 7 = U12,U31 &...; 8 = U1 & I1; 9 = U2 & I2; 10 = U3 & I3; 11 = U12 & I3; 12 = U23 & I1; 13 = U31 & I2]	-	2	R	-	0	Power measurement mode
	Time interval	207	1	V19	1...600	s	1	R/W	R	2	Time interval for threshold supervision
	PF Threshold	207	1	V20	0.01...0.50	-	0.50	R/W	R	2	Threshold value for power factor
	Nominal Power	207	0	V21	0...999999	kW	0	R	-	0	Value of nominal power in kW
	Event mask 1	207	1	V101	0...2863333375	-	0	R/W	R	2	Event mask 1 for event transmission (E0 ... E31)
	Event mask 2	207	1	V103	0...2863333375	-	0	R/W	R	2	Event mask 2 for event transmission (E0 ... E31)
	Event mask 3	207	1	V105	0...2863333375	-	0	R/W	R	2	Event mask 3 for event transmission (E0 ... E31)
	Event mask 4	207	1	V107	0...2863333375	-	0	R/W	R	2	Event mask 4 for event transmission (E0 ... E31)
System frequency measurement /*100208 / Rev D MEFR1 */											
Control Settings											
	Average interval	208	1	V1	0..5[0 = 1 min; 1 = 5 min; 2 = 10 min; 3 = 15 min; 4 = 30 min; 5 = 60 min]	-	1	R/W	R	2	Time interval for average supervision

	Threshold select	208	1	V2	0..3[0 = Not in use; 1 = Absolute alg.; 2 = Integrat. alg.; 3 = Time interval]	-	0	R/W	R	2	Selection of threshold supervision algorithm
	Threshold value	208	1	V3	0.01...5.00	Hz	0.10	R/W	R	2	Threshold value for threshold supervision
	Limit selection	208	1	V4	0..9[0 = Not in use; 1 = HW,HA,LW,LA; 2 = HW,HA; 3 = LW,LA; 4 = HW,LW; 5 = HA,LA; 6 = HW; 7 = HA; 8 = LW; 9 = LA]	-	0	R/W	R	2	Selection of monitored limits
	High warning	208	1	V5	15.00...75.00	Hz	55.0	R/W	R	2	High warning limit value
	High alarm	208	1	V6	15.00...75.00	Hz	60.0	R/W	R	2	High alarm limit value
	Low warning	208	1	V7	10.00...60.00	Hz	45.0	R/W	R	2	Low warning limit value
	Low alarm	208	1	V8	10.00...60.00	Hz	40.0	R/W	R	2	Low alarm limit value
	Voltage limit	208	1	V9	0.30...0.90	x Un	0.30	R/W	R	2	Undervoltage limit for blocking
	Time interval	208	1	V10	1...600	s	1	R/W	R	2	Time interval for threshold supervision
	Event mask 1	208	1	V101	0...767	-	0	R/W	R	2	Event mask 1 for event transmission (E0 ... E9)
	Event mask 2	208	1	V103	0...767	-	0	R/W	R	2	Event mask 2 for event transmission (E0 ... E9)
	Event mask 3	208	1	V105	0...767	-	0	R/W	R	2	Event mask 3 for event transmission (E0 ... E9)
	Event mask 4	208	1	V107	0...767	-	0	R/W	R	2	Event mask 4 for event transmission (E0 ... E9)
Input Data											
	Frequency	208	1	I1	0.00...75.00	Hz	0.00	R/M	-	0	System frequency in Hertzs
	Average Freq.	208	1	I2	0.00...75.00	Hz	0.00	R/M	-	0	Average system frequency in Hertzs
	Voltage U	208	1	I3	0.0...2.0	x Un	0.0	R/M	-	0	Voltage U
	Input RESET	208	1	I4	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting demand values and registers of MEFR1
Firmware Parameters											
	Freq max date	208	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Date of maximum average frequency
	Freq max time	208	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Time of maximum average frequency
	Frequency max	208	1	V203	0.00...75.00	Hz	0.00	R/M	R	0	Maximum average frequency

	Freq min date	208	1	V204	YYYY-MM-DD	-	-	R/M	R	0	Date of minimum average frequency
	Freq min time	208	1	V205	hh:mm:ss.000	-	-	R/M	R	0	Time of minimum average frequency
	Frequency min	208	1	V206	0.00...75.00	Hz	75.00	R/M	R	0	Minimum average frequency
General measurement 1 /*100213 / Rev C MEAI1 */											
Control Settings											
	Threshold select	213	1	V1	0..3[0 = Not in use; 1 = Absolute alg.; 2 = Integrat. alg.; 3 = Time interval]	-	0	R/W	R	2	Selection of threshold supervision algorithm
	Threshold value	213	1	V2	0.0001..10.0000	-	1.0000	R/W	R	2	Threshold value for threshold supervision
	Limit selection	213	1	V3	0..9[0 = Not in use; 1 = HW, HA, LW, LA; 2 = HW, HA; 3 = LW, LA; 4 = HW, LW; 5 = HA, LA; 6 = HW; 7 = HA; 8 = LW; 9 = LA]	-	0	R/W	R	2	Selection of monitored limits
	High warning	213	1	V4	-10000.00000..10000.00000	-	0.0000	R/W	R	2	High warning limit value
	High alarm	213	1	V5	-10000.00000..10000.00000	-	0.0000	R/W	R	2	High alarm limit value
	Low warning	213	1	V6	-10000.00000..10000.00000	-	0.0000	R/W	R	2	Low warning limit value
	Low alarm	213	1	V7	-10000.00000..10000.00000	-	0.0000	R/W	R	2	Low alarm limit value
	HW start delay	213	1	V8	1.0..300.0	s	1.0	R/W	R	2	Starting delay of the high warning signal
	HW reset delay	213	1	V9	1.0..300.0	s	1.0	R/W	R	2	Resetting delay of the high warning signal
	HA start delay	213	1	V10	1.0..300.0	s	1.0	R/W	R	2	Starting delay of the high alarm signal
	HA reset delay	213	1	V11	1.0..300.0	s	1.0	R/W	R	2	Resetting delay of the high alarm signal
	LW start delay	213	1	V12	1.0..300.0	s	1.0	R/W	R	2	Starting delay of the low warning signal
	LW reset delay	213	1	V13	1.0..300.0	s	1.0	R/W	R	2	Resetting delay of the low warning signal

	LA start delay	213	1	V14	1.0..300.0	s	1.0	R/W	R	2	Starting delay of the low alarm signal
	LA reset delay	213	1	V15	1.0..300.0	s	1.0	R/W	R	2	Resetting delay of the low alarm signal
	Limit hysteresis	213	1	V16	0..10.0000	-	0.0000	R/W	R	2	Hysteresis for limit supervision
	Measuring mode	213	1	V17	0..1[0 = DC; 1 = AC]	-	0	R/W	R	2	Measurement mode
	Zero force limit	213	1	V18	0..10.0000	-	0	R/W	R	2	Zero value supervision threshold
	Time interval	213	1	V19	1..600	s	1	R/W	R	2	Time interval for threshold supervision
	Event mask 1	213	1	V101	0..3071	-	0	R/W	R	2	Event mask 1 for event transmission (E0 ... E11)
	Event mask 2	213	1	V103	0..3071	-	0	R/W	R	2	Event mask 2 for event transmission (E0 ... E11)
	Event mask 3	213	1	V105	0..3071	-	0	R/W	R	2	Event mask 3 for event transmission (E0 ... E11)
	Event mask 4	213	1	V107	0..3071	-	0	R/W	R	2	Event mask 4 for event transmission (E0 ... E11)
Input Data											
	Input value	213	1	I1	-10000.00000...10000.00000	-	0	R/M	-	0	Measurement value
	Input invalid	213	1	I2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Input validity signal
	Input RESET	213	1	I3	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for resetting registers of MEAI1
Firmware Parameters											
	Max value date	213	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Maximum value date
	Max value time	213	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Maximum value time
	Maximum value	213	1	V203	-100000.000000 ... 100000.000000	-	0	R/M	R	0	Maximum value
	Min value date	213	1	V204	YYYY-MM-DD	-	-	R/M	R	0	Minimujm value date
	Min value time	213	1	V205	hh:mm:ss.000	-	-	R/M	R	0	Minimum value time
	Minimum value	213	1	V206	-100000.000000 ... 100000.000000	-	0	R/M	R	0	Minimum value

Transient disturbance recorder for 16 analogue channels
/*100225 / Rev K
MEDREC16 */

Control Settings

Periodic time	225	1	V1	0...604800	s	0	R/W	R	2	Time between periodic triggerings
Exclusion time	225	1	V2	0...86400	s	0	R/W	R	2	Time how long triggerings from same reason ar ignored
Operation mode	225	1	V3	0..2 [0 = Saturation; 1 = Overwrite; 2 = Extension]	-	0	R/W	R	2	Operation mode of the recorder
Pre-trg time	225	1	V5	0...100	%	50	R/W	R	2	Length of record preceding the triggering
BI enable	225	1	V6	0...65535	-	0	R/W	R	2	Binary channel triggering enable bit mask
BI mode	225	1	V7	0...65535	-	0	R/W	R	2	Binary channel triggering mode bit mask
Over lim. enab.	225	1	V8	0...65535	-	0	R/W	R	2	Analog channel over limit triggering bit mask
Under lim. enab	225	1	V9	0...65535	-	0	R/W	R	2	Analog channel under limit triggering bit mask
Over limit ILx	225	1	V10	0.00...40.00	x In	10.00	R/W	R	2	Over limit for IL1, IL2 and IL3
Over limit Io	225	1	V11	0.00...40.00	x In	10.00	R/W	R	2	Over limit for Io
Over limit Iob	225	1	V12	0.00...40.00	x In	10.00	R/W	R	2	Over limit for Iob
Over limit Uo	225	1	V13	0.00...2.00	x Un	2.00	R/W	R	2	Over limit for Uo
Over limit Ux	225	1	V14	0.00...2.00	x Un	2.00	R/W	R	2	Over limit for U1, U2 and U3
Over limit Uxy	225	1	V15	0.00...2.00	x Un	2.00	R/W	R	2	Over limit for U12, U23 and U31
Over limit U12b	225	1	V16	0.00...2.00	x Un	2.00	R/W	R	2	Over limit for U12b
Over limit ILxb	225	1	V17	0.00...40.00	x In	10.00	R/W	R	2	Over limit for IL1b, IL2b and IL3b
Under limit Ux	225	1	V18	0.00...2.00	x Un	0.00	R/W	R	2	Under limit for U1, U2 and U3
Under limit Uxy	225	1	V19	0.00...2.00	x Un	0.00	R/W	R	2	Under limit for U12, U23 and U31
AI filter time	225	1	V20	0.000...60.000	s	0.050	R/W	R	2	Filtering time for analogue channel limit triggerings
Header file	225	0	V30	-	-	-	R	-	0	LON file object for recording header
Data file	225	0	V31	-	-	-	R	-	0	LON file object for recording data
Transfer data valid	225	0	V32	0...1	-	0	R	-	0	Tells to the upload SW that the data is valid in transfer buffer

Transfer data locked	225	0	V33	0...1	-	0	W	-	0	The upload SW tells to the FB that it is not allowed to write to the transfer buffer
Header file size	225	0	V34	-	-	-	R	-	0	The size of the buffer
Data file size	225	0	V35	-	-	-	R	-	0	The size of the transfer buffer
Event mask 1	225	1	V101	0...2147484299	-	2147484299	R/W	R	2	Event mask 1 for event transmission
Event mask 2	225	1	V103	0...2147484299	-	2147484299	R/W	R	2	Event mask 2 for event transmission
Event mask 3	225	1	V105	0...2147484299	-	2147484299	R/W	R	2	Event mask 3 for event transmission
Event mask 4	225	1	V107	0...2147484299	-	2147484299	R/W	R	2	Event mask 4 for event transmission
Recorder channel	0	0	M10	-	-	225	R	-	0	Channel number of the internal disturbance recorder
Data format	225	0	M12	-	-	2	R	-	0	Data format of the recording
Transfer format	225	0	M17	-	-	0	R	-	0	The protocol of the file transmission
Remote trigger	225	1	M1	0..1 [0 = 0; 1 = Trigger]	-	0	W	-	0	Remote triggering
Reset memory	225	1	M2	0..1 [0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of recording memory
Record length	225	1	M11	10...65535	cyc.	50	R/W	R	2	Size of the recording memory in cycles
Max # records	225	1	M3	0...65535	-	0	R	-	0	Maximum number of recordings
# records	225	1	M16	0...65535	-	0	R	-	0	Number of recordings in memory
AI chs used	225	1	M13	0..15[B0=IL1;B1=IL2;B2=IL3;B3=Io]	-	15	R/W	R	2	Bit mask of recorded analog channels
BI chs used	225	1	M14	0...65535	-	65535	R	-	0	Bit mask of recorded binary channels
Sampling rate	225	1	M15	400...2400	Hz	2000	R	-	0	Sampling frequency (Hz)
Line frequency	225	1	M19	10.00...60.00	Hz	50.00	R	-	0	Nominal system frequency
Identification	225	1	M18	0...10000	-	0	R/W	R	2	Station identification or unit number
Main header	225	1	M20	Default header	-	Default header	R/W	R	2	Main header for recordings
Text of BI1	225	1	M40	BI1	-	BI1	R/W	R	2	Text of binary input BI1
Text of BI2	225	1	M41	BI2	-	BI2	R/W	R	2	Text of binary input BI2
Text of BI3	225	1	M42	BI3	-	BI3	R/W	R	2	Text of binary input BI3

Text of BI4	225	1	M43	BI4	-	BI4	R/W	R	2	Text of binary input BI4
Text of BI5	225	1	M44	BI5	-	BI5	R/W	R	2	Text of binary input BI5
Text of BI6	225	1	M45	BI6	-	BI6	R/W	R	2	Text of binary input BI6
Text of BI7	225	1	M46	BI7	-	BI7	R/W	R	2	Text of binary input BI7
Text of BI8	225	1	M47	BI8	-	BI8	R/W	R	2	Text of binary input BI8
Text of BI9	225	1	M48	BI9	-	BI9	R/W	R	2	Text of binary input BI9
Text of BI10	225	1	M49	BI10	-	BI10	R/W	R	2	Text of binary input BI10
Text of BI11	225	1	M50	BI11	-	BI11	R/W	R	2	Text of binary input BI11
Text of BI12	225	1	M51	BI12	-	BI12	R/W	R	2	Text of binary input BI12
Text of BI13	225	1	M52	BI13	-	BI13	R/W	R	2	Text of binary input BI13
Text of BI14	225	1	M53	BI14	-	BI14	R/W	R	2	Text of binary input BI14
Text of BI15	225	1	M54	BI15	-	BI15	R/W	R	2	Text of binary input BI15
Text of BI16	225	1	M55	BI16	-	BI16	R/W	R	2	Text of binary input BI16
Text of AI1	225	1	M60	IL1	-	IL1	R	-	0	Text of analog input channel 1 (IL1)
Text of AI2	225	1	M61	IL2	-	IL2	R	-	0	Text of analog input channel 2 (IL2)
Text of AI3	225	1	M62	IL3	-	IL3	R	-	0	Text of analog input channel 3 (IL3)
Text of AI4	225	1	M63	Io	-	Io	R	-	0	Text of analog input channel 4 (Io)
Text of AI5	225	1	M64	Iob	-	Iob	R	-	0	Text of analog input channel 5 (Iob)
Text of AI6	225	1	M65	Uo	-	Uo	R	-	0	Text of analog input channel 6 (Uo)
Text of AI7	225	1	M66	U1	-	U1	R	-	0	Text of analog input channel 7 (U1)
Text of AI8	225	1	M67	U2	-	U2	R	-	0	Text of analog input channel 8 (U2)
Text of AI9	225	1	M68	U3	-	U3	R	-	0	Text of analog input channel 9 (U3)
Text of AI10	225	1	M69	U12	-	U12	R	-	0	Text of analog input channel 10 (U12)
Text of AI11	225	1	M70	U23	-	U23	R	-	0	Text of analog input channel 11 (U23)
Text of AI12	225	1	M71	U31	-	U31	R	-	0	Text of analog input channel 12 (U31)
Text of AI13	225	1	M72	U12b	-	U12b	R	-	0	Text of analog input channel 13 (U12b)
Text of AI14	225	1	M73	IL1b	-	IL1b	R	-	0	Text of analog input channel 14 (IL1b)

Text of AI15	225	1	M74	IL2b	-	IL2b	R	-	0	Text of analog input channel 15 (IL2b)
Text of AI16	225	1	M75	IL3b	-	IL3b	R	-	0	Text of analog input channel 16 ((IL3b)
IL1 pu-scale	225	0	M80	0...6000	A	1	R	-	0	Conversion factor for IL1 from pu to A
IL2 pu-scale	225	0	M81	0...6000	A	1	R	-	0	Conversion factor for IL2 from pu to A
IL3 pu-scale	225	0	M82	0...6000	A	1	R	-	0	Conversion factor for IL3 from pu to A
Io pu-scale	225	0	M83	0...6000	A	1	R	-	0	Conversion factor for Io from pu to A
Iob pu-scale	225	0	M84	0...6000	A	1	R	-	0	Conversion factor for Iob from pu to A
Uo pu-scale	225	0	M85	0...440.000	kV	1.000	R	-	0	Conversion factor for Uo from pu to kV
U1 pu-scale	225	0	M86	0...440.000	kV	1.000	R	-	0	Conversion factor for U1 from pu to kV
U2 pu-scale	225	0	M87	0...440.000	kV	1.000	R	-	0	Conversion factor for U2 from pu to kV
U3 pu-scale	225	0	M88	0...440.000	kV	1.000	R	-	0	Conversion factor for U3 from pu to kV
U12 pu-scale	225	0	M89	0...440.000	kV	1.000	R	-	0	Conversion factor for U12 from pu to kV
U23 pu-scale	225	0	M90	0...440.000	kV	1.000	R	-	0	Conversion factor for U23 from pu to kV
U31 pu-scale	225	0	M91	0...440.000	kV	1.000	R	-	0	Conversion factor for U31 from pu to kV
U12b pu-scale	225	0	M92	0...440.000	kV	1.000	R	-	0	Conversion factor for U12b from pu to kV
IL1b pu-scale	225	0	M93	0...6000	A	1	R	-	0	Conversion factor for IL1b from pu to A
IL2b pu-scale	225	0	M94	0...6000	A	1	R	-	0	Conversion factor for IL2b from pu to A
IL3b pu-scale	225	0	M95	0...6000	A	1	R	-	0	Conversion factor for IL3b from pu to A
Conv. factor units	225	0	M100	0...65535	-	57375	R	-	0	Units of the conversion factors of each analog channel, bit mask, 0 = kV, 1 = A

Output Data

	Time to trigger	225	1	O1	0...604800	s	0	R/M	-	0	Remaining time of periodic triggering
	Exclusion time	225	1	O2	0...86400	s	0	R/M	-	0	Remaining time of exclusion time
Current waveform distortion measurement /*100512 / Rev E PQCU3H */											
Control Settings											
	Limit THD	512	1	V1	0.1...60.0	%	16.0	R/W	R	2	Limit for Total Harmonic Distortion
	Limit 2nd harm.	512	1	V2	0.1...40.0	%In	4.0	R/W	R	2	Limit for 2nd harmonic
	Limit 3rd harm.	512	1	V3	0.1...40.0	%In	10.0	R/W	R	2	Limit for 3rd harmonic
	Limit 4th harm.	512	1	V4	0.1...40.0	%In	2.0	R/W	R	2	Limit for 4th harmonic
	Limit 5th harm.	512	1	V5	0.1...40.0	%In	12.0	R/W	R	2	Limit for 5th harmonic
	Limit 6th harm.	512	1	V6	0.1...40.0	%In	1.0	R/W	R	2	Limit for 6th harmonic
	Limit 7th harm.	512	1	V7	0.1...40.0	%In	10.0	R/W	R	2	Limit for 7th harmonic
	Limit 8th harm.	512	1	V8	0.1...40.0	%In	1.0	R/W	R	2	Limit for 8th harmonic
	Limit 9th harm.	512	1	V9	0.1...40.0	%In	3.0	R/W	R	2	Limit for 9th harmonic
	Limit 10th harm.	512	1	V10	0.1...40.0	%In	1.0	R/W	R	2	Limit for 10th harmonic
	Limit 11th harm.	512	1	V11	0.1...40.0	%In	7.0	R/W	R	2	Limit for 11th harmonic
	Limit 12th harm.	512	1	V12	0.1...40.0	%In	1.0	R/W	R	2	Limit for 12th harmonic
	Limit 13th harm.	512	1	V13	0.1...40.0	%In	6.0	R/W	R	2	Limit for 13th harmonic
	Cum. probability	512	1	V14	90.0...99.5	%	95.0	R/W	R	2	Limit for cumulative probability
	Measuring mode	512	1	V15	0..4[0 = Not in use; 1 = L1; 2 = L2; 3 = L3; 4 = Worst phase]	-	0	R/W	R	2	Measuring mode
	Distort. factor	512	1	V16	0..1[0 = THD; 1 = TDD]	-	1	R/W	R	2	Selection of distortion factor (THD or TDD)
	Observation time	512	1	V17	0..8[0 = 1 hour; 1 = 12 hours; 2 = 1 day; 3 = 2 days; 4 = 3 days; 5 = 4 days; 6 = 5 days; 7 = 6 days; 8 = 1 week]	-	8	R/W	R	2	Selection of Observation time
	Trigger mode	512	1	V18	0..2[0 = Single; 1 = Continuous; 2 = Periodic]	-	0	R/W	R	2	Selection of trigger mode
	Trigger year	512	1	V19	1980...2400	y	1980	R/W	R	2	Triggering year
	Trigger month	512	1	V20	1...12	m	1	R/W	R	2	Triggering month
	Trigger day	512	1	V21	1...31	d	1	R/W	R	2	Triggering day
	Trigger hour	512	1	V22	0...23	h	1	R/W	R	2	Triggering hour

	Remote trigger	512	1	V23	0..1[0 = 0; 1 = Trigger]	-	0	W	-	0	Remote or local triggering
	Selected harm.	512	1	V24	0..12[0 = THD; 1 = 2nd harmonic; 2 = 3rd harmonic; 3 = 4th harmonic; 4 = 5th harmonic; 5 = 6th harmonic; 6 = 7th harmonic; 7 = 8th harmonic; 8 = 9th harmonic; 9 = 10th harmonic; 10 = 11th harmonic; 11 = 12th harmonic; 12 = 13th harmonic]	-	2	R/W	R	2	Selected harmonic for recordings
	Reset registers	512	1	V25	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of registers
	Act. meas.mode	512	1	V26	0..4[0 = Not in use; 1 = L1; 2 = L2; 3 = L3; 4 = Worst phase]	-	0	R	R	2	Active measuring mode
	Event mask 1	512	1	V101	0...31	-	31	R/W	R	2	Event mask 1 for event transmission
	Event mask 2	512	1	V103	0...31	-	31	R/W	R	2	Event mask 2 for event transmission
	Event mask 3	512	1	V105	0...31	-	31	R/W	R	2	Event mask 3 for event transmission
	Event mask 4	512	1	V107	0...31	-	31	R/W	R	2	Event mask 3 for event transmission
Input Data											
	Measured input	512	1	I1	0..3[0 = None; 1 = L1; 2 = L2; 3 = L3]	-	1	R/M	-	0	Harmonic values are monitored from this current input
	THD	512	1	I2	0.0...1000.0	%	0.0	R/M	-	0	3 s average value of Total Harmonic Distortion in percentage
	Fund. component	512	1	I3	0.0...1000.0	%In	0.0	R/M	-	0	3 s average value of 1st harmonic in percentage
	2nd harmonic	512	1	I4	0.0...1000.0	%In	0.0	R/M	-	0	3 s average value of 2nd harmonic in percentage
	3rd harmonic	512	1	I5	0.0...1000.0	%In	0.0	R/M	-	0	3 s average value of 3rd harmonic in percentage
	4th harmonic	512	1	I6	0.0...1000.0	%In	0.0	R/M	-	0	3 s average value of 4th harmonic in percentage

5th harmonic	512	1	I7	0.0...1000.0	%In	0.0	R/M	-	0	3 s average value of 5th harmonic in percentage
6th harmonic	512	1	I8	0.0...1000.0	%In	0.0	R/M	-	0	3 s average value of 6th harmonic in percentage
7th harmonic	512	1	I9	0.0...1000.0	%In	0.0	R/M	-	0	3 s average value of 7th harmonic in percentage
8th harmonic	512	1	I10	0.0...1000.0	%In	0.0	R/M	-	0	3 s average value of 8th harmonic in percentage
9th harmonic	512	1	I11	0.0...1000.0	%In	0.0	R/M	-	0	3 s average value of 9th harmonic in percentage
10th harmonic	512	1	I12	0.0...1000.0	%In	0.0	R/M	-	0	3 s average value of 10th harmonic in percentage
11th harmonic	512	1	I13	0.0...1000.0	%In	0.0	R/M	-	0	3 s average value of 11th harmonic in percentage
12th harmonic	512	1	I14	0.0...1000.0	%In	0.0	R/M	-	0	3 s average value of 12th harmonic in percentage
13th harmonic	512	1	I15	0.0...1000.0	%In	0.0	R/M	-	0	3 s average value of 13th harmonic in percentage
Time to end	512	1	I16	0...10080	min	0	R/M	-	0	Time to the end of the Observation period
Input DISABLE	512	1	I17	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for freezing registering of average values and blocking outputs
THD	512	1	I18	0.0...1000.0	%	0.0	R/M	-	0	Short time sliding average value of Total Harmonic Distortion in percentage
2nd harmonic	512	1	I19	0.0...1000.0	%In	0.0	R/M	-	0	Short time sliding average value of 2nd harmonic in percentage
3rd harmonic	512	1	I20	0.0...1000.0	%In	0.0	R/M	-	0	Short time sliding average value of 3rd harmonic in percentage
4th harmonic	512	1	I21	0.0...1000.0	%In	0.0	R/M	-	0	Short time sliding average value of 4th harmonic in percentage
5th harmonic	512	1	I22	0.0...1000.0	%In	0.0	R/M	-	0	Short time sliding average value of 5th harmonic in percentage
6th harmonic	512	1	I23	0.0...1000.0	%In	0.0	R/M	-	0	Short time sliding average value of 6th harmonic in percentage

	7th harmonic	512	1	I24	0.0...1000.0	%In	0.0	R/M	-	0	Short time sliding average value of 7th harmonic in percentage
	8th harmonic	512	1	I25	0.0...1000.0	%In	0.0	R/M	-	0	Short time sliding average value of 8th harmonic in percentage
	9th harmonic	512	1	I26	0.0...1000.0	%In	0.0	R/M	-	0	Short time sliding average value of 9th harmonic in percentage
	10th harmonic	512	1	I27	0.0...1000.0	%In	0.0	R/M	-	0	Short time sliding average value of 10th harmonic in percentage
	11th harmonic	512	1	I28	0.0...1000.0	%In	0.0	R/M	-	0	Short time sliding average value of 11th harmonic in percentage
	12th harmonic	512	1	I29	0.0...1000.0	%In	0.0	R/M	-	0	Short time sliding average value of 12th harmonic in percentage
	13th harmonic	512	1	I30	0.0...1000.0	%In	0.0	R/M	-	0	Short time sliding average value of 13th harmonic in percentage
Output Data											
	Out HAR_HIGH	512	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of output HAR_HIGH
	Out CUM_HIGH	512	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of output CUM_HIGH
	Out THD	512	1	O3	0... 1000.0	%	0.0	R/M	-	0	Calculated total harmonic distortion
Firmware Parameters											
	Starting date	512	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Start date of last obs. period
	Starting time	512	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Start time of last obs. period
	End date	512	1	V203	YYYY-MM-DD	-	-	R/M	R	0	End date of last obs. period
	End time	512	1	V204	hh:mm:ss.000	-	-	R/M	R	0	End time of last obs. period
	Measuring mode	512	1	V205	0..4[0 = Not in Use; 1 = L1; 2 = L2; 3 = L3; 4 = Worst phase]	-	1	R/M	R	0	Meas. mode of last obs.period
	Maximum THD	512	1	V206	0.0...1000.0	%	0.0	R/M	R	0	Max THD at last obs. period
	Max 2nd harm.	512	1	V207	0.0...1000.0	%In	0.0	R/M	R	0	Max 2nd harmonic at last obs. period
	Max 3rd harm.	512	1	V208	0.0...1000.0	%In	0.0	R/M	R	0	
	Max 4th harm.	512	1	V209	0.0...1000.0	%In	0.0	R/M	R	0	

Max 5th harm.	512	1	V210	0.0...1000.0	%In	0.0	R/M	R	0	
Max 6th harm.	512	1	V211	0.0...1000.0	%In	0.0	R/M	R	0	
Max 7th harm.	512	1	V212	0.0...1000.0	%In	0.0	R/M	R	0	
Max 8th harm.	512	1	V213	0.0...1000.0	%In	0.0	R/M	R	0	
Max 9th harm.	512	1	V214	0.0...1000.0	%In	0.0	R/M	R	0	
Max 10th harm.	512	1	V215	0.0...1000.0	%In	0.0	R/M	R	0	
Max 11th harm.	512	1	V216	0.0...1000.0	%In	0.0	R/M	R	0	
Max 12th harm.	512	1	V217	0.0...1000.0	%In	0.0	R/M	R	0	
Max 13th harm.	512	1	V218	0.0...1000.0	%In	0.0	R/M	R	0	
Selected harm.	512	1	V219	0..12[0 = THD; 1 = 2nd harmonic; 2 = 3rd harmonic; 3 = 4th harmonic; 4 = 5th harmonic; 5 = 6th harmonic; 6 = 7th harmonic; 7 = 8th harmonic; 8 = 9th harmonic; 9 = 10th harmonic; 10 = 11th harmonic; 11 = 12th harmonic; 12 = 13th harmonic]	-	2	R/M	R	0	Selected harmonic for percentage monitoring
1% value	512	1	V220	0.0...1000.0	%In	0.0	R/M	R	0	1% percentile
5% value	512	1	V221	0.0...1000.0	%In	0.0	R/M	R	0	5% percentile
50% value	512	1	V222	0.0...1000.0	%In	0.0	R/M	R	0	95% percentile
95% value	512	1	V223	0.0...1000.0	%In	0.0	R/M	R	0	50% percentile
99% value	512	1	V224	0.0...1000.0	%In	0.0	R/M	R	0	99% percentile
X% val for THD	512	1	V225	0.0...1000.0	%	0.0	R/M	R	0	Cum. prob. percentile for THD
X% val for 2nd	512	1	V226	0.0...1000.0	%In	0.0	R/M	R	0	Cum. prob. percentile for 2nd harmonic
X% val for 3rd	512	1	V227	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 4th	512	1	V228	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 5th	512	1	V229	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 6th	512	1	V230	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 7th	512	1	V231	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 8th	512	1	V232	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 9th	512	1	V233	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 10th	512	1	V234	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 11th	512	1	V235	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 12th	512	1	V236	0.0...1000.0	%In	0.0	R/M	R	0	

X% val for 13th	512	1	V237	0.0...1000.0	%In	0.0	R/M	R	0	
Starting date	512	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Start date of active obs. period
Starting time	512	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Start time of active obs. period
End date	512	1	V303	YYYY-MM-DD	-	-	R/M	R	0	End date of active obs. period
End time	512	1	V304	hh:mm:ss.000	-	-	R/M	R	0	End time of active obs. period
Measuring mode	512	1	V305	0..4[0 = Not in Use; 1 = L1; 2 = L2; 3 = L3; 4 = Worst phase]	-	1	R/M	R	0	Meas. mode of active obs.period
Maximum THD	512	1	V306	0.0...1000.0	%	0.0	R/M	R	0	Max THD at active obs. period
Max 2nd harm.	512	1	V307	0.0...1000.0	%In	0.0	R/M	R	0	Max 2nd harmonic at active obs. period
Max 3rd harm.	512	1	V308	0.0...1000.0	%In	0.0	R/M	R	0	
Max 4th harm.	512	1	V309	0.0...1000.0	%In	0.0	R/M	R	0	
Max 5th harm.	512	1	V310	0.0...1000.0	%In	0.0	R/M	R	0	
Max 6th harm.	512	1	V311	0.0...1000.0	%In	0.0	R/M	R	0	
Max 7th harm.	512	1	V312	0.0...1000.0	%In	0.0	R/M	R	0	
Max 8th harm.	512	1	V313	0.0...100.0	%In	0.0	R/M	R	0	
Max 9th harm.	512	1	V314	0.0...1000.0	%In	0.0	R/M	R	0	
Max 10th harm.	512	1	V315	0.0...1000.0	%In	0.0	R/M	R	0	
Max 11th harm.	512	1	V316	0.0...1000.0	%In	0.0	R/M	R	0	
Max 12th harm.	512	1	V317	0.0...1000.0	%In	0.0	R/M	R	0	
Max 13th harm.	512	1	V318	0.0...1000.0	%In	0.0	R/M	R	0	
Selected harm.	512	1	V319	0..12[0 = THD; 1 = 2nd harmonic; 2 = 3rd harmonic; 3 = 4th harmonic; 4 = 5th harmonic; 5 = 6th harmonic; 6 = 7th harmonic; 7 = 8th harmonic; 8 = 9th harmonic; 9 = 10th harmonic; 10 = 11th harmonic; 11 = 12th harmonic; 12 = 13th harmonic]	-	2	R/M	R	0	Selected harmonic for percentage monitoring
1% value	512	1	V320	0.0...1000.0	%In	0.0	R/M	R	0	1% percentile

5% value	512	1	V321	0.0...1000.0	%In	0.0	R/M	R	0	5% percentile
50% value	512	1	V322	0.0...1000.0	%In	0.0	R/M	R	0	95% percentile
95% value	512	1	V323	0.0...1000.0	%In	0.0	R/M	R	0	50% percentile
99% value	512	1	V324	0.0...1000.0	%In	0.0	R/M	R	0	99% percentile
X% val for THD	512	1	V325	0.0...1000.0	%	0.0	R/M	R	0	Cum. prob. percentile for THD
X% val for 2nd	512	1	V326	0.0...1000.0	%In	0.0	R/M	R	0	Cum. prob. percentile for 2nd harmonic
X% val for 3rd	512	1	V327	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 4th	512	1	V328	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 5th	512	1	V329	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 6th	512	1	V330	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 7th	512	1	V331	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 8th	512	1	V332	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 9th	512	1	V333	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 10th	512	1	V334	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 11th	512	1	V335	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 12th	512	1	V336	0.0...1000.0	%In	0.0	R/M	R	0	
X% val for 13th	512	1	V337	0.0...1000.0	%In	0.0	R/M	R	0	
Date	512	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Date for last exceeding
Time	512	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Time for exceeding
Fund. component	512	1	V403	0.0...1000.0	%In	0.0	R/M	R	0	Vsh value of 1st harmonic for last exceeding
THD	512	1	V404	0.0...1000.0	%	0.0	R/M	R	0	
2nd harmonic	512	1	V405	0.0...1000.0	%In	0.0	R/M	R	0	
3rd harmonic	512	1	V406	0.0...1000.0	%In	0.0	R/M	R	0	
4th harmonic	512	1	V407	0.0...1000.0	%In	0.0	R/M	R	0	
5th harmonic	512	1	V408	0.0...1000.0	%In	0.0	R/M	R	0	"
6th harmonic	512	1	V409	0.0...1000.0	%In	0.0	R/M	R	0	"
7th harmonic	512	1	V410	0.0...1000.0	%In	0.0	R/M	R	0	"
8th harmonic	512	1	V411	0.0...1000.0	%In	0.0	R/M	R	0	"
9th harmonic	512	1	V412	0.0...1000.0	%In	0.0	R/M	R	0	"
10th harmonic	512	1	V413	0.0...1000.0	%In	0.0	R/M	R	0	"
11th harmonic	512	1	V414	0.0...1000.0	%In	0.0	R/M	R	0	"
12th harmonic	512	1	V415	0.0...1000.0	%In	0.0	R/M	R	0	"
13th harmonic	512	1	V416	0.0...1000.0	%In	0.0	R/M	R	0	

Voltage waveform distortion measurement
/*100513 / Rev E PQVO3H */
Input Data

Measured input	513	1	I1	0..6[0 = None; 1 = L1; 2 = L2; 3 = L3; 4 = L1-L2; 5 = L2-L3; 6 = L3-L1]	-	1	R/M	-	0	Harmonic values are monitored from this voltage input
THD	513	1	I2	0.0...120.0	%	0.0	R/M	-	0	3 s average value of Total Harmonic Distortion in percentage
Fund. component	513	1	I3	0.0...120.0	%Un	0.0	R/M	-	0	3 s average value of 1st harmonic in percentage
2nd harmonic	513	1	I4	0.0...120.0	%Un	0.0	R/M	-	0	3 s average value of 2nd harmonic in percentage
3rd harmonic	513	1	I5	0.0...120.0	%Un	0.0	R/M	-	0	3 s average value of 3rd harmonic in percentage
4th harmonic	513	1	I6	0.0...120.0	%Un	0.0	R/M	-	0	3 s average value of 4th harmonic in percentage
5th harmonic	513	1	I7	0.0...120.0	%Un	0.0	R/M	-	0	3 s average value of 5th harmonic in percentage
6th harmonic	513	1	I8	0.0...120.0	%Un	0.0	R/M	-	0	3 s average value of 6th harmonic in percentage
7th harmonic	513	1	I9	0.0...120.0	%Un	0.0	R/M	-	0	3 s average value of 7th harmonic in percentage
8th harmonic	513	1	I10	0.0...120.0	%Un	0.0	R/M	-	0	3 s average value of 8th harmonic in percentage
9th harmonic	513	1	I11	0.0...120.0	%Un	0.0	R/M	-	0	3 s average value of 9th harmonic in percentage
10th harmonic	513	1	I12	0.0...120.0	%Un	0.0	R/M	-	0	3 s average value of 10th harmonic in percentage
11th harmonic	513	1	I13	0.0...120.0	%Un	0.0	R/M	-	0	3 s average value of 11th harmonic in percentage
12th harmonic	513	1	I14	0.0...120.0	%Un	0.0	R/M	-	0	3 s average value of 12th harmonic in percentage
13th harmonic	513	1	I15	0.0...120.0	%Un	0.0	R/M	-	0	3 s average value of 13th harmonic in percentage
Time to end	513	1	I16	0...10080	min	0	R/M	-	0	Time to the end of the Observation period
Input DISABLE	513	1	I17	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Signal for freezing registering of average values and blocking outputs
THD	513	1	I18	0.0...120.0	%	0.0	R/M	-	0	Short time sliding average value of Total Harmonic Distortion in percentage

	2nd harmonic	513	1	I19	0.0...120.0	%Un	0.0	R/M	-	0	Short time sliding average value of 2nd harmonic in percentage
	3rd harmonic	513	1	I20	0.0...120.0	%Un	0.0	R/M	-	0	Short time sliding average value of 3rd harmonic in percentage
	4th harmonic	513	1	I21	0.0...120.0	%Un	0.0	R/M	-	0	Short time sliding average value of 4th harmonic in percentage
	5th harmonic	513	1	I22	0.0...120.0	%Un	0.0	R/M	-	0	Short time sliding average value of 5th harmonic in percentage
	6th harmonic	513	1	I23	0.0...120.0	%Un	0.0	R/M	-	0	Short time sliding average value of 6th harmonic in percentage
	7th harmonic	513	1	I24	0.0...120.0	%Un	0.0	R/M	-	0	Short time sliding average value of 7th harmonic in percentage
	8th harmonic	513	1	I25	0.0...120.0	%Un	0.0	R/M	-	0	Short time sliding average value of 8th harmonic in percentage
	9th harmonic	513	1	I26	0.0...120.0	%Un	0.0	R/M	-	0	Short time sliding average value of 9th harmonic in percentage
	10th harmonic	513	1	I27	0.0...120.0	%Un	0.0	R/M	-	0	Short time sliding average value of 10th harmonic in percentage
	11th harmonic	513	1	I28	0.0...120.0	%Un	0.0	R/M	-	0	Short time sliding average value of 11th harmonic in percentage
	12th harmonic	513	1	I29	0.0...120.0	%Un	0.0	R/M	-	0	Short time sliding average value of 12th harmonic in percentage
	13th harmonic	513	1	I30	0.0...120.0	%Un	0.0	R/M	-	0	Short time sliding average value of 13th harmonic in percentage
Output Data											
	Out HAR_HIGH	513	1	O1	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of output HAR_HIGH
	Out CUM_HIGH	513	1	O2	0..1[0 = Not active; 1 = Active]	-	0	R/M	-	0	Status of output CUM_HIGH

	Out THD	513	1	O3	0.0...120.0	%	0.0	R/M	-	0	Calculated total harmonic distortion
Firmware Parameters											
	Starting date	513	1	V201	YYYY-MM-DD	-	-	R/M	R	0	Start date of last obs. period
	Starting time	513	1	V202	hh:mm:ss.000	-	-	R/M	R	0	Start time of last obs. period
	End date	513	1	V203	YYYY-MM-DD	-	-	R/M	R	0	End date of last obs. period
	End time	513	1	V204	hh:mm:ss.000	-	-	R/M	R	0	End time of last obs. period
	Measuring mode	513	1	V205	0..8[0 = Not in Use; 1 = L1; 2 = L2; 3 = L3; 4 = Worst phase; 5 = L1-L2; 6 = L2-L3; 7 = L3-L1; 8 = Worst main]	-	1	R/M	R	0	Measuring mode in last obs. period
	Maximum THD	513	1	V206	0.0...120.0	%	0.0	R/M	R	0	Max THD value at last obs. period
	Max 2nd harm.	513	1	V207	0.0...120.0	%Un	0.0	R/M	R	0	"
	Max 3rd harm.	513	1	V208	0.0...120.0	%Un	0.0	R/M	R	0	"
	Max 4th harm.	513	1	V209	0.0...120.0	%Un	0.0	R/M	R	0	"
	Max 5th harm.	513	1	V210	0.0...120.0	%Un	0.0	R/M	R	0	"
	Max 6th harm.	513	1	V211	0.0...120.0	%Un	0.0	R/M	R	0	"
	Max 7th harm.	513	1	V212	0.0...120.0	%Un	0.0	R/M	R	0	"
	Max 8th harm.	513	1	V213	0.0...120.0	%Un	0.0	R/M	R	0	"
	Max 9th harm.	513	1	V214	0.0...120.0	%Un	0.0	R/M	R	0	"
	Max 10th harm.	513	1	V215	0.0...120.0	%Un	0.0	R/M	R	0	"
	Max 11th harm.	513	1	V216	0.0...120.0	%Un	0.0	R/M	R	0	"
	Max 12th harm.	513	1	V217	0.0...120.0	%Un	0.0	R/M	R	0	"
	Max 13th harm.	513	1	V218	0.0...120.0	%Un	0.0	R/M	R	0	"
	Selected harm.	513	1	V219	0..12[0 = THD; 1 = 2nd harmonic; 2 = 3rd harmonic; 3 = 4th harmonic; 4 = 5th harmonic; 5 = 6th harmonic; 6 = 7th harmonic; 7 = 8th harmonic; 8 = 9th harmonic; 9 = 10th harmonic; 10 = 11th harmonic; 11 = 12th harmonic; 12 = 13th harmonic]	-	2	R/M	R	0	Selected harmonic for percentage values monitoring
	1% value	513	1	V220	0.0...120.0	%Un	0.0	R/M	R	0	1% percentile value
	5% value	513	1	V221	0.0...120.0	%Un	0.0	R/M	R	0	5% percentile value

50% value	513	1	V222	0.0...120.0	%Un	0.0	R/M	R	0	50% percentile value
95% value	513	1	V223	0.0...120.0	%Un	0.0	R/M	R	0	95% percentile value
99% value	513	1	V224	0.0...120.0	%Un	0.0	R/M	R	0	99% percentile value
X% val for THD	513	1	V225	0.0...120.0	%	0.0	R/M	R	0	Cum.prob. percentile value for THD
X% val for 2nd	513	1	V226	0.0...120.0	%Un	0.0	R/M	R	0	
X% val for 3rd	513	1	V227	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 4th	513	1	V228	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 5th	513	1	V229	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 6th	513	1	V230	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 7th	513	1	V231	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 8th	513	1	V232	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 9th	513	1	V233	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 10th	513	1	V234	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 11th	513	1	V235	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 12th	513	1	V236	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 13th	513	1	V237	0.0...120.0	%Un	0.0	R/M	R	0	"
Starting date	513	1	V301	YYYY-MM-DD	-	-	R/M	R	0	Start date of active obs. period
Starting time	513	1	V302	hh:mm:ss.000	-	-	R/M	R	0	Start time of active obs. period
End date	513	1	V303	YYYY-MM-DD	-	-	R/M	R	0	End date of active obs. period
End time	513	1	V304	hh:mm:ss.000	-	-	R/M	R	0	End time of active obs. period
Measuring mode	513	1	V305	0..8[0 = Not in Use; 1 = L1; 2 = L2; 3 = L3; 4 = Worst phase; 5 = L1-L2; 6 = L2-L3; 7 = L3-L1; 8 = Worst main]	-	1	R/M	R	0	Measuring mode in active obs. period
Maximum THD	513	1	V306	0.0...120.0	%	0.0	R/M	R	0	Max THD value at active obs. period
Max 2nd harm.	513	1	V307	0.0...120.0	%Un	0.0	R/M	R	0	"
Max 3rd harm.	513	1	V308	0.0...120.0	%Un	0.0	R/M	R	0	"
Max 4th harm.	513	1	V309	0.0...120.0	%Un	0.0	R/M	R	0	"
Max 5th harm.	513	1	V310	0.0...120.0	%Un	0.0	R/M	R	0	"
Max 6th harm.	513	1	V311	0.0...120.0	%Un	0.0	R/M	R	0	"
Max 7th harm.	513	1	V312	0.0...120.0	%Un	0.0	R/M	R	0	"
Max 8th harm.	513	1	V313	0.0...120.0	%Un	0.0	R/M	R	0	"
Max 9th harm.	513	1	V314	0.0...120.0	%Un	0.0	R/M	R	0	"
Max 10th harm.	513	1	V315	0.0...120.0	%Un	0.0	R/M	R	0	"

Max 11th harm.	513	1	V316	0.0...120.0	%Un	0.0	R/M	R	0	"
Max 12th harm.	513	1	V317	0.0...120.0	%Un	0.0	R/M	R	0	"
Max 13th harm.	513	1	V318	0.0...120.0	%Un	0.0	R/M	R	0	"
Selected harm.	513	1	V319	0..12[0 = THD; 1 = 2nd harmonic; 2 = 3rd harmonic; 3 = 4th harmonic; 4 = 5th harmonic; 5 = 6th harmonic; 6 = 7th harmonic; 7 = 8th harmonic; 8 = 9th harmonic; 9 = 10th harmonic; 10 = 11th harmonic; 11 = 12th harmonic; 12 = 13th harmonic]	-	2	R/M	R	0	Selected harmonic for percentage values monitoring
1% value	513	1	V320	0.0...120.0	%Un	0.0	R/M	R	0	1% percentile value
5% value	513	1	V321	0.0...120.0	%Un	0.0	R/M	R	0	5% percentile value
50% value	513	1	V322	0.0...120.0	%Un	0.0	R/M	R	0	50% percentile value
95% value	513	1	V323	0.0...120.0	%Un	0.0	R/M	R	0	95% percentile value
99% value	513	1	V324	0.0...120.0	%Un	0.0	R/M	R	0	99% percentile value
X% val for THD	513	1	V325	0.0...120.0	%	0.0	R/M	R	0	Cum.prob. percentile value for THDs
X% val for 2nd	513	1	V326	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 3rd	513	1	V327	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 4th	513	1	V328	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 5th	513	1	V329	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 6th	513	1	V330	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 7th	513	1	V331	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 8th	513	1	V332	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 9th	513	1	V333	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 10th	513	1	V334	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 11th	513	1	V335	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 12th	513	1	V336	0.0...120.0	%Un	0.0	R/M	R	0	"
X% val for 13th	513	1	V337	0.0...120.0	%Un	0.0	R/M	R	0	
Date	513	1	V401	YYYY-MM-DD	-	-	R/M	R	0	Date for last exceeding
Time	513	1	V402	hh:mm:ss.000	-	-	R/M	R	0	Time for exceeding
Fund. component	513	1	V403	0.0...120.0	%Un	0.0	R/M	R	0	Vsh value of 1st harmonic for last exceeding
THD	513	1	V404	0.0...120.0	%	0.0	R/M	R	0	
2nd harmonic	513	1	V405	0.0...120.0	%Un	0.0	R/M	R	0	

	3rd harmonic	513	1	V406	0.0...120.0	%Un	0.0	R/M	R	0	
	4th harmonic	513	1	V407	0.0...120.0	%Un	0.0	R/M	R	0	
	5th harmonic	513	1	V408	0.0...120.0	%Un	0.0	R/M	R	0	"
	6th harmonic	513	1	V409	0.0...120.0	%Un	0.0	R/M	R	0	"
	7th harmonic	513	1	V410	0.0...120.0	%Un	0.0	R/M	R	0	"
	8th harmonic	513	1	V411	0.0...120.0	%Un	0.0	R/M	R	0	"
	9th harmonic	513	1	V412	0.0...120.0	%Un	0.0	R/M	R	0	"
	10th harmonic	513	1	V413	0.0...120.0	%Un	0.0	R/M	R	0	"
	11th harmonic	513	1	V414	0.0...120.0	%Un	0.0	R/M	R	0	"
	12th harmonic	513	1	V415	0.0...120.0	%Un	0.0	R/M	R	0	"
	13th harmonic	513	1	V416	0.0...120.0	%Un	0.0	R/M	R	0	
Control Settings											
	Limit THD	513	1	V1	0.1...30.0	%	8.0	R/W	R	2	Limit for Total Harmonic Distortion
	Limit 2nd harm.	513	1	V2	0.1...20.0	%Un	2.0	R/W	R	2	Limit for 2nd harmonic
	Limit 3rd harm.	513	1	V3	0.1...20.0	%Un	5.0	R/W	R	2	Limit for 3rd harmonic
	Limit 4th harm.	513	1	V4	0.1...20.0	%Un	1.0	R/W	R	2	Limit for 4th harmonic
	Limit 5th harm.	513	1	V5	0.1...20.0	%Un	6.0	R/W	R	2	Limit for 5th harmonic
	Limit 6th harm.	513	1	V6	0.1...20.0	%Un	0.5	R/W	R	2	Limit for 6th harmonic
	Limit 7th harm.	513	1	V7	0.1...20.0	%Un	5.0	R/W	R	2	Limit for 7th harmonic
	Limit 8th harm.	513	1	V8	0.1...20.0	%Un	0.5	R/W	R	2	Limit for 8th harmonic
	Limit 9th harm.	513	1	V9	0.1...20.0	%Un	1.5	R/W	R	2	Limit for 9th harmonic
	Limit 10th harm.	513	1	V10	0.1...20.0	%Un	0.5	R/W	R	2	Limit for 10th harmonic
	Limit 11th harm.	513	1	V11	0.1...20.0	%Un	3.5	R/W	R	2	Limit for 11th harmonic
	Limit 12th harm.	513	1	V12	0.1...20.0	%Un	0.5	R/W	R	2	Limit for 12th harmonic
	Limit 13th harm.	513	1	V13	0.1...20.0	%Un	3.0	R/W	R	2	Limit for 13th harmonic
	Cum. probability	513	1	V14	90.0...99.5	%	95.0	R/W	R	2	Limit for cumulative probability
	Measuring mode	513	1	V15	0..8[0 = Not in use; 1 = L1; 2 = L2; 3 = L3; 4 = Worst phase; 5 = L1-L2; 6 = L2-L3; 7 = L3-L1; 8 = Worst main]	-	0	R/W	R	2	Measuring mode
	Observation time	513	1	V16	0..8[0 = 1 hour; 1 = 12 hours; 2 = 1 day; 3 = 2 days; 4 = 3 days; 5 = 4 days; 6 = 5 days; 7 = 6 days; 8 = 1 week]	-	8	R/W	R	2	Selection of Observation time
	Trigger mode	513	1	V17	0..2[0 = Single; 1 = Continuous; 2 = Periodic]	-	0	R/W	R	2	Selection of trigger mode
	Trigger year	513	1	V18	1980...2400	y	1980	R/W	R	2	Triggering year

Trigger month	513	1	V19	1...12	m	1	R/W	R	2	Triggering month
Trigger day	513	1	V20	1...31	d	1	R/W	R	2	Triggering day
Trigger hour	513	1	V21	0...23	h	1	R/W	R	2	Triggering hour
Remote trigger	513	1	V22	0..1[0 = 0; 1 = Trigger]	-	0	W	-	0	Remote or local triggering
Selected harm.	513	1	V23	0..12[0 = THD; 1 = 2nd harmonic; 2 = 3rd harmonic; 3 = 4th harmonic; 4 = 5th harmonic; 5 = 6th harmonic; 6 = 7th harmonic; 7 = 8th harmonic; 8 = 9th harmonic; 9 = 10th harmonic; 10 = 11th harmonic; 11 = 12th harmonic; 12 = 13th harmonic]	-	2	R/W	R	2	Selected harmonic for recordings
Reset registers	513	1	V24	0..1[0 = 0; 1 = Reset]	-	0	W	-	0	Resetting of registers
Act. meas.mode	513	1	V25	0..8[0 = Not in use; 1 = L1; 2 = L2; 3 = L3; 4 = Worst phase; 5 = L1-L2; 6 = L2-L3; 7 = L3-L1; 8 = Worst main]	-	0	R	R	2	Active measuring mode
Event mask 1	513	1	V101	0...31	-	31	R/W	R	2	Event mask 1 for event transmission
Event mask 2	513	1	V103	0...31	-	31	R/W	R	2	Event mask 2 for event transmission
Event mask 3	513	1	V105	0...31	-	31	R/W	R	2	Event mask 3 for event transmission
Event mask 4	513	1	V107	0...31	-	31	R/W	R	2	Event mask 3 for event transmission

Measurement types and calibration settings /*CCODED1_52x / Rev G CCODED1_52x */ Control Settings

Rated frequency	1	0	V10	10.00...60.00	Hz	50.00	W	R	0	Copy of rated frequency of the network

Ch1 meas. device	1	0	V51	0..53[0=Not in use; 1=CT 1; 2=CT 2; 3=CT 3; 4=CT 4; 5=CT 5; 6=VT 1; 7=VT 2; 8=VT 3; 9=VT 4; 10=RS 1; 11=RS 2; 12=RS 3; 13=VD 1; 14=VD 2; 15=VD 3; 16=CT 6; 17=CT 7; 18=CT 8; 19=CT 9; 20=CT 10; 21=VT 5; 22=VT 6; 23=VT 7; 24=VT 8; 25=VT 9; 26=VT 10; 27=RS 4; 28=RS 5; 29=RS 6; 30=RS 7; 31=RS 8; 32=RS 9; 33=RS 10; 34=VD 4; 35=VD 5; 36=VD 6; 37=VD 7; 38=VD 8; 39=VD 9; 40=VD 10; 41=KS 1; 42=KS 2; 43=KS 3; 44=KS 4; 45=KS 5; 46=KS 6; 47=KS 7; 48=KS 8; 49=KS 9; 50=KS 10; 51=GE 1; 52=GE 2; 53=GE 3]	-	0	R	R	0	Measuring device

Ch2 meas. device	1	0	V53	0..53[0=Not in use; 1=CT 1; 2=CT 2; 3=CT 3; 4=CT 4; 5=CT 5; 6=VT 1; 7=VT 2; 8=VT 3; 9=VT 4; 10=RS 1; 11=RS 2; 12=RS 3; 13=VD 1; 14=VD 2; 15=VD 3; 16=CT 6; 17=CT 7; 18=CT 8; 19=CT 9; 20=CT 10; 21=VT 5; 22=VT 6; 23=VT 7; 24=VT 8; 25=VT 9; 26=VT 10; 27=RS 4; 28=RS 5; 29=RS 6; 30=RS 7; 31=RS 8; 32=RS 9; 33=RS 10; 34=VD 4; 35=VD 5; 36=VD 6; 37=VD 7; 38=VD 8; 39=VD 9; 40=VD 10; 41=KS 1; 42=KS 2; 43=KS 3; 44=KS 4; 45=KS 5; 46=KS 6; 47=KS 7; 48=KS 8; 49=KS 9; 50=KS 10; 51=GE 1; 52=GE 2; 53=GE 3]	-	1	R	R	0	Measuring device

Ch3 meas. device	1	0	V55	0..53[0=Not in use; 1=CT 1; 2=CT 2; 3=CT 3; 4=CT 4; 5=CT 5; 6=VT 1; 7=VT 2; 8=VT 3; 9=VT 4; 10=RS 1; 11=RS 2; 12=RS 3; 13=VD 1; 14=VD 2; 15=VD 3; 16=CT 6; 17=CT 7; 18=CT 8; 19=CT 9; 20=CT 10; 21=VT 5; 22=VT 6; 23=VT 7; 24=VT 8; 25=VT 9; 26=VT 10; 27=RS 4; 28=RS 5; 29=RS 6; 30=RS 7; 31=RS 8; 32=RS 9; 33=RS 10; 34=VD 4; 35=VD 5; 36=VD 6; 37=VD 7; 38=VD 8; 39=VD 9; 40=VD 10; 41=KS 1; 42=KS 2; 43=KS 3; 44=KS 4; 45=KS 5; 46=KS 6; 47=KS 7; 48=KS 8; 49=KS 9; 50=KS 10; 51=GE 1; 52=GE 2; 53=GE 3]	-	2	R	R	0	Measuring device

Ch4 meas. device	1	0	V57	0..53[0=Not in use; 1=CT 1; 2=CT 2; 3=CT 3; 4=CT 4; 5=CT 5; 6=VT 1; 7=VT 2; 8=VT 3; 9=VT 4; 10=RS 1; 11=RS 2; 12=RS 3; 13=VD 1; 14=VD 2; 15=VD 3; 16=CT 6; 17=CT 7; 18=CT 8; 19=CT 9; 20=CT 10; 21=VT 5; 22=VT 6; 23=VT 7; 24=VT 8; 25=VT 9; 26=VT 10; 27=RS 4; 28=RS 5; 29=RS 6; 30=RS 7; 31=RS 8; 32=RS 9; 33=RS 10; 34=VD 4; 35=VD 5; 36=VD 6; 37=VD 7; 38=VD 8; 39=VD 9; 40=VD 10; 41=KS 1; 42=KS 2; 43=KS 3; 44=KS 4; 45=KS 5; 46=KS 6; 47=KS 7; 48=KS 8; 49=KS 9; 50=KS 10; 51=GE 1; 52=GE 2; 53=GE 3]	-	3	R	R	0	Measuring device

Ch5 meas. device	1	0	V59	0..53[0=Not in use; 1=CT 1; 2=CT 2; 3=CT 3; 4=CT 4; 5=CT 5; 6=VT 1; 7=VT 2; 8=VT 3; 9=VT 4; 10=RS 1; 11=RS 2; 12=RS 3; 13=VD 1; 14=VD 2; 15=VD 3; 16=CT 6; 17=CT 7; 18=CT 8; 19=CT 9; 20=CT 10; 21=VT 5; 22=VT 6; 23=VT 7; 24=VT 8; 25=VT 9; 26=VT 10; 27=RS 4; 28=RS 5; 29=RS 6; 30=RS 7; 31=RS 8; 32=RS 9; 33=RS 10; 34=VD 4; 35=VD 5; 36=VD 6; 37=VD 7; 38=VD 8; 39=VD 9; 40=VD 10; 41=KS 1; 42=KS 2; 43=KS 3; 44=KS 4; 45=KS 5; 46=KS 6; 47=KS 7; 48=KS 8; 49=KS 9; 50=KS 10; 51=GE 1; 52=GE 2; 53=GE 3]	-	4	R	R	0	Measuring device

Ch6 meas. device	1	0	V61	0..53[0=Not in use; 1=CT 1; 2=CT 2; 3=CT 3; 4=CT 4; 5=CT 5; 6=VT 1; 7=VT 2; 8=VT 3; 9=VT 4; 10=RS 1; 11=RS 2; 12=RS 3; 13=VD 1; 14=VD 2; 15=VD 3; 16=CT 6; 17=CT 7; 18=CT 8; 19=CT 9; 20=CT 10; 21=VT 5; 22=VT 6; 23=VT 7; 24=VT 8; 25=VT 9; 26=VT 10; 27=RS 4; 28=RS 5; 29=RS 6; 30=RS 7; 31=RS 8; 32=RS 9; 33=RS 10; 34=VD 4; 35=VD 5; 36=VD 6; 37=VD 7; 38=VD 8; 39=VD 9; 40=VD 10; 41=KS 1; 42=KS 2; 43=KS 3; 44=KS 4; 45=KS 5; 46=KS 6; 47=KS 7; 48=KS 8; 49=KS 9; 50=KS 10; 51=GE 1; 52=GE 2; 53=GE 3]	-	0	R	R	0	Measuring device

Ch7 meas. device	1	0	V63	0..53[0=Not in use; 1=CT 1; 2=CT 2; 3=CT 3; 4=CT 4; 5=CT 5; 6=VT 1; 7=VT 2; 8=VT 3; 9=VT 4; 10=RS 1; 11=RS 2; 12=RS 3; 13=VD 1; 14=VD 2; 15=VD 3; 16=CT 6; 17=CT 7; 18=CT 8; 19=CT 9; 20=CT 10; 21=VT 5; 22=VT 6; 23=VT 7; 24=VT 8; 25=VT 9; 26=VT 10; 27=RS 4; 28=RS 5; 29=RS 6; 30=RS 7; 31=RS 8; 32=RS 9; 33=RS 10; 34=VD 4; 35=VD 5; 36=VD 6; 37=VD 7; 38=VD 8; 39=VD 9; 40=VD 10; 41=KS 1; 42=KS 2; 43=KS 3; 44=KS 4; 45=KS 5; 46=KS 6; 47=KS 7; 48=KS 8; 49=KS 9; 50=KS 10; 51=GE 1; 52=GE 2; 53=GE 3]	-	0	R	R	0	Measuring device

Ch8 meas. device	1	0	V65	0..53[0=Not in use; 1=CT 1; 2=CT 2; 3=CT 3; 4=CT 4; 5=CT 5; 6=VT 1; 7=VT 2; 8=VT 3; 9=VT 4; 10=RS 1; 11=RS 2; 12=RS 3; 13=VD 1; 14=VD 2; 15=VD 3; 16=CT 6; 17=CT 7; 18=CT 8; 19=CT 9; 20=CT 10; 21=VT 5; 22=VT 6; 23=VT 7; 24=VT 8; 25=VT 9; 26=VT 10; 27=RS 4; 28=RS 5; 29=RS 6; 30=RS 7; 31=RS 8; 32=RS 9; 33=RS 10; 34=VD 4; 35=VD 5; 36=VD 6; 37=VD 7; 38=VD 8; 39=VD 9; 40=VD 10; 41=KS 1; 42=KS 2; 43=KS 3; 44=KS 4; 45=KS 5; 46=KS 6; 47=KS 7; 48=KS 8; 49=KS 9; 50=KS 10; 51=GE 1; 52=GE 2; 53=GE 3]	-	0	R	R	0	Measuring device

Ch9 meas. device	1	0	V67	0..53[0=Not in use; 1=CT 1; 2=CT 2; 3=CT 3; 4=CT 4; 5=CT 5; 6=VT 1; 7=VT 2; 8=VT 3; 9=VT 4; 10=RS 1; 11=RS 2; 12=RS 3; 13=VD 1; 14=VD 2; 15=VD 3; 16=CT 6; 17=CT 7; 18=CT 8; 19=CT 9; 20=CT 10; 21=VT 5; 22=VT 6; 23=VT 7; 24=VT 8; 25=VT 9; 26=VT 10; 27=RS 4; 28=RS 5; 29=RS 6; 30=RS 7; 31=RS 8; 32=RS 9; 33=RS 10; 34=VD 4; 35=VD 5; 36=VD 6; 37=VD 7; 38=VD 8; 39=VD 9; 40=VD 10; 41=KS 1; 42=KS 2; 43=KS 3; 44=KS 4; 45=KS 5; 46=KS 6; 47=KS 7; 48=KS 8; 49=KS 9; 50=KS 10; 51=GE 1; 52=GE 2; 53=GE 3]	-	0	R	R	0	Measuring device

Ch10 meas.device	1	0	V69	0..53[0=Not in use; 1=CT 1; 2=CT 2; 3=CT 3; 4=CT 4; 5=CT 5; 6=VT 1; 7=VT 2; 8=VT 3; 9=VT 4; 10=RS 1; 11=RS 2; 12=RS 3; 13=VD 1; 14=VD 2; 15=VD 3; 16=CT 6; 17=CT 7; 18=CT 8; 19=CT 9; 20=CT 10; 21=VT 5; 22=VT 6; 23=VT 7; 24=VT 8; 25=VT 9; 26=VT 10; 27=RS 4; 28=RS 5; 29=RS 6; 30=RS 7; 31=RS 8; 32=RS 9; 33=RS 10; 34=VD 4; 35=VD 5; 36=VD 6; 37=VD 7; 38=VD 8; 39=VD 9; 40=VD 10; 41=KS 1; 42=KS 2; 43=KS 3; 44=KS 4; 45=KS 5; 46=KS 6; 47=KS 7; 48=KS 8; 49=KS 9; 50=KS 10; 51=GE 1; 52=GE 2; 53=GE 3]	-	0	R	R	0	Measuring device

Ch1 signal type	1	0	V52	0..42[0=Not in use; 1=IL1; 2=IL2; 3=IL3; 4=I0; 5=I0b; 6=U0; 7=U12; 8= U23; 9=U31; 10=U12b; 11=U12c; 12=U1; 13=U2 ; 14=U3; 15=U1b; 16=U1c; 17=IL1b; 18=IL2b; 19=IL3b; 20=GE1; 21=GE2; 22=GE3; 23=I0s; 24=U0s; 25=U23b; 26=U31b; 27=U2b; 28=U3b; 29=U0b; 30=I0bs; 31=I0cs; 32=U0bs; 33=U0cs; 34=U12s; 35=U23s; 36=U31s; 37=U12bs; 38=U23bs; 39=U31bs; 40=U12cs; 41=U23cs; 42=U31cs]	-	0	R	R	0	Signal type
Ch2 signal type	1	0	V54	0..42[0=Not in use; 1=IL1; 2=IL2; 3=IL3; 4=I0; 5=I0b; 6=U0; 7=U12; 8= U23; 9=U31; 10=U12b; 11=U12c; 12=U1; 13=U2 ; 14=U3; 15=U1b; 16=U1c; 17=IL1b; 18=IL2b; 19=IL3b; 20=GE1; 21=GE2; 22=GE3; 23=I0s; 24=U0s; 25=U23b; 26=U31b; 27=U2b; 28=U3b; 29=U0b; 30=I0bs; 31=I0cs; 32=U0bs; 33=U0cs; 34=U12s; 35=U23s; 36=U31s; 37=U12bs; 38=U23bs; 39=U31bs; 40=U12cs; 41=U23cs; 42=U31cs]	-	1	R	R	0	Signal type

Ch3 signal type	1	0	V56	0..42[0=Not in use; 1=IL1; 2=IL2; 3=IL3; 4=I0; 5=I0b; 6=U0; 7=U12; 8= U23; 9=U31; 10=U12b; 11=U12c; 12=U1; 13=U2 ; 14=U3; 15=U1b; 16=U1c; 17=IL1b; 18=IL2b; 19=IL3b; 20=GE1; 21=GE2; 22=GE3; 23=I0s; 24=U0s; 25=U23b; 26=U31b; 27=U2b; 28=U3b; 29=U0b; 30=I0bs; 31=I0cs; 32=U0bs; 33=U0cs; 34=U12s; 35=U23s; 36=U31s; 37=U12bs; 38=U23bs; 39=U31bs; 40=U12cs; 41=U23cs; 42=U31cs]	-	2	R	R	0	Signal type
Ch4 signal type	1	0	V58	0..42[0=Not in use; 1=IL1; 2=IL2; 3=IL3; 4=I0; 5=I0b; 6=U0; 7=U12; 8= U23; 9=U31; 10=U12b; 11=U12c; 12=U1; 13=U2 ; 14=U3; 15=U1b; 16=U1c; 17=IL1b; 18=IL2b; 19=IL3b; 20=GE1; 21=GE2; 22=GE3; 23=I0s; 24=U0s; 25=U23b; 26=U31b; 27=U2b; 28=U3b; 29=U0b; 30=I0bs; 31=I0cs; 32=U0bs; 33=U0cs; 34=U12s; 35=U23s; 36=U31s; 37=U12bs; 38=U23bs; 39=U31bs; 40=U12cs; 41=U23cs; 42=U31cs]	-	3	R	R	0	Signal type

Ch5 signal type	1	0	V60	0..42[0=Not in use; 1=IL1; 2=IL2; 3=IL3; 4=I0; 5=I0b; 6=U0; 7=U12; 8= U23; 9=U31; 10=U12b; 11=U12c; 12=U1; 13=U2 ; 14=U3; 15=U1b; 16=U1c; 17=IL1b; 18=IL2b; 19=IL3b; 20=GE1; 21=GE2; 22=GE3; 23=I0s; 24=U0s; 25=U23b; 26=U31b; 27=U2b; 28=U3b; 29=U0b; 30=I0bs; 31=I0cs; 32=U0bs; 33=U0cs; 34=U12s; 35=U23s; 36=U31s; 37=U12bs; 38=U23bs; 39=U31bs; 40=U12cs; 41=U23cs; 42=U31cs]	-	4	R	R	0	Signal type
Ch6 signal type	1	0	V62	0..42[0=Not in use; 1=IL1; 2=IL2; 3=IL3; 4=I0; 5=I0b; 6=U0; 7=U12; 8= U23; 9=U31; 10=U12b; 11=U12c; 12=U1; 13=U2 ; 14=U3; 15=U1b; 16=U1c; 17=IL1b; 18=IL2b; 19=IL3b; 20=GE1; 21=GE2; 22=GE3; 23=I0s; 24=U0s; 25=U23b; 26=U31b; 27=U2b; 28=U3b; 29=U0b; 30=I0bs; 31=I0cs; 32=U0bs; 33=U0cs; 34=U12s; 35=U23s; 36=U31s; 37=U12bs; 38=U23bs; 39=U31bs; 40=U12cs; 41=U23cs; 42=U31cs]	-	0	R	R	0	Signal type

Ch7 signal type	1	0	V64	0..42[0=Not in use; 1=IL1; 2=IL2; 3=IL3; 4=I0; 5=I0b; 6=U0; 7=U12; 8= U23; 9=U31; 10=U12b; 11=U12c; 12=U1; 13=U2 ; 14=U3; 15=U1b; 16=U1c; 17=IL1b; 18=IL2b; 19=IL3b; 20=GE1; 21=GE2; 22=GE3; 23=I0s; 24=U0s; 25=U23b; 26=U31b; 27=U2b; 28=U3b; 29=U0b; 30=I0bs; 31=I0cs; 32=U0bs; 33=U0cs; 34=U12s; 35=U23s; 36=U31s; 37=U12bs; 38=U23bs; 39=U31bs; 40=U12cs; 41=U23cs; 42=U31cs]	-	0	R	R	0	Signal type
Ch8 signal type	1	0	V66	0..42[0=Not in use; 1=IL1; 2=IL2; 3=IL3; 4=I0; 5=I0b; 6=U0; 7=U12; 8= U23; 9=U31; 10=U12b; 11=U12c; 12=U1; 13=U2 ; 14=U3; 15=U1b; 16=U1c; 17=IL1b; 18=IL2b; 19=IL3b; 20=GE1; 21=GE2; 22=GE3; 23=I0s; 24=U0s; 25=U23b; 26=U31b; 27=U2b; 28=U3b; 29=U0b; 30=I0bs; 31=I0cs; 32=U0bs; 33=U0cs; 34=U12s; 35=U23s; 36=U31s; 37=U12bs; 38=U23bs; 39=U31bs; 40=U12cs; 41=U23cs; 42=U31cs]	-	0	R	R	0	Signal type

Ch9 signal type	1	0	V68	0..42[0=Not in use; 1=IL1; 2=IL2; 3=IL3; 4=I0; 5=I0b; 6=U0; 7=U12; 8= U23; 9=U31; 10=U12b; 11=U12c; 12=U1; 13=U2 ; 14=U3; 15=U1b; 16=U1c; 17=IL1b; 18=IL2b; 19=IL3b; 20=GE1; 21=GE2; 22=GE3; 23=I0s; 24=U0s; 25=U23b; 26=U31b; 27=U2b; 28=U3b; 29=U0b; 30=I0bs; 31=I0cs; 32=U0bs; 33=U0cs; 34=U12s; 35=U23s; 36=U31s; 37=U12bs; 38=U23bs; 39=U31bs; 40=U12cs; 41=U23cs; 42=U31cs]	-	0	R	R	0	Signal type
Ch10 signal type	1	0	V70	0..42[0=Not in use; 1=IL1; 2=IL2; 3=IL3; 4=I0; 5=I0b; 6=U0; 7=U12; 8= U23; 9=U31; 10=U12b; 11=U12c; 12=U1; 13=U2 ; 14=U3; 15=U1b; 16=U1c; 17=IL1b; 18=IL2b; 19=IL3b; 20=GE1; 21=GE2; 22=GE3; 23=I0s; 24=U0s; 25=U23b; 26=U31b; 27=U2b; 28=U3b; 29=U0b; 30=I0bs; 31=I0cs; 32=U0bs; 33=U0cs; 34=U12s; 35=U23s; 36=U31s; 37=U12bs; 38=U23bs; 39=U31bs; 40=U12cs; 41=U23cs; 42=U31cs]	-	0	R	R	0	Signal type

Virtual Ios chn	1	0	V300	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual Ios channel
Virtual IoBs chn	1	0	V301	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual IoBs channel
Virtual IoCs chn	1	0	V302	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual IoCs channel
Virtual Uos chn	1	0	V310	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual Uos channel
Virtual UoBs chn	1	0	V311	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual UoBs channel

Virtual UoCs chn	1	0	V312	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual UoCs channel
Virtual U12s chn	1	0	V320	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual U12s channel
Virtual U23s chn	1	0	V321	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual U23s channel
Virtual U31s chn	1	0	V322	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual U31s channel
Virtual U12Bs ch	1	0	V323	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual U12Bs channel

Virtual U23Bs ch	1	0	V324	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual U23Bs channel
Virtual U31Bs ch	1	0	V325	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual U31Bs channel
Virtual U12Cs ch	1	0	V326	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual U12Cs channel
Virtual U23Cs ch	1	0	V327	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual U23Cs channel
Virtual U31Cs ch	1	0	V328	-1..9[-1 = Not selected; 0 = Channel 1; 1 = Channel 2; 2 = Channel 3; 3 = Channel 4; 4 = Channel 5; 5 = Channel 6; 6 = Channel 7; 7 = Channel 8; 8 = Channel 9; 9 = Channel 10]	-	-1	R	R	0	Virtual U31Cs channel
IL1 pu-scale	1	1	V81	0...6000	A	0	R	-	0	pu-scale of IL1

IL2 pu-scale	1	1	V82	0...6000	A	0	R	-	0	pu-scale of IL2
IL3 pu-scale	1	1	V83	0...6000	A	0	R	-	0	pu-scale of IL3
Io pu-scale	1	1	V84	0...6000	A	0	R	-	0	pu-scale of Io
Iob pu-scale	1	0	V85	0...6000	A	0	R	-	0	pu-scale of Iob
Uo pu-scale	1	0	V86	0...440.000	kV	0.000	R	-	0	pu-scale of Uo
U12 pu-scale	1	0	V87	0...440.000	kV	0.000	R	-	0	pu-scale of U12
U23 pu-scale	1	0	V88	0...440.000	kV	0.000	R	-	0	pu-scale of U23
U31 pu-scale	1	0	V89	0...440.000	kV	0.000	R	-	0	pu-scale of U31
U12b pu-scale	1	0	V90	0...440.000	kV	0.000	R	-	0	pu-scale of U12b
U12c pu-scale	1	0	V91	0...440.000	kV	0.000	R	-	0	pu-scale of U12c
U1 pu-scale	1	0	V92	0...440.000	kV	0.000	R	-	0	pu-scale of U1
U2 pu-scale	1	0	V93	0...440.000	kV	0.000	R	-	0	pu-scale of U2
U3 pu-scale	1	0	V94	0...440.000	kV	0.000	R	-	0	pu-scale of U3
U1b pu-scale	1	0	V95	0...440.000	kV	0.000	R	-	0	pu-scale of U1b
U1c pu-scale	1	0	V96	0...440.000	kV	0.000	R	-	0	pu-scale of U1c
IL1b pu-scale	1	0	V97	0...6000	A	0	R	-	0	pu-scale of IL1b
IL2b pu-scale	1	0	V98	0...6000	A	0	R	-	0	pu-scale of IL2b
IL3b pu-scale	1	0	V99	0...6000	A	0	R	-	0	pu-scale of IL3b
Ios pu-scale	1	0	V100	0...6000	A	0	R	-	0	pu-scale of virtual Io channel
Uos pu-scale	1	0	V111	0...440.000	kV	0.000	R	-	0	pu-scale of virtual Uo channel
U23b pu-scale	1	0	V112	0...440.000	kV	0.000	R	-	0	pu-scale of U23b
U31b pu-scale	1	0	V113	0...440.000	kV	0.000	R	-	0	pu-scale of U31b
U2b pu-scale	1	0	V114	0...440.000	kV	0.000	R	-	0	pu-scale of U2b
U3b pu-scale	1	0	V115	0...440.000	kV	0.000	R	-	0	pu-scale of U3b
Uob pu-scale	1	0	V116	0...440.000	kV	0.000	R	-	0	pu-scale of Uob
IoBs pu-scale	1	0	V117	0...6000	A	0	R	-	0	pu-scale of IoBs
IoCs pu-scale	1	0	V118	0...6000	A	0	R	-	0	pu-scale of IoCs
UoBs pu-scale	1	0	V119	0...440.000	kV	0.000	R	-	0	pu-scale of UoBs
UoCs pu-scale	1	0	V120	0...440.000	kV	0.000	R	-	0	pu-scale of UoCs
U12s pu-scale	1	0	V121	0...440.000	kV	0.000	R	-	0	pu-scale of U12s
U23s pu-scale	1	0	V122	0...440.000	kV	0.000	R	-	0	pu-scale of U23s
U31s pu-scale	1	0	V123	0...440.000	kV	0.000	R	-	0	pu-scale of U31s
U12Bs pu-scale	1	0	V124	0...440.000	kV	0.000	R	-	0	pu-scale of U12Bs
U23Bs pu-scale	1	0	V125	0...440.000	kV	0.000	R	-	0	pu-scale of U23Bs
U31Bs pu-scale	1	0	V126	0...440.000	kV	0.000	R	-	0	pu-scale of U31Bs
U12Cs pu-scale	1	0	V127	0...440.000	kV	0.000	R	-	0	pu-scale of U12Cs
U23Cs pu-scale	1	0	V128	0...440.000	kV	0.000	R	-	0	pu-scale of U23Cs
U31Cs pu-scale	1	0	V129	0...440.000	kV	0.000	R	-	0	pu-scale of U31Cs

Freq. Protection	1	0	V200	0...4294967295[B0=Channel 1; B1=Channel 2; B2=Channel 3; B3=Channel 4; B4=Channel 5; B5=Channel 6; B6=Channel 7; B7=Channel 8; B8=Channel 9; B9=Channel 10; B10=Channel11; B11=Channel 12; B12=Channel 13; B13=Channel 14; B14=Channel 15; B15=Channel 16; B16=Channel 17; B17=Channel 18; B19=Channel 20]	-	0	R	R	0	Reserved for REF config tool
Freq. Measurem.	1	0	V201	0...4294967295[B0=Channel 1; B1=Channel 2; B2=Channel 3; B3=Channel 4; B4=Channel 5; B5=Channel 6; B6=Channel 7; B7=Channel 8; B8=Channel 9; B9=Channel 10; B10=Channel11; B11=Channel 12; B12=Channel 13; B13=Channel 14; B14=Channel 15; B15=Channel 16; B16=Channel 17; B17=Channel 18; B19=Channel 20]	-	0	R	R	0	Reserved for REF config tool

Thermal overload	1	0	V202	0...4294967295[B0=Channel 1; B1=Channel 2; B2=Channel 3; B3=Channel 4; B4=Channel 5; B5=Channel 6; B6=Channel 7; B7=Channel 8; B8=Channel 9; B9=Channel 10; B10=Channel11; B11=Channel 12; B12=Channel 13; B13=Channel 14; B14=Channel 15; B15=Channel 16; B16=Channel 17; B17=Channel 18; B19=Channel 20]	-	14	R	R	0	Reserved for REF config tool
2nd harmonic	1	0	V203	0...4294967295[B0=Channel 1; B1=Channel 2; B2=Channel 3; B3=Channel 4; B4=Channel 5; B5=Channel 6; B6=Channel 7; B7=Channel 8; B8=Channel 9; B9=Channel 10; B10=Channel11; B11=Channel 12; B12=Channel 13; B13=Channel 14; B14=Channel 15; B15=Channel 16; B16=Channel 17; B17=Channel 18; B19=Channel 20]	-	14	R	R	0	Reserved for REF config tool

TRMS current	1	0	V204	0...4294967295[B0=Channel 1; B1=Channel 2; B2=Channel 3; B3=Channel 4; B4=Channel 5; B5=Channel 6; B6=Channel 7; B7=Channel 8; B8=Channel 9; B9=Channel 10; B10=Channel11; B11=Channel 12; B12=Channel 13; B13=Channel 14; B14=Channel 15; B15=Channel 16; B16=Channel 17; B17=Channel 18; B19=Channel 20]	-	30	R	R	0	Reserved for REF config tool
TRMS voltage	1	0	V205	0...4294967295[B0=Channel 1; B1=Channel 2; B2=Channel 3; B3=Channel 4; B4=Channel 5; B5=Channel 6; B6=Channel 7; B7=Channel 8; B8=Channel 9; B9=Channel 10; B10=Channel11; B11=Channel 12; B12=Channel 13; B13=Channel 14; B14=Channel 15; B15=Channel 16; B16=Channel 17; B17=Channel 18; B19=Channel 20]	-	0	R	R	0	Reserved for REF config tool

Intermittent E/F	1	0	V206	0...4294967295(Bits 0...3 = Channel u0; Bits 4..7 = Channel i01; Bits 8..11 = Channel i02; Bits 12..15 = Channel i03; Bits 16..19 = Channel i04; etc...)	-	0	R	R	0	Reserved for REF config tool
DFT	1	0	V207	0...4294967295[B0=Channel 1; B1=Channel 2; B2=Channel 3; B3=Channel 4; B4=Channel 5; B5=Channel 6; B6=Channel 7; B7=Channel 8; B8=Channel 9; B9=Channel 10; B10=Channel11; B11=Channel 12; B12=Channel 13; B13=Channel 14; B14=Channel 15; B15=Channel 16; B16=Channel 17; B17=Channel 18; B19=Channel 20]	-	30	R	R	0	Reserved for REF config tool

PTOP	1	0	V208	0...4294967295[B0=Channel 1; B1=Channel 2; B2=Channel 3; B3=Channel 4; B4=Channel 5; B5=Channel 6; B6=Channel 7; B7=Channel 8; B8=Channel 9; B9=Channel 10; B10=Channel11; B11=Channel 12; B12=Channel 13; B13=Channel 14; B14=Channel 15; B15=Channel 16; B16=Channel 17; B17=Channel 18; B19=Channel 20]	-	30	R	R	0	Reserved for REF config tool
PEAK	1	0	V209	0...4294967295[B0=Channel 1; B1=Channel 2; B2=Channel 3; B3=Channel 4; B4=Channel 5; B5=Channel 6; B6=Channel 7; B7=Channel 8; B8=Channel 9; B9=Channel 10; B10=Channel11; B11=Channel 12; B12=Channel 13; B13=Channel 14; B14=Channel 15; B15=Channel 16; B16=Channel 17; B17=Channel 18; B19=Channel 20]	-	30	R	R	0	Reserved for REF config tool

RS integr	1	0	V210	0...4294967295[B0=Channel 1; B1=Channel 2; B2=Channel 3; B3=Channel 4; B4=Channel 5; B5=Channel 6; B6=Channel 7; B7=Channel 8; B8=Channel 9; B9=Channel 10; B10=Channel11; B11=Channel 12; B12=Channel 13; B13=Channel 14; B14=Channel 15; B15=Channel 16; B16=Channel 17; B17=Channel 18; B19=Channel 20]	-	0	R	R	0	Reserved for REF config tool
Freq. track	1	0	V211	0..1[0 = Disabled; 1 = Enabled]	-	0	R	R	0	Frequency tracking enabled/disabled
Ref. voltage	1	0	V212	0..10[0 = No voltage; 1 = U12; 2 = U23; 3 = U31; 4 = U12b; 5 = U12c; 6 = U1; 7 = U2 ; 8 = U3; 9 = U1b; 10 = U1c]	-	0	R	R	0	Selection of reference voltage signal type
MEPEmode	1	0	V213	0..13[0 = Not in use; 1 = U1,U2,U3 & I1,I2,I3; 2 = U12,U23,U0 & I1,I2,I3; 3 = U23,U31,U0 & I1,I2,I3; 4 = U12,U31,U0 & I1,I2,I3; 5 = U12,U23 & I1,I2,I3; 6 = U23,U31 & I1,I2,I3; 7 = U12,U31 & I1,I2,I3; 8 = U1 & I1; 9 = U2 & I2; 10 = U3 & I3; 11 = U12 & I3; 12 = U23 & I1; 13 = U31 & I2]	-	0	R	R	0	Power measurement mode
CPU1 C1 gain	4	0	V1	0.949999 .. 9.949999	-	1	R/W	R	4	Scal. for raw data (to nominal)
CPU1 C2 gain	4	0	V2	0.949999 .. 9.949999	-	1	R/W	R	4	Scal. for raw data (to nominal)

CPU1 C3 gain	4	0	V3	0.949999 .. 9.949999	-	1	R/W	R	4	Scal. for raw data (to nominal)
CPU1 C4 gain	4	0	V4	0.949999 .. 9.949999	-	1	R/W	R	4	Scal. for raw data (to nominal)
CPU1 C5 gain	4	0	V5	0.949999 .. 9.949999	-	1	R/W	R	4	Scal. for raw data (to nominal)
CPU1 C6 gain	4	0	V6	0.949999 .. 9.949999	-	1	R/W	R	4	Scal. for raw data (to nominal)
CPU1 C7 gain	4	0	V7	0.949999 .. 9.949999	-	1	R/W	R	4	Scal. for raw data (to nominal)
CPU1 C8 gain	4	0	V8	0.949999 .. 9.949999	-	1	R/W	R	4	Scal. for raw data (to nominal)
CPU1 C9 gain	4	0	V9	0.949999 .. 9.949999	-	1	R/W	R	4	Scal. for raw data (to nominal)
CPU1 C10 gain	4	0	V10	0.949999 .. 9.949999	-	1	R/W	R	4	Scal. for raw data (to nominal)
PGA 1 gain 1	4	0	V21	6.4513264e-3 ▒ 5%	-	6.3578288e-3	R/W	R	4	Scal. of ADC1 gain
PGA 1 gain 2	4	0	V22	1.3226424e-3 ▒ 5%	-	1.3034737e-3	R/W	R	4	Scal. of ADC1 gain
PGA 1 gain 3	4	0	V23	2.8055598e-4 ▒ 5%	-	2.7648995e-4	R/W	R	4	Scal. of ADC1 gain
PGA 1 gain 4	4	0	V24	6.6650777e-5 ▒ 5%	-	6.5684820e-5	R/W	R	4	Scal. of ADC1 gain
PGA 1 gain 5	4	0	V25	1.1750074e-5 ▒ 5%	-	1.1579783e-5	R/W	R	4	Scal. of ADC1 gain
PGA 2 gain 1	4	0	V31	6.4513264e-3 ▒ 5%	-	6.3578288e-3	R/W	R	4	Scal. of ADC2 gain
PGA 2 gain 2	4	0	V32	1.3226424e-3 ▒ 5%	-	1.3034737e-3	R/W	R	4	Scal. of ADC2 gain
PGA 2 gain 3	4	0	V33	2.8055598e-4 ▒ 5%	-	2.7648995e-4	R/W	R	4	Scal. of ADC2 gain
PGA 2 gain 4	4	0	V34	6.6650777e-5 ▒ 5%	-	6.5684820e-5	R/W	R	4	Scal. of ADC2 gain
PGA 2 gain 5	4	0	V35	1.1750074e-5 ▒ 5%	-	1.1579783e-5	R/W	R	4	Scal. of ADC2 gain
PGA 1 offset 1	4	0	V41	0.00 ▒140	-	0	R/W	R	4	Offs. of ADC1
PGA 1 offset 2	4	0	V42	0.00 ▒140	-	0	R/W	R	4	Offs. of ADC1
PGA 1 offset 3	4	0	V43	0.00 ▒140	-	0	R/W	R	4	Offs. of ADC1
PGA 1 offset 4	4	0	V44	0.00 ▒140	-	0	R/W	R	4	Offs. of ADC1
PGA 1 offset 5	4	0	V45	0.00 ▒140	-	0	R/W	R	4	Offs. of ADC1
PGA 2 offset 1	4	0	V51	0.00 ▒140	-	0	R/W	R	4	Offs. of ADC2
PGA 2 offset 2	4	0	V52	0.00 ▒140	-	0	R/W	R	4	Offs. of ADC2
PGA 2 offset 3	4	0	V53	0.00 ▒140	-	0	R/W	R	4	Offs. of ADC2
PGA 2 offset 4	4	0	V54	0.00 ▒140	-	0	R/W	R	4	Offs. of ADC2
PGA 2 offset 5	4	0	V55	0.00 ▒140	-	0	R/W	R	4	Offs. of ADC2
C1 sg1 (RS,VD,KS)	4	0	V61	0.0...1.1000	-	1	R/W	R	4	RS, VD, KS, GE gain
C2 sg1 (RS,VD,KS)	4	0	V62	0.0...1.1000	-	1	R/W	R	4	RS, VD, KS, GE gain

C3 sg1 (RS,VD,KS)	4	0	V63	0.0...1.1000	-	1	R/W	R	4	RS, VD, KS, GE gain
C4 sg1 (RS,VD,KS)	4	0	V64	0.0...1.1000	-	1	R/W	R	4	RS, VD, KS, GE gain
C5 sg1 (RS,VD,KS)	4	0	V65	0.0...1.1000	-	1	R/W	R	4	RS, VD, KS, GE gain
C6 sg1 (RS,VD,KS)	4	0	V66	0.0...1.1000	-	1	R/W	R	4	RS, VD, KS, GE gain
C7 sg1 (RS,VD,KS)	4	0	V67	0.0...1.1000	-	1	R/W	R	4	RS, VD, KS, GE gain
C8 sg1 (RS,VD,KS)	4	0	V68	0.0...1.1000	-	1	R/W	R	4	RS, VD, KS, GE gain
C9 sg1 (RS,VD,KS)	4	0	V69	0.0...1.1000	-	1	R/W	R	4	RS, VD, KS, GE gain
C10 sg1(RS,VD,KS)	4	0	V70	0.0...1.1000	-	1	R/W	R	4	RS, VD, KS, GE gain
C1 o1 (All devices)	4	0	V71	▒0.04	-	0	R/W	R	4	Offset, all devices
C2 o1 (All devices)	4	0	V72	▒0.04	-	0	R/W	R	4	Offset, all devices
C3 o1 (All devices)	4	0	V73	▒0.04	-	0	R/W	R	4	Offset, all devices
C4 o1 (All devices)	4	0	V74	▒0.04	-	0	R/W	R	4	Offset, all devices
C5 o1 (All devices)	4	0	V75	▒0.04	-	0	R/W	R	4	Offset, all devices
C6 o1 (All devices)	4	0	V76	▒0.04	-	0	R/W	R	4	Offset, all devices
C7 o1 (All devices)	4	0	V77	▒0.04	-	0	R/W	R	4	Offset, all devices
C8 o1 (All devices)	4	0	V78	▒0.04	-	0	R/W	R	4	Offset, all devices
C9 o1 (All devices)	4	0	V79	▒0.04	-	0	R/W	R	4	Offset, all devices
C10 o1 (All devices)	4	0	V80	▒0.04	-	0	R/W	R	4	Offset, all devices
C1 tg1 (CT, VT)	4	0	V81	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(1%*In), VT
C2 tg1 (CT, VT)	4	0	V82	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(1%*In), VT
C3 tg1 (CT, VT)	4	0	V83	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(1%*In), VT
C4 tg1 (CT, VT)	4	0	V84	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(1%*In), VT
C5 tg1 (CT, VT)	4	0	V85	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(1%*In), VT

C6 tg1 (CT, VT)	4	0	V86	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(1%*In), VT
C7 tg1 (CT, VT)	4	0	V87	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(1%*In), VT
C8 tg1 (CT, VT)	4	0	V88	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(1%*In), VT
C9 tg1 (CT, VT)	4	0	V89	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(1%*In), VT
C10 tg1 (CT, VT)	4	0	V90	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(1%*In), VT
C1 tp1 (CT, VT)	4	0	V91	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(1%*In), VT
C2 tp1 (CT, VT)	4	0	V92	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(1%*In), VT
C3 tp1 (CT, VT)	4	0	V93	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(1%*In), VT
C4 tp1 (CT, VT)	4	0	V94	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(1%*In), VT
C5 tp1 (CT, VT)	4	0	V95	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(1%*In), VT
C6 tp1 (CT, VT)	4	0	V96	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(1%*In), VT
C7 tp1 (CT, VT)	4	0	V97	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(1%*In), VT
C8 tp1 (CT, VT)	4	0	V98	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(1%*In), VT
C9 tp1 (CT, VT)	4	0	V99	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(1%*In), VT
C10 tp1 (CT, VT)	4	0	V100	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(1%*In), VT
C1 tg2 (CT)	4	0	V201	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(100%*In)
C2 tg2 (CT)	4	0	V202	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(100%*In)
C3 tg2 (CT)	4	0	V203	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(100%*In)
C4 tg2 (CT)	4	0	V204	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(100%*In)
C5 tg2 (CT)	4	0	V205	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(100%*In)
C6 tg2 (CT)	4	0	V206	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(100%*In)
C7 tg2 (CT)	4	0	V207	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(100%*In)
C8 tg2 (CT)	4	0	V208	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(100%*In)
C9 tg2 (CT)	4	0	V209	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(100%*In)
C10 tg2 (CT)	4	0	V210	0.9...1.1000	-	1	R/W	R	4	Ampl. gain CT(100%*In)
Factory setting	4	0	V111	0..255	-	0	R/W	-	4	Factory setting: mode
Factory status	4	0	V112	0=Not used; 1=OK; 2=Error	-	0	R/W	-	4	Factory setting: status
Factory value	4	0	V113	0...100.000	-	1.0	R/W	-	4	Factory setting: value
Factory samples	4	0	V114	0 .. 2999.9999999	-	0	R/W	-	4	Factory setting: inspectable data
C1 tp2 (CT)	4	0	V121	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(100%*In)
C2 tp2 (CT)	4	0	V122	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(100%*In)
C3 tp2 (CT)	4	0	V123	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(100%*In)
C4 tp2 (CT)	4	0	V124	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(100%*In)
C5 tp2 (CT)	4	0	V125	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(100%*In)
C6 tp2 (CT)	4	0	V126	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(100%*In)
C7 tp2 (CT)	4	0	V127	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(100%*In)
C8 tp2 (CT)	4	0	V128	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(100%*In)
C9 tp2 (CT)	4	0	V129	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(100%*In)
C10 tp2 (CT)	4	0	V130	-10.00...2.00	Deg.	0	R/W	R	4	Phase displ. CT(100%*In)

	CPU1 C1 offset	4	0	V131	-0.0199999 .. 0.019999	-	0	R/W	R	4	Offset for raw data
	CPU1 C2 offset	4	0	V132	-0.0199999 .. 0.019999	-	0	R/W	R	4	Offset for raw data
	CPU1 C3 offset	4	0	V133	-0.0199999 .. 0.019999	-	0	R/W	R	4	Offset for raw data
	CPU1 C4 offset	4	0	V134	-0.0199999 .. 0.019999	-	0	R/W	R	4	Offset for raw data
	CPU1 C5 offset	4	0	V135	-0.0199999 .. 0.019999	-	0	R/W	R	4	Offset for raw data
	CPU1 C6 offset	4	0	V136	-0.0199999 .. 0.019999	-	0	R/W	R	4	Offset for raw data
	CPU1 C7 offset	4	0	V137	-0.0199999 .. 0.019999	-	0	R/W	R	4	Offset for raw data
	CPU1 C8 offset	4	0	V138	-0.0199999 .. 0.019999	-	0	R/W	R	4	Offset for raw data
	CPU1 C9 offset	4	0	V139	-0.0199999 .. 0.019999	-	0	R/W	R	4	Offset for raw data
	CPU1 C10 offset	4	0	V140	-0.0199999 .. 0.019999	-	0	R/W	R	4	Offset for raw data
Technical data of measuring channels /*CH001me / Rev C MEAS */											
Control Parameters											
	Rated frequency	1	1	V10	50.00...60.00	Hz	50.0	R/W	R	2	Rated frequency of the network
	Reset indication	1	0	V11	0..1 [0= No action; 1=Reset]	-	0	W	-	0	Resetting of operation indications
	Reset outputs	1	0	V12	0..1 [0= No action; 1=Reset]	-	0	W	-	2	Resetting of operation indications & latched output signals
	Reset registers	1	0	V13	0..1 [0= No action; 1=Reset]	-	0	W	-	2	Resetting of operation indications, latched output signals, registers & waveform memory
	Ch1: scaling	3	0	V541	0.500...3.000	-	1.000	R/W	R	2	Scaling factor for protected unit
	Ch2: scaling	3	1	V542	0.500...3.000	-	1.000	R/W	R	2	Scaling factor for protected unit
	Ch3: scaling	3	1	V543	0.500...3.000	-	1.000	R/W	R	2	Scaling factor for protected unit
	Ch4: scaling	3	1	V544	0.500...3.000	-	1.000	R/W	R	2	Scaling factor for protected unit
	Ch5: scaling	3	1	V545	0.500...3.000	-	1.000	R/W	R	2	Scaling factor for protected unit
	Ch6: scaling	3	0	V546	0.500...3.000	-	1.000	R/W	R	2	Scaling factor for protected unit
	Ch7: scaling	3	0	V547	0.500...3.000	-	1.000	R/W	R	2	Scaling factor for protected unit

	Ch8: scaling	3	0	V548	0.500...3.000	-	1.000	R/W	R	2	Scaling factor for protected unit
	Ch9: scaling	3	0	V549	0.500...3.000	-	1.000	R/W	R	2	Scaling factor for protected unit
	Ch10: scaling	3	0	V550	0.500...3.000	-	1.000	R/W	R	2	Scaling factor for protected unit
	Event mask 1A	0	0	V101	0..786432	-	0	R	-	0	INTERNAL USE / POD GENERATION: Event mask 1A for event transmission
	Event mask 1B	0	0	V102	0..786432	-	786432	R	-	0	INTERNAL USE / POD GENERATION: Event mask 1B for event transmission
	Event mask 2A	0	0	V103	0..786432	-	0	R	-	0	INTERNAL USE / POD GENERATION: Event mask 2A for event transmission
	Event mask 2B	0	0	V104	0..786432	-	786432	R	-	0	INTERNAL USE / POD GENERATION: Event mask 2B for event transmission
	Event mask 3A	0	0	V105	0..786432	-	0	R	-	0	INTERNAL USE / POD GENERATION: Event mask 3A for event transmission
	Event mask 3B	0	0	V106	0..786432	-	786432	R	-	0	INTERNAL USE / POD GENERATION: Event mask 3B for event transmission
	Event mask 4A	0	0	V107	0..786432	-	0	R	-	0	INTERNAL USE / POD GENERATION: Event mask 4A for event transmission
	Event mask 4B	0	0	V108	0..786432	-	786432	R	-	0	INTERNAL USE / POD GENERATION: Event mask 4B for event transmission
Parameters referrenced from glovar file: /*CONFIG / Rev C CONFIG */											
Control Parameters											
	Reset 1	10	1	V110	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 00

Reset 2	10	1	V111	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 01
Group	10	1	V112	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 02
Blocking 1	10	1	V113	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 03
Blocking 2	10	1	V114	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 04
DREC trig	10	1	V115	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 05
PQ 3Inf trig	10	1	V116	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 06
Master trip	10	1	V122	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	9	R/W	R	2	Input MUX 12
External trip	10	1	V123	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 13

Lockout reset	10	1	V124	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 14
Remote	10	1	V125	0..9[0=Not connected;1=DI1;2=DI2;3=DI3;4=DI4;5=DI5;6=DI6;7=DI7;8=DI8;9=DI9]	-	9	R/W	R	2	Input MUX 15
Close enable	10	1	V126	0..15[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9;11=Interlocking A;12=Interlocking B;13=Interlocking C;14=Interlocking D;15=Interlocking E]	-	6	R/W	R	2	Input MUX 16
Open	10	1	V127	0..9[0=Not connected;1=DI1;2=DI2;3=DI3;4=DI4;5=DI5;6=DI6;7=DI7;8=DI8;9=DI9]	-	0	R/W	R	2	Input MUX 17
Close	10	1	V128	0..9[0=Not connected;1=DI1;2=DI2;3=DI3;4=DI4;5=DI5;6=DI6;7=DI7;8=DI8;9=DI9]	-	0	R/W	R	2	Input MUX 18
CB pos. open	10	1	V129	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	2	R/W	R	2	Input MUX 19
CB pos. close	10	1	V130	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	3	R/W	R	2	Input MUX 20
DC pos. open	10	1	V131	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 21

DC pos. close	10	1	V132	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 22
ES pos. open	10	1	V133	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 23
ES pos. close	10	1	V134	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 24
Logic input 1	10	1	V135	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 25
Logic input 2	10	1	V136	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 26
Logic input 3	10	1	V137	0..10[0=Not connected;1=TRUE;2=DI1;3=DI2;4=DI3;5=DI4;6=DI5;7=DI6;8=DI7;9=DI8;10=DI9]	-	0	R/W	R	2	Input MUX 27
PO1	10	1	V200	0..14[0=Not connected;1=Trip 2;2=Trip 3;3=Trip 4;4=Trip 5;5=External trip;6=CBFP;7=Close;8=Open;9=Start 1;10=Start 2;11=Lockout;12=BSOUT;13=Alarm 1;14=Alarm 2]	-	1	R/W	R	2	Output MUX 00

PO2	10	1	V201	0..14[0=Not connected;1=Trip 2;2=Trip 3;3=Trip 4;4=Trip 5;5=External trip;6=CBFP;7=Close;8=Open;9=Start 1;10=Start 2;11=Lockout;12=BSOUT;13=Alarm 1;14=Alarm 2]	-	6	R/W	R	2	Output MUX 01
PO3	10	1	V202	0..14[0=Not connected;1=Trip 2;2=Trip 3;3=Trip 4;4=Trip 5;5=External trip;6=CBFP;7=Close;8=Open;9=Start 1;10=Start 2;11=Lockout;12=BSOUT;13=Alarm 1;14=Alarm 2]	-	7	R/W	R	2	Output MUX 02
SO1	10	1	V203	0..14[0=Not connected;1=Trip 2;2=Trip 3;3=Trip 4;4=Trip 5;5=External trip;6=CBFP;7=Close;8=Open;9=Start 1;10=Start 2;11=Lockout;12=BSOUT;13=Alarm 1;14=Alarm 2]	-	9	R/W	R	2	Output MUX 03
SO2	10	1	V204	0..14[0=Not connected;1=Trip 2;2=Trip 3;3=Trip 4;4=Trip 5;5=External trip;6=CBFP;7=Close;8=Open;9=Start 1;10=Start 2;11=Lockout;12=BSOUT;13=Alarm 1;14=Alarm 2]	-	13	R/W	R	2	Output MUX 04
3I2f> -> Double	10	1	V300	0..3[B0=3I>>;B1=3I>>>]	-	0	R/W	R	2	Input SWGRP 00
Reset 1	10	1	V301	0..31[B0=OC;B1=EF;B2=Iub>;B3=3Ith>;B4=PQ 3Inf]	-	1	R/W	R	2	Input SWGRP 01
Reset 2	10	1	V302	0..31[B0=OC;B1=EF;B2=Iub>;B3=3Ith>;B4=PQ 3Inf]	-	2	R/W	R	2	Input SWGRP 02
Group	10	1	V303	0..15[B0=OC;B1=EF;B2=Iub>;B3=3Ith>]	-	15	R/W	R	2	Input SWGRP 03

Blocking 1	10	1	V304	0..127[B0=BS1 3I>;B1=BS1 3I>>;B2=BS1 3I>>>;B3=BS1 Io>;B4=BS1 Io>>;B5=BS1 Io>>>;B6=BS1 Iub>]	-	7	R/W	R	2	Input SWGRP 04
Blocking 2	10	1	V305	0..255[B0=BS2 3I>;B1=BS2 3I>>;B2=BS2 3I>>>;B3=BS2 Io>;B4=BS2 Io>>;B5=BS2 Io>>>;B6=BS2 Iub>;B7=BS 3Ith>]	-	56	R/W	R	2	Input SWGRP 05
TCS1 Blocking	10	1	V320	0..1[B0=CB pos.open]	-	0	R/W	R	2	Input SWGRP 20
3I2f> -> BS1	10	1	V323	0..127[B0=BS1 3I>;B1=BS1 3I>>;B2=BS1 3I>>>;B3=BS1 Io>;B4=BS1 Io>>;B5=BS1 Io>>>;B6=BS1 Iub>]	-	0	R/W	R	2	Input SWGRP 23
3I2f> -> BS2	10	1	V324	0..255[B0=BS2 3I>;B1=BS2 3I>>;B2=BS2 3I>>>;B3=BS2 Io>;B4=BS2 Io>>;B5=BS2 Io>>>;B6=BS2 Iub>;B7=BS 3Ith>]	-	0	R/W	R	2	Input SWGRP 24
Trip 1	10	1	V400	0..255[B0=3I>;B1=3I>>;B2=3I>>>;B3=Io>;B4=Io>>;B5=Io>>>;B6=Iub>;B7=3Ith>]	-	255	R/W	R	2	Output SWGRP 00
Trip 2	10	1	V401	0..255[B0=3I>;B1=3I>>;B2=3I>>>;B3=Io>;B4=Io>>;B5=Io>>>;B6=Iub>;B7=3Ith>]	-	255	R/W	R	2	Output SWGRP 01
Trip 3	10	1	V402	0..255[B0=3I>;B1=3I>>;B2=3I>>>;B3=Io>;B4=Io>>;B5=Io>>>;B6=Iub>;B7=3Ith>]	-	255	R/W	R	2	Output SWGRP 02
CBFP	10	1	V403	0..255[B0=3I>;B1=3I>>;B2=3I>>>;B3=Io>;B4=Io>>;B5=Io>>>;B6=Iub>;B7=3Ith>]	-	255	R/W	R	2	Output SWGRP 03

Start 1	10	1	V404	0..255[B0=3I>;B1=3I>>;B2=3I>>>;B3=Io>;B4=Io>>;B5=Io>>>;B6=Iub>;B7=3Ith>]	-	255	R/W	R	2	Output SWGRP 04
Start 2	10	1	V405	0..255[B0=3I>;B1=3I>>;B2=3I>>>;B3=Io>;B4=Io>>;B5=Io>>>;B6=Iub>;B7=3Ith>]	-	0	R/W	R	2	Output SWGRP 05
BSOUT	10	1	V406	0..3[B0=3I>>;B1=3I>>>]	-	3	R/W	R	2	Output SWGRP 06
Alarm 1	10	1	V407	0..255[B0=I<->O CB1 open;B1=I<->O CB1 close;B2=3Ith>;B3=MCS 3I;B4=TCS1;B5=PQ 3Inf har;B6=PQ 3Inf cum;B7=CB wear1]	-	255	R/W	R	2	Output SWGRP 07
Alarm 2	10	1	V408	0..255[B0=I<->O CB1 open;B1=I<->O CB1 close;B2=3Ith>;B3=MCS 3I;B4=TCS1;B5=PQ 3Inf har;B6=PQ 3Inf cum;B7=CB wear1]	-	0	R/W	R	2	Output SWGRP 08
HSP01 Lockout	10	1	V412	0..1[B0=In use]	-	0	R/W	R	2	Output SWGRP 12
Trip 4	10	1	V418	0..255[B0=3I>;B1=3I>>;B2=3I>>>;B3=Io>;B4=Io>>;B5=Io>>>;B6=Iub>;B7=3Ith>]	-	0	R/W	R	2	Output SWGRP 18
LED1	10	1	V420	0..63[B0=3I> Start;B1=3I> Trip;B2=3I>> Start;B3=3I>> Trip;B4=3I>>> Start;B5=3I>>> Trip]	-	0	R/W	R	2	Output SWGRP 20
LED2	10	1	V421	0..63[B0=Io> Start;B1=Io> Trip;B2=Io>> Start;B3=Io>> Trip;B4=Io>>> Start;B5=Io>>> Trip]	-	0	R/W	R	2	Output SWGRP 21
LED3	10	1	V422	0..15[B0=Iub> Start;B1=Iub> Trip;B2=3Ith> Start;B3=3Ith> Trip]	-	0	R/W	R	2	Output SWGRP 22

	LED4	10	1	V423	0..255[B0=DI1;B1=DI2;B2=DI3;B3=DI4;B4=DI5;B5=DI6;B6=DI7;B7=DI8]	-	0	R/W	R	2	Output SWGRP 23
	LED5	10	1	V424	0..255[B0=DI1;B1=DI2;B2=DI3;B3=DI4;B4=DI5;B5=DI6;B6=DI7;B7=DI8]	-	0	R/W	R	2	Output SWGRP 24
	LED6	10	1	V425	0..255[B0=MEAS HI ALARM;B1=DI2;B2=DI3;B3=DI4;B4=DI5;B5=DI6;B6=DI7;B7=Interlocking]	-	0	R/W	R	2	Output SWGRP 25
	LED7	10	1	V426	0..255[B0=MEAS LO ALARM;B1=MEAS HI ALARM;B2=DI3;B3=DI4;B4=DI5;B5=DI6;B6=DI7;B7=Lockout]	-	0	R/W	R	2	Output SWGRP 26
	LED8	10	1	V427	0..255[B0=CB wear1;B1=TCS1;B2=MCS 3I;B3=DI4;B4=DI5;B5=DI6;B6=DI7;B7=DI8]	-	0	R/W	R	2	Output SWGRP 27
	Trip 5	10	1	V428	0..255[B0=3I>;B1=3I>>;B2=3I>>>;B3=Io>;B4=Io>>;B5=Io>>>;B6=Iub>;B7=3Ith>]	-	0	R/W	R	2	Output SWGRP 28
Configuration specific parameters - constant part /*CONFIG2 / Rev C CONFIG2 */ Control Parameters											
	Config name	10	1	V1	B01	-	-	R	-	0	Relay configuration name
	Config revision	10	1	V2	G	-	-	R	-	0	Relay configuration revision
	Config level	10	1	V3	0 .. 255	-	0	R	-	0	Relay configuration price level
	Config date	10	1	V4	-	-	-	R	-	0	Date when configuration was created
	Config build nr	10	1	V5	1.0	-	6.05.00	R	-	0	Relay configuration build number
	Lockout HSPO1	10	0	V20	0..1	-	0	R	R	0	Status of HSP01 Lockout in IEC configuration
	Lockout External	10	0	V21	0..1	-	0	R	R	0	Status of External Lockout in IEC configuration

	Clear indication	10	0	V30	0..1	-	0	R	-	0	Reset indication request from IEC configuration
	Event mask 1	10	1	V101	0..16111	-	3823	R/W	R	2	Event mask for channel 10
	Event mask 2	10	1	V103	0..16111	-	3823	R/W	R	2	Event mask for channel 10
	Event mask 3	10	1	V105	0..16111	-	3823	R/W	R	2	Event mask for channel 10
	Event mask 4	10	1	V107	0..16111	-	3823	R/W	R	2	Event mask for channel 10
Current transformer 1 /*CT1 / Rev B CT1 */ Control Parameters											
	Second. current	3	1	V1	0..3 [0= 5 A; 1= 2 A; 2= 1 A; 3= 0.2 A]	-	0	R/W	R	2	Rated secondary current of CT 1
	Primary current	3	1	V2	1...6000	A	500	R/W	R	2	Rated primary current of CT 1
	Current terminal	3	1	V3	0..1 [0= 5 A; 1= 1 A]	-	0	R/W	R	2	Current terminal of relay
	Corr. factor 1	3	1	V4	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor for amplitude error at 1.00 x In
	Displ. error 1	3	1	V5	-5.00...0.00	°	0.00	R/W	R	2	Phase displacement error at 1.00 x In
	Corr. factor 2	3	1	V6	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor for amplitude error at 0.01 x In
	Displ. error 2	3	1	V7	-10.00...0.00	°	0.00	R/W	R	2	Phase displacement error at 0.01 x In
Current transformer 2 /*CT2 / Rev B CT2 */ Control Parameters											
	Second. current	3	1	V11	0..3 [0= 5 A; 1= 2 A; 2= 1 A; 3= 0.2 A]	-	0	R/W	R	2	Rated secondary current of CT 2
	Primary current	3	1	V12	1...6000	A	500	R/W	R	2	Rated primary current of CT 2
	Current terminal	3	1	V13	0..1 [0= 5 A; 1= 1 A]	-	0	R/W	R	2	Current terminal of relay
	Corr. factor 1	3	1	V14	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor for amplitude error at 1.00 x In
	Displ. error 1	3	1	V15	-5.00...0.00	°	0.00	R/W	R	2	Phase displacement error at 1.00 x In
	Corr. factor 2	3	1	V16	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor for amplitude error at 0.01 x In
	Displ. error 2	3	1	V17	-10.00...0.00	°	0.00	R/W	R	2	Phase displacement error at 0.01 x In
Current transformer 3 /*CT3 / Rev B CT3 */ Control Parameters											

	Second. current	3	1	V21	0..3 [0= 5 A; 1= 2 A; 2= 1 A; 3= 0.2 A]	-	0	R/W	R	2	Rated secondary current of CT 3
	Primary current	3	1	V22	1...6000	A	500	R/W	R	2	Rated primary current of CT 3
	Current terminal	3	1	V23	0..1 [0= 5 A; 1= 1 A]	-	0	R/W	R	2	Current terminal of relay
	Corr. factor 1	3	1	V24	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor for amplitude error at 1.00 x In
	Displ. error 1	3	1	V25	-5.00...0.00	°	0.00	R/W	R	2	Phase displacement error at 1.00 x In
	Corr. factor 2	3	1	V26	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor for amplitude error at 0.01 x In
	Displ. error 2	3	1	V27	-10.00...0.00	°	0.00	R/W	R	2	Phase displacement error at 0.01 x In
Current transformer 4 /*CT4 / Rev B CT4 */ Control Parameters											
	Second. current	3	1	V31	0..3 [0= 5 A; 1= 2 A; 2= 1 A; 3= 0.2 A]	-	2	R/W	R	2	Rated secondary current of CT 4
	Primary current	3	1	V32	1...6000	A	70	R/W	R	2	Rated primary current of CT 4
	Current terminal	3	1	V33	0..1[0= 5 A; 1= 1 A;]	-	1	R/W	R	2	Current terminal of relay
	Corr. factor 1	3	1	V34	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor for amplitude error at 1.00 x In
	Displ. error 1	3	1	V35	-5.00...0.00	°	0.00	R/W	R	2	Phase displacement error at 1.00 x In
	Corr. factor 2	3	1	V36	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor for amplitude error at 0.01 x In
	Displ. error 2	3	1	V37	-10.00...0.00	°	0.00	R/W	R	2	Phase displacement error at 0.01 x In
Current transformer 5 /*CT5 / Rev B CT5 */ Control Parameters											
	Second. current	3	1	V41	0..3[0= 5 A; 1= 2 A; 2= 1 A; 3= 0.2 A]	-	2	R/W	R	2	Current terminal of relay
	Primary current	3	1	V42	1...6000	A	70	R/W	R	2	Correction factor for amplitude error at 1.00 x In
	Current terminal	3	1	V43	1..2[1 = 1 A; 2 = 0.2 A]	-	1	R/W	R	2	Phase displacement error at 1.00 x In
	Corr. factor 1	3	1	V44	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor for amplitude error at 0.01 x In

	Displ. error 1	3	1	V45	-5.00...0.00	°	0.00	R/W	R	2	Phase displacement error at 0.01 x In
	Corr. factor 2	3	1	V46	0.9000...1.1000	-	1.0000	R/W	R	2	Rated secondary current of CT 5
	Displ. error 2	3	1	V47	-10.00...0.00	°	0.00	R/W	R	2	Rated primary current of CT 5
General parameters for control commands /*CTRL / Rev D CTRL */ Control Parameters											
	Command timeout	1	1	V19	50...65535	ms	300	R/W	R	2	Timeout for open/close request
	Select timeout	2	1	V1	10...600	s	T#30s	R/W	R	2	Control: Object selection timeout for local and remote selection
	Interl bypass	2	1	V4	0..1 [0=Normal mode; 1=Bypass mode]	-	0	R/W	-	2	Control: Interlocking bypass mode for all control objects (Enables all)
	Control position	2	1	V5	0..2 [0=Control off; 1=Local; 2=Remote]	-	0	R	-	0	Control: Recent control position
	Control poll	2	0	V6	0..1 [0=LON virtual inputs hasn't been polled or the polling is going on; 1=LON virtual inputs has been polled]	-	1	R	-	0	Control: Virtual LON input poll status
	Local/Remote	2	2	V7	0..3 [0=Control off; 1=Local; 2=Remote; 3=External input]	-	0	R/W	R	2	Control: Control position setting
	Object selection	2	2	V20	0..255	-	0	R/W	R	2	Object selection index for local HMI control
	CB close delay	2	1	V21	0..30	s	0	R/W	R	2	Delay between CB 'Close select' and 'Execute' commands for local control
	Object name 1	2	0	M100	CB	-	-	R	R	2	Name for control object 1
	Event mask 1	2	1	V101	0..55	-	55	R/W	R	2	Event mask
	Event mask 2	2	1	V103	0..55	-	55	R/W	R	2	Event mask
	Event mask 3	2	1	V105	0..55	-	55	R/W	R	2	Event mask
	Event mask 4	2	1	V107	0..55	-	55	R/W	R	2	Event mask
Digital input polling /*DIPO / Rev A DIPO */ Control Parameters											

In state array	11	0	I0	F011I001...F011I009	-	-	-	-	0	Array of digital inputs
Input 1 state	11	2	I1	0 ... 1	-	0	R/W	-	0	State of digital input 1
Input 2 state	11	2	I2	0 ... 1	-	0	R/W	-	0	State of digital input 2
Input 3 state	11	2	I3	0 ... 1	-	0	R/W	-	0	State of digital input 3
Input 4 state	11	2	I4	0 ... 1	-	0	R/W	-	0	State of digital input 4
Input 5 state	11	2	I5	0 ... 1	-	0	R/W	-	0	State of digital input 5
Input 6 state	11	2	I6	0 ... 1	-	0	R/W	-	0	State of digital input 6
Input 7 state	11	2	I7	0 ... 1	-	0	R/W	-	0	State of digital input 7
Input 8 state	11	2	I8	0 ... 1	-	0	R/W	-	0	State of digital input 8
Input 9 state	11	2	I9	0 ... 1	-	0	R/W	-	0	State of digital input 9
In filter array	11	0	V220	F011V221...F011V229	-	-	-	-	-	Array of filters for inputs
Input 1 filter	11	1	V221	1 ... 65535	ms	5	R/W	R	2	Debounce filter time for input 1
Input 2 filter	11	1	V222	1 ... 65535	ms	5	R/W	R	2	Debounce filter time for input 2
Input 3 filter	11	1	V223	1 ... 65535	ms	5	R/W	R	2	Debounce filter time for input 3
Input 4 filter	11	1	V224	1 ... 65535	ms	5	R/W	R	2	Debounce filter time for input 4
Input 5 filter	11	1	V225	1 ... 65535	ms	5	R/W	R	2	Debounce filter time for input 5
Input 6 filter	11	1	V226	1 ... 65535	ms	5	R/W	R	2	Debounce filter time for input 6
Input 7 filter	11	1	V227	1 ... 65535	ms	5	R/W	R	2	Debounce filter time for input 7
Input 8 filter	11	1	V228	1 ... 65535	ms	5	R/W	R	2	Debounce filter time for input 8
Input 9 filter	11	1	V229	1 ... 65535	ms	5	R/W	R	2	Debounce filter time for input 8
In inv array	11	0	V280	F011V281...F011V289	-	-	-	-	-	Array of inverters for inputs
Input 1 invert.	11	1	V281	0 ... 1	-	0	R/W	R	2	Invert input 1
Input 2 invert.	11	1	V282	0 ... 1	-	0	R/W	R	2	Invert input 2
Input 3 invert.	11	1	V283	0 ... 1	-	0	R/W	R	2	Invert input 3
Input 4 invert.	11	1	V284	0 ... 1	-	0	R/W	R	2	Invert input 4
Input 5 invert.	11	1	V285	0 ... 1	-	0	R/W	R	2	Invert input 5
Input 6 invert.	11	1	V286	0 ... 1	-	0	R/W	R	2	Invert input 6
Input 7 invert.	11	1	V287	0 ... 1	-	0	R/W	R	2	Invert input 7
Input 8 invert.	11	1	V288	0 ... 1	-	0	R/W	R	2	Invert input 8
Input 9 invert.	11	1	V289	0 ... 1	-	0	R/W	R	2	Invert input 9
Event mask 1	11	1	V101	0 ... 67108863	-	0	R/W	R	2	Event mask 1 for event transmission

	Event mask 2	11	1	V103	0 ... 67108863	-	0	R/W	R	2	Event mask 2 for event transmission
	Event mask 3	11	1	V105	0 ... 67108863	-	0	R/W	R	2	Event mask 3 for event transmission
	Event mask 4	11	1	V107	0 ... 67108863	-	0	R/W	R	2	Event mask 4 for event transmission
	Input states	11	2	I40	0 ... 511	-	0	R/W	-	2	Digital input states in packed format
	Input flags	11	0	I50	0 ... 511	-	0	R/W	-	2	Digital inputs state (latched)
DNP 3.0 for REX /*DNP_REX / Rev A DNP_REX */ Control Parameters											
	Unit Address	503	1	V1	0...65532	-	1	R/W	R	2	Address of the relay in the DNP network
	Master Address	503	1	V2	0...65532	-	2	R/W	R	2	Address of the master station (destination address for unsolicited responses)
	Link timeout	503	1	V3	100...10000	ms	300	R/W	R	2	This timeout is activated whenever the relay is sending data using service 3 (user data with confirmation)
	Link retrans cnt	503	1	V4	0...100	-	0	R/W	R	2	Number of retries of data link layer when unit is acting as a primary station
	Appl timeout	503	1	V6	1000...10000	ms	1000	R/W	R	2	This timeout is activated whenever the relay is acting as a primary station and sending APDU with confirmation bit set
	Appl retrans cnt	503	1	V7	0...100	-	0	R/W	R	2	Application Layer retransmission count. Number of retries of the application layer when CON bit is set.
	Link conf. type	503	1	V8	0..1 [0=Disabled; 1=Enabled]	-	0	R/W	R	2	Data link layer Confirmation type selector. Please refer to DNP 3.0 Tehnical Description

Appl conf. type	503	1	V9	0..1 [0=Disabled; 1=Enabled]	-	0	R/W	R	2	Application layer Confirmation type selector. Please refer to DNP 3.0 Tehnical Description
Binary input	503	1	V10	1...2	-	2	R/W	R	2	Default variation of binary input object
Bin inp event	503	1	V11	1...3	-	2	R/W	R	2	Default variation of binary input change event object
Binary output	503	1	V12	1...2	-	2	R/W	R	2	Default variation of binary output object
Counter	503	1	V13	1...2	-	1	R/W	R	2	Default variation of counter object
Counter event	503	1	V14	1...2	-	1	R/W	R	2	Default variation of counter event object
Analog input	503	1	V15	1...2	-	1	R/W	R	2	Default variation of analogue input object
Analog inp event	503	1	V16	1...2	-	1	R/W	R	2	Default variation of analogue input event object
Analog outp stat	503	1	V17	1...2	-	2	R/W	R	2	Default variation of analogue output status object
Class1 ev. delay	503	1	V18	0...1000	s	1	R/W	R	2	Minimum delay for reporting spontaneously events from class 1
Class1 ev. count	503	1	V19	1...32	-	1	R/W	R	2	Minimum count of events for reporting spontaneously events from class 1
Class2 ev. delay	503	1	V20	0...1000	s	1	R/W	R	2	Minimum delay for reporting spontaneously events from class 2
Class2 ev. count	503	1	V21	1...32	-	1	R/W	R	2	Minimum count of events for reporting spontaneously events from class 2
Class3 ev. delay	503	1	V22	0...1000	s	1	R/W	R	2	Minimum delay for reporting spontaneously events from class 3
Class3 ev. count	503	1	V23	1...32	-	1	R/W	R	2	Minimum count of events for reporting spontaneously events from class 3

Unsolicited rep.	503	1	V24	0...3	-	0	R/W	R	2	Unsolicited messages reporting behavior. Please refer to DNP 3.0 Tehnical Description
Timesync request	503	1	V25	0..2 [0=Never; 1=Startup; 2=Periodic]	-	2	R/W	R	2	Timesyncronisation request interval
Baud rate	503	1	V211	0..6 [0=300; 1=600; 2=1200; 3=2400; 4=4800; 5=9600; 6=19200]	bps	5	R/W	R	2	Communication speed of DNP protocol
No of stop bits	503	1	V212	1..2	-	1	R/W	R	2	Number of stop bits
End of frame TO	503	1	V216	2..50	ms	10	R/W	R	2	End of frame timeout
Parity	503	1	V230	0..2 [0=None; 1=Odd; 2=Even]	-	0	R/W	R	2	Parity setting
Silent interval	503	1	V232	10...65535	ms	20	R/W	R	2	Collision detection: silent interval
Time slot width	503	1	V233	10...65535	ms	10	R/W	R	2	Collision detection: time slot width
Time slot count	503	1	V234	1...255	-	8	R/W	R	2	Collision detection: time slot count
Collision avoid	503	1	V236	0..1 [0=Disabled; 1=Enabled]	-	0	R/W	R	2	Collision detection: avoidance
POD tables	503	0	M1	-	-	-	R	-	2	DNP POD file
POD entries max	503	0	V60	-	-	-	R	-	0	Total entries counter
Entr. not used	503	0	V61	-	-	-	R	-	0	Entries not in use
No INV entries	503	0	V62	-	-	-	R	-	0	Invalid entries
No COR entries	503	0	V63	-	-	-	R	-	0	Corrected entries
No NBL entries	503	0	V64	-	-	-	R	-	0	Entries from nonexistent block
No NOB entries	503	0	V65	-	-	-	R	-	0	No object from existing block
Entry to OP.POD	503	0	V66	-	-	-	R	-	0	Entries translated to operational POD
POD ID string	503	0	V700	-	-	-	R/W	R	2	POD name
Frame err cnt	503	0	V261	0..65535	-	0	R	-	0	Frame error counter
Parity err cnt	503	0	V262	0..65535	-	0	R	-	0	Parity error counter
Overrun err cnt	503	0	V263	0..65535	-	0	R	-	0	Overrun error counter
Avoidance count	503	2	V264	0..65535	-	0	R	-	0	Collision detection: Avoidance counter
Transmit counter	503	0	V265	0..65535	-	0	R	-	0	Transmitted messages counter
Receive counter	503	0	V266	0..65535	-	0	R	-	0	Received messages counter

Digital output handling
/*DOHA / Rev B DOHA */

Control Parameters

	Out state array	12	0	O0	F012O001...F012O006	-	-	-	-	0	Array of otuput states
	Output 1 state	12	0	O1	0 ... 1	-	0	R/W	-	0	State of output relay 1 (SO1)
	Output 2 state	12	0	O2	0 ... 1	-	0	R/W	-	0	State of output relay 2 (SO2)
	Output 3 state	12	0	O3	0 ... 1	-	0	R/W	-	0	State of output relay 3 (PO1)
	Output 4 state	12	0	O4	0 ... 1	-	0	R/W	-	0	State of output relay 4 (PO2)
	Output 5 state	12	0	O5	0 ... 1	-	0	R/W	-	0	State of output relay 5 (PO3)
	Output 6 state	12	0	O6	0 ... 1	-	0	R/W	-	0	State of output relay 6 (HSPO1)
	Output states	12	2	O40	0...255	-	0	R/W	-	2	Output relay states in packed format
	Test mode	12	2	V17	0..1 [0=No test; 1=Testing]	-	-	R/W	-	2	Test mode for inputs and outputs
	Event mask 1	12	1	V101	0...16383	-	3	R/W	R	2	Event mask 1 for event transmission
	Event mask 2	12	1	V103	0...16383	-	3	R/W	R	2	Event mask 2 for event transmission
	Event mask 3	12	1	V105	0...16383	-	3	R/W	R	2	Event mask 3 for event transmission
	Event mask 4	12	1	V107	0...16383	-	3	R/W	R	2	Event mask 4 for event transmission

Disturbance recorder - parameters specific to REX52x
/*DREC / Rev A DREC */
Control Parameters

	Header file obj	225	0	M30	File tool handle	-	0	R/W	-	0	File tool handle - REX52x system specific
	Data file obj	225	0	M31	File tool handle	-	0	R/W	-	0	File tool handle - REX52x system specific

EEPROM manager
/*EEPROM / Rev A EEPROM */
Control Parameters

	User cfg key	1	0	M300	0..4294967295	-	0	R	R	0	User configuration key (also given in factory, but later can be changed in configuration mode)

	Factory cfg key	1	0	M301	0..4294967295	-	0	R	R	0	Factory configuration key (given in factory - cannot be changed)
	Serial Number	1	1	V2	0..4294967295	-	0	R	R	0	Relay serial number
	Final test date	1	1	V6	??-??-??	-	-	R	R	0	Date of the final test
	HW name	9	1	V1	REX521 ??????	-	-	R	R	0	Relay hardware name (overall, set up in production)
	HW revision	9	1	V2	A	-	G	R	R	0	Relay hardware revision (overall, set up in production)
	CPU name	9	1	V10	CPU_XXXXX	-	-	R	R	0	CPU hardware name
	CPU version	9	1	V11	1..255	-	1	R	R	0	CPU hardware version
	CPU rev	9	1	V12	A	-	-	R	R	0	CPU hardware revision
	MIM Name	9	1	V20	MIM_XXXXX	-	-	R	R	0	MIM/SIMM hardware name
	MIM Ver	9	1	V21	1..255	-	1	R	R	0	MIM/SIMM hardware version
	MIM Rev	9	1	V22	A	-	-	R	R	0	MIM/SIMM hardware revision
	PS Name	9	1	V30	PS_XXX	-	-	R	R	0	PS hardware name
	PS Version	9	1	V31	1..255	-	1	R	R	0	PS hardware version
	PS Revision	9	1	V32	A	-	-	R	R	0	PS hardware revision
Error handling /*ERHA / Rev C ERHA */ Control Parameters											
	Err text file	24	0	M200	Stored error text lines	-	0	R	-	0	Text file with recorded internal errors
	Err2 text file	24	0	M201	Stored error2 text lines	-	0	R	-	0	Text file with recorded internal errors2 (reports)
	Activate IRF	24	2	V14	0..1 [0 =Deactivate; 1= Activate]	-	1	R/W	-	2	Activation of selfsupervision output
	Array of errors	24	0	V310	F024V311...F024V410	-	0	R/W	-	0	Array representing ring buffer with errors
	Array of errors2	24	0	V420	F024V421...F024V520	-	0	R/W	-	0	Array representing ring buffer with errors2 (reports)
	Error data elem	24	0	V311	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
	Error data elem	24	0	V312	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
	Error data elem	24	0	V313	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
	Error data elem	24	0	V314	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
	Error data elem	24	0	V315	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)

Error data elem	24	0	V316	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V317	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V318	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V319	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V320	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V321	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V322	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V323	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V324	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V325	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V326	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V327	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V328	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V329	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V330	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V331	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V332	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V333	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V334	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V335	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)

Error data elem	24	0	V336	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V337	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V338	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V339	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V340	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V341	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V342	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V343	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V344	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V345	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V346	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V347	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V348	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V349	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V350	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V351	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V352	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V353	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V354	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V355	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)

Error data elem	24	0	V356	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V357	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V358	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V359	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V360	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V361	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V362	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V363	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V364	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V365	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V366	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V367	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V368	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V369	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V370	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V371	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V372	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V373	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V374	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V375	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)

Error data elem	24	0	V376	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V377	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V378	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V379	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V380	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V381	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V382	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V383	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V384	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V385	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V386	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V387	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V388	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V389	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V390	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V391	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V392	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V393	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V394	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V395	-		-	-	R/W	R	0	Element of ring buffer for errors (index = 1)

Error data elem	24	0	V396	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V397	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V398	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V399	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V400	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V401	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V402	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V403	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V404	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V405	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V406	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V407	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V408	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V409	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error data elem	24	0	V410	-	-	-	R/W	R	0	Element of ring buffer for errors (index = 1)
Error2 data elem	24	0	V421	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V422	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V423	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V424	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V425	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)

Error2 data elem	24	0	V426	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V427	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V428	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V429	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V430	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V431	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V432	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V433	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V434	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V435	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V436	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V437	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V438	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V439	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V440	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V441	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V442	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V443	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V444	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V445	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)

Error2 data elem	24	0	V446	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V447	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V448	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V449	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V450	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V451	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V452	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V453	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V454	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V455	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V456	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V457	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V458	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V459	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V460	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V461	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V462	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V463	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V464	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V465	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)

Error2 data elem	24	0	V466	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V467	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V468	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V469	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V470	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V471	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V472	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V473	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V474	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V475	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V476	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V477	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V478	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V479	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V480	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V481	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V482	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V483	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V484	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V485	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)

Error2 data elem	24	0	V486	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V487	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V488	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V489	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V490	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V491	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V492	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V493	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V494	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V495	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V496	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V497	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V498	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V499	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V500	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V501	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V502	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V503	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V504	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
Error2 data elem	24	0	V505	-		-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)

	Error2 data elem	24	0	V506	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V507	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V508	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V509	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V510	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V511	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V512	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V513	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V514	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V515	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V516	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V517	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V518	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V519	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Error2 data elem	24	0	V520	-	-	-	R/W	R	0	Element of ring buffer for errors2 (index = 1)
	Software reset	24	2	V250	0..1 [0 = 0; 1=Reset;]	-	0	W	-	0	Software reset for relay
	IRF code	24	1	V15	0...255	-	0	R	-	0	Fault code of selfsupervision system
	Event mask 1	24	0	V101	0...4294967295	-	4294967295	R/W	R	2	Event mask 1 for ERHA
	Event mask 2	24	0	V103	0...4294967295	-	4294967295	R/W	R	2	Event mask 2 for ERHA
	Event mask 3	24	0	V105	0...4294967295	-	4294967295	R/W	R	2	Event mask 3 for ERHA
	Event mask 4	24	0	V107	0...4294967295	-	4294967295	R/W	R	2	Event mask 4 for ERHA
General parameters /*GP / Rev D GP */ Control Parameters											
	Identification	0	1	F0	REX521	-	-	R	-	0	Relay type designation

Store	0	0	V151	0..4 [0=OK/Done; 1=Start/Progress; 2=Error inv. key; 3=file corrupted; 4=file mismatch]	-	-	R/W	-	2	Store to non-volatile memory (not used in practice!)
Factory settings	0	2	V167	0..1 [0=Cancel; 1= Activate;]	-	-	R/W	-	2	Default factory settings
Operation mode	1	0	V169	0..2 [0 = Protection;1 = Configuration]	-	-	R/W	-	0	Relay working mode (e.g protection,configuration,testing)
Rear protocol	1	1	V18	0..7 [0=LON; 1=SPA; 2=IEC 103; 3=MODBUS; 4=SPA-RS485; 5=MODBUS-RS485; 6=DNP 3.0-RS485; 7=DNP 3.0]	-	-	R/W	R	2	Protocol for rear connector
Factory password	1	0	V168	1..4294967295	-	-	W	-	0	Password for factory settings
Event file	1	0	M304	Text file	-	-	R	-	0	Event text file
Event file stat.	1	0	M316	0..255	-	-	R/W	-	0	Status of file request for event view upload
SW version	6	0	V1	1.00	-	-	R	-	0	System software version
SW revision	6	0	V2	A	-	-	R	-	0	System software revision
System header	6	0	M10	[...]	-	-	R	-	0	System header placed in the beginning of each uploaded/downloaded file
System.bin	6	0	M31	Binary file	-	-	W	-	0	Binary executable file for REX (MCU)
Config.bin	6	0	M32	Binary file	-	-	W	-	0	Binary executable file for REX (DSP)
Menu.txt	6	0	M33	Text file	-	-	R	-	0	Menu file for REMMI
Help_EN.txt	6	0	M34	Text file	-	-	R	-	0	English text file for menu file
Help_XX.txt	6	0	M40	Text files	-	-	R/W	-	0	Gateway for loading languages - all share the same parameter and file id.
Languages	6	0	M41	-	-	-	R	-	0	Names of languages stored in the relay
Active lang name	6	0	M42	English	-	-	R/W	-	0	Name of active langauge
Active language	6	1	V42	0..20[0=English;1..20=Other language]	-	0	R/W	R	0	Index of active langauge

	Select lang name	6	0	M43	-	-	-	R/W	-	0	Name of selected langauge (selection affects which language takes part in file operations like loading/uploading)
	Select language	6	0	V43	0..20[0=English;1..20=Other language]	-	1	R/W	-	0	Index of selected langauge (selection affects which language takes part in file operations like loading/uploading)
	Erase sec. boot	6	0	V150	0..255	-	-	W	-	2	Erases secondary boot loader(but only when in configuration mode)
	Erase config	6	0	V151	0..255	-	-	W	-	2	Erases configuration files (but only when in configuration mode)
	Bay name	6	2	V200	ABB	-	-	R/W	R	2	Bay name for the relay (user name for the relay)
	ACI int. data	6	0	V300	-	-	-	R	-	0	ACI internal data
	Event mask 1	6	1	V101	0..2	-	0	R/W	R	2	Event mask for GP
	Event mask 2	6	1	V103	0..2	-	0	R/W	R	2	Event mask for GP
	Event mask 3	6	1	V105	0..2	-	0	R/W	R	2	Event mask for GP
	Event mask 4	6	1	V107	0..2	-	0	R/W	R	2	Event mask for GP
IEC 103 configuration parameters for REX /*IEC103 / Rev A IEC103 */											
Control Parameters											
	Unit address	507	1	V1	0..254	-	1	R/W	R	2	IEC 103 station address
	Baud rate	507	1	V2	0..1 [0=9600 bps; 1=19200 bps]	bps	0	R/W	R	2	Communication speed
	Function type	507	1	V3	0..255	-	160	R/W	R	2	Unit function type
	Scale factor	507	1	V4	0..1 [0=1.2; 1=2.4]	-	0	R/W	R	2	Analog value scale factor
	Command timeout	507	0	V5	0.1..25.0	-	5	R/W	R	2	Command sequence timeout

	Frame type	507	1	V6	0..11[0=Not in use; 1=Meas I: 144; 2=Meas I: 145; 3=Meas I: 146; 4=Meas I: 147; 5=Meas II: 148; 6=Meas II:ABB 1; 7=Meas II:ABB 2; 8=Meas II:ABB 3; 9=Meas II:ABB 4; 10=Meas II:Basic; 11=Meas II:Medium]	-	1	R/W	R	2	Measurement frame type
	Diagnostic index	507	0	V7	0..255	-	0	W	-	0	Diagnostic table index
	Diagnostic data	507	0	V8	0..255	-	0	R	-	0	Diagnostic data value
	Reset diagnostic	507	0	V9	0..255	-	0	W	-	0	Reset diagnostic counters
	Tx mode	507	1	V10	0..1[0 = Light off; 1 = Light on]	-	1	R/W	R	2	Fiber optic transceiver idle mode
	POD tables	507	0	M200	-	-	-	R/W	-	0	Pod table upload/download parameter
	Store	507	0	V151	0..2 [0=Ok, 1=Storing, 2=Error]	-	0	R/W	-	0	Store non-volatile data
	POD Checksum	507	0	V700	-	-	-	R/W	R	0	POD identification string
LON Communication Protocol /*LON / Rev A LON */ Control Parameters											
	Send Neuron ID	231	2	S10	0...1 [0=0; 1=Send ID]	-	0	W	-	0	Force sending Neuron chip ID to the network
	Subnet number	231	1	V1	1...255	-	1	R/W	R	2	LON subnet number
	Node number	231	1	V2	1...127	-	1	R/W	R	2	LON node number
	Neuron ID	231	1	V3	-	-	0	R	-	0	Neuron ID from Neuron chip
	Load def config.	231	2	V4	0...1 [0=0; 1=Execute]	-	0	R/W	-	2	Force loding default configuration to the neuron chip
	Bit rate	231	1	V5	0...7 [0=1250 kb/s; 1=625 kb/s; 2=312.5 kb/s; 3=156.3 kb/s; 4=78.1 kb/s; 5=39.1 kb/s; 6=19.5 kb/s; 7=9.8 kb/s]	kb/s	0	R/W	R	2	LON communication speed
Graphical MMI module (6x16 and 4x8) /*MMI / Rev D MMI */ Control Parameters											

Password HMI	27	2	V162	1...999	-	999	R/W	R	2	Password for entering setting values from the HMI
Contrast	27	0	V3	0...100	%	50	R/W	R	0	The display contrast
New trip indic.	27	1	V5	0...999 (999=indefinite)	min	60	R/W	R	2	Time, after which, new trip indications overwrite old ones
Primary values	27	1	V7	0..1 [0=Per unit values; 1=Primary values]	-	0	R/W	R	2	Setting values displayed in primary values
Start led latch	27	1	V10	0..1 [0= Non-latching; 1=Latching]	-	0	R/W	R	2	Selection of latching feature for start LED
Test display	27	1	V13	0..1 [0=0; 1=Test display]	-	0	W	-	0	Runs display test
Display contents	27	0	V14	0..255	-	0	R/W	R	0	HMI stores contents of display (in case of power cut)
Test of keyboard	27	0	V15	-	-	-	R	-	0	Value of latched keyboard buffer
Alarm LED states	27	2	V20	0..255	-	0	R/W	-	2	Status of the alarm LEDs
FB naming conv.	27	1	V30	0..1 [0= IEC; 1= ANSI]	-	0	R/W	R	2	Function block naming convention
Ind. array	27	0	V200	F027V201...F024V250	-	-	R/W	-	0	Array for buffer for indications
Ind. element	27	0	V201	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V202	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V203	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V204	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V205	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V206	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V207	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V208	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V209	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V210	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V211	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V212	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V213	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V214	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V215	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V216	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V217	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V218	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V219	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V220	-	-	0	R/W	R	0	Indication elements

Ind. element	27	0	V221	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V222	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V223	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V224	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V225	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V226	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V227	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V228	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V229	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V230	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V231	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V232	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V233	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V234	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V235	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V236	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V237	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V238	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V239	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V240	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V241	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V242	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V243	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V244	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V245	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V246	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V247	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V248	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V249	-	-	0	R/W	R	0	Indication elements
Ind. element	27	0	V250	-	-	0	R/W	R	0	Indication elements
Event mask 1	27	1	V101	0...31	-	0	R/W	R	2	Event mask 1 for event transmission
Event mask 2	27	1	V103	0...31	-	0	R/W	R	2	Event mask 2 for event transmission
Event mask 3	27	1	V105	0...31	-	0	R/W	R	2	Event mask 3 for event transmission
Event mask 4	27	1	V107	0...31	-	0	R/W	R	2	Event mask 4 for event transmission

Modbus for REX
/*MODBUS_REX / Rev A
MODBUS_REX */

Control Parameters

Unit Address	504	1	V1	1..247	-	1	R/W	R	2	Address of the unit in the Modbus network
CRC Order	504	1	V2	0..1 [0=Low/High; 1=High/Low]	-	0	R/W	R	2	The order of CRC bytes in protocol frame 0 = LO/HI, 1 = HI/LO Not used in ASCII mode
Modbus Mode	504	1	V3	0..1 [0=ASCII; 1=RTU]	-	1	R/W	R	2	ASCII or RTU mode
Password	504	0	V4		-	-	R/W	R	2	Password
POD entries max	504	0	V60	0	-	0	R	R	2	INTERNAL USE / POD GENERATION: Total number of visible POD entries, parameter used by POD Tool
Entr. not used	504	0	V61	0	-	0	R	R	2	INTERNAL USE / POD GENERATION: Number of POD entries not in use, parameter used by POD Tool
No INV entries	504	0	V62	0	-	0	R	R	2	INTERNAL USE / POD GENERATION: Number of POD entries with invalid (uncorrectable content) INV, parameter used by POD Tool
No COR entries	504	0	V63	0	-	0	R	R	2	INTERNAL USE / POD GENERATION: Number of POD entries with corrected contents(COR), parameter used by POD Tool
No NBL entries	504	0	V64	0	-	0	R	R	2	INTERNAL USE / POD GENERATION: Number of POD entries referring to nonexistent FBs (NBL), parameter used by POD Tool

No NOB entries	504	0	V65	0	-	0	R	R	2	INTERNAL USE / POD GENERATION: Number of POD entries referring to invalid objects from existent FBs (NOB), used by POD Tool
Entry to OP.POD	504	0	V66	0	-	0	R	R	2	INTERNAL USE / POD GENERATION: Number of POD entries translated into operational POD, parameter used by POD Tool
POD ID string	504	0	V700	-	-	-	R/W	R	2	INTERNAL USE / POD GENERATION: POD identification string used by POD Tool
POD tables	504	0	M1	-	-	-	R	-	2	Pod table upload/download parameter
Baud rate	504	1	V211	0..5 [0=600; 1=1200; 2=2400; 3=4800; 4=9600; 5=19200]	bps	4	R/W	R	2	Communication speed of modbus protocol
No of stop bits	504	2	V212	1..2 [1=1; 2=2]	-	1	R/W	R	2	Number of stop bits
End of frame TO	504	2	V216	2..100	ms	4	R/W	R	2	End of frame timeout
Parity	504	1	V230	0..2 [0=None; 1=Odd; 2=Even]	-	2	R/W	R	2	Parity setting
No of data bits	504	2	V231	7..8 [7=7; 8=8]	-	8	R/W	R	2	Number of data bits
User reg. array	504	0	V300	F504V301... F504V332	-	-	-	-	-	Array of data addresses which should be replicated as User defined registers.
User def.reg. 1	504	1	V301	0..65535	-	0	R/W	R	2	Address of the data which should be replicated as User defined register in the beginning of the HR area.
User def.reg. 2	504	1	V302	0..65535	-	0	R/W	R	2	
User def.reg. 3	504	1	V303	0..65535	-	0	R/W	R	2	
User def.reg. 4	504	1	V304	0..65535	-	0	R/W	R	2	
User def.reg. 5	504	1	V305	0..65535	-	0	R/W	R	2	
User def.reg. 6	504	1	V306	0..65535	-	0	R/W	R	2	
User def.reg. 7	504	1	V307	0..65535	-	0	R/W	R	2	
User def.reg. 8	504	1	V308	0..65535	-	0	R/W	R	2	
User def.reg. 9	504	1	V309	0..65535	-	0	R/W	R	2	
User def.reg. 10	504	1	V310	0..65535	-	0	R/W	R	2	

	User def.reg. 11	504	1	V311	0..65535	-	0	R/W	R	2
	User def.reg. 12	504	1	V312	0..65535	-	0	R/W	R	2
	User def.reg. 13	504	1	V313	0..65535	-	0	R/W	R	2
	User def.reg. 14	504	1	V314	0..65535	-	0	R/W	R	2
	User def.reg. 15	504	1	V315	0..65535	-	0	R/W	R	2
	User def.reg. 16	504	1	V316	0..65535	-	0	R/W	R	2
	User def.reg. 17	504	1	V317	0..65535	-	0	R/W	R	2
	User def.reg. 18	504	1	V318	0..65535	-	0	R/W	R	2
	User def.reg. 19	504	1	V319	0..65535	-	0	R/W	R	2
	User def.reg. 20	504	1	V320	0..65535	-	0	R/W	R	2
	User def.reg. 21	504	1	V321	0..65535	-	0	R/W	R	2
	User def.reg. 22	504	1	V322	0..65535	-	0	R/W	R	2
	User def.reg. 23	504	1	V323	0..65535	-	0	R/W	R	2
	User def.reg. 24	504	1	V324	0..65535	-	0	R/W	R	2
	User def.reg. 25	504	1	V325	0..65535	-	0	R/W	R	2
	User def.reg. 26	504	1	V326	0..65535	-	0	R/W	R	2
	User def.reg. 27	504	1	V327	0..65535	-	0	R/W	R	2
	User def.reg. 28	504	1	V328	0..65535	-	0	R/W	R	2
	User def.reg. 29	504	1	V329	0..65535	-	0	R/W	R	2
	User def.reg. 30	504	1	V330	0..65535	-	0	R/W	R	2
	User def.reg. 31	504	1	V331	0..65535	-	0	R/W	R	2
	User def.reg. 32	504	1	V332	0..65535	-	0	R/W	R	2
Rogowski sensor 1 /*RS1 / Rev B RS1 */ Control Parameters										
	Output voltage	3	1	V51	100...300	mV	150	R/W	R	2 Rated output voltage of RS 1
	Rated current	3	1	V52	1...6000	A	400	R/W	R	2 Rated current
	Corr. factor	3	1	V53	0.9000...1.1000	-	1.0000	R/W	R	2 Correction factor
	Displ. error	3	1	V54	-1.0000..1.0000	°	0.0000	R/W	R	2 Phase displacement error
Rogowski sensor 2 /*RS2 / Rev B RS2 */ Control Parameters										
	Output voltage	3	1	V61	100...300	mV	150	R/W	R	2 Rated output voltage of RS 2
	Rated current	3	1	V62	1...6000	A	400	R/W	R	2 Rated current
	Corr. factor	3	1	V63	0.9000...1.1000	-	1.0000	R/W	R	2 Correction factor
	Displ. error	3	1	V64	-1.0000..1.0000	°	0.0000	R/W	R	2 Phase displacement error
Rogowski sensor 3 /*RS3 / Rev B RS3 */ Control Parameters										
	Output voltage	3	1	V71	100...300	mV	150	R/W	R	2 Rated output voltage of RS 3
	Rated current	3	1	V72	1...6000	A	400	R/W	R	2 Rated current

	Corr. factor	3	1	V73	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor
	Displ. error	3	1	V74	-1.0000..1.0000	°	0.0000	R/W	R	2	Phase displacement error
LON SLW cofigurable parameters /*SLW / Rev A SLW */ Control Parameters											
	Receive Quota	506	0	V1	5..50	-	10	R/W	R	2	Maximum number of queued received messages
	Transmit Quota	506	0	V2	5..50	-	10	R/W	R	2	Maximum number of queued transmitted messages
	Tseq Timer	506	0	V3	100..60000	ms	300	R/W	R	2	Time the receiver waits after it receives a message before it sends an ACK
	Terr Timer	506	0	V4	100..60000	ms	750	R/W	R	2	Controls the cyclic sending of NACK after a message sequence error
	Tidle Timer	506	0	V5	100..60000	ms	10000	R/W	R	2	Used to keep channel alive and to retransmit an ACKÆs in case of ACK loss
	Tconn Timer	506	0	V6	100..60000	ms	60000	R/W	R	2	Maintained to monitor the operation of the remote node
	Tretr Timer	506	0	V7	100..60000	ms	5000	R/W	R	2	Used to trigger a retransmission of the message if the message or the ACK/NACK was lost
	Station address	506	0	V19	1..65535	-	1	R/W	R	2	LON SLW Unit Number (Application layer station address)
SPA parameters {FRONT=18,REAR=20} /*SPA / Rev A SPA{FRONT} */ Control Parameters											
	Open password	18	0	V160	1...999	-	1	W	-	0	Opening of password for remote setting
	SPA address	18	2	V200	1...999	-	1	R/W	R	0	Slave number for communication
	Baud rate	18	2	V201	0..2 [0=4800 bps; 1=9600 bps; 2=19200 bps]	bps	1	R/W	R	0	Data transfer rate for communication (enumerator)

	Baud rate	18	0	V202	4800...19200	bps	9600	R/W	-	0	Data transfer rate for communication (real baudrate)
	Change/close pw	18	0	V161	0...999 (0=close; 1...999=new password)	-	1	W	R	2	Changing and closing the password for remote setting
	Slave status	18	2	C0	0...3 (0=normal state; 1=automatic reset; 2=event overf.; 3=reset and event overf.)	-	0	R/W	-	0	Slave status
SPA parameters {FRONT=18,REAR=20} /*SPA / Rev A SPA{REAR} */											
Control Parameters											
	Open password	20	0	V160	1...999	-	1	W	-	0	Opening of password for remote setting
	SPA address	20	2	V200	1...999	-	1	R/W	R	0	Slave number for communication
	Baud rate	20	2	V201	0..2 [0=4800 bps; 1=9600 bps; 2=19200 bps]	bps	1	R/W	R	0	Data transfer rate for communication (enumerator)
	Baud rate	20	0	V202	4800...19200	bps	9600	R/W	-	0	Data transfer rate for communication (real baudrate)
	Change/close pw	20	0	V161	0...999 (0=close; 1...999=new password)	-	1	W	R	2	Changing and closing the password for remote setting
	Slave status	20	2	C0	0...3 (0=normal state; 1=automatic reset; 2=event overf.; 3=reset and event overf.)	-	0	R/W	-	0	Slave status
Transpartent SPA parameters /*SPATRANS / Rev A SPATRANS */											
Control Parameters											
	Open password	22	0	V160	1...999	-	1	W	-	0	Opening of password for remote setting
	SPA address	22	0	V200	1...999	-	1	R/W	R	0	Slave number for communication

	Baud rate	22	0	V201	0..5 [0=4800 bps; 1=9600 bps; 2=19200 bps;3=38400 bps;4=57600 bps]	bps	1	R/W	R	0	Data transfer rate for communication (enumerator)
	Baud rate	22	0	V202	4800...57600	bps	9600	R/W	-	0	Data transfer rate for communication (real baudrate)
	Change/close pw	22	0	V161	0...999 (0=close; 1...999=new password)	-	1	W	-	2	Changing and closing the password for remote setting
	Slave status	22	0	C0	0...3 (0=normal state; 1=automatic reset; 2=event overf.; 3=reset and event overf.)	-	0	R/W	-	0	Slave status
Testing and self-supervision											
/*TESU / Rev A TESU */ Control Parameters											
	TCS 1 state	13	0	I30	0 ... 1	-	0	R	-	0	State of trip circuit supervision 1
	Over Tmp	13	0	I31	0 ... 1	-	0	R	-	0	State of over temperature
	ACfail	13	0	I32	0 ... 1	-	0	R	-	0	State of AC fail
	CPU load	13	0	I33	0 ... 65535	-	0	R	-	0	Current average CPU load value
	Event mask 1	13	1	V101	0...3	-	0	R/W	R	2	Event mask for TESU
	Event mask 2	13	1	V103	0...3	-	0	R/W	R	2	Event mask for TESU
	Event mask 3	13	1	V105	0...3	-	0	R/W	R	2	Event mask for TESU
	Event mask 4	13	1	V107	0...3	-	0	R/W	R	2	Event mask for TESU
Time management /*TMA / Rev A TMA */ Control Parameters											
	Date/time	0	0	D0	Date and time	-	-	R/W	-	0	Date and time
	Date	0	2	Y0	Date only	-	-	R/W	-	0	Date only
	Time	0	2	T0	Time only	-	-	R/W	-	0	Time only
	Sync. source	5	1	V2	0..1 [0 = Net messages; 1 = X3.1.2 input]	-	0	R/W	R	2	Select input for pulse synchronization
	Sync. rounding	5	1	V1	0..1 [0 = Full seconds;1 = Full minutes]	-	0	R/W	R	2	Rounding for pulse synchronization of the internal clock
	Sync.trigg.slope	5	1	V3	0..1 [0 = Positive; 1 = Negative]	-	0	R/W	R	2	Select active slope for pulse synchronization
	Event mask 1	5	1	V101	0...3	-	0	R/W	R	2	Event mask for TMA block

	Event mask 2	5	1	V103	0...3	-	0	R/W	R	2	Event mask for TMA block
	Event mask 3	5	1	V105	0...3	-	0	R/W	R	2	Event mask for TMA block
	Event mask 4	5	1	V107	0...3	-	0	R/W	R	2	Event mask for TMA block
Voltage divider 1 /*VD1 / Rev B VD1 */ Control Parameters											
	Division ratio	3	1	V121	100...20000	-	10000	R/W	R	2	Division ratio of VD 1
	Primary voltage	3	1	V122	0.100...440.000	kV	20.000	R/W	R	2	Nominal phase-to-phase voltage
	Corr. factor	3	1	V123	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor
	Displ. error	3	1	V124	-1.0000...1.0000	°	0.0	R/W	R	2	Phase displacement error
Voltage divider 2 /*VD2 / Rev B VD2 */ Control Parameters											
	Division ratio	3	1	V131	100...20000	-	10000	R/W	R	2	Division ratio of VD 12
	Primary voltage	3	1	V132	0.100...440.000	kV	20.000	R/W	R	2	Nominal phase-to-phase voltage
	Corr. factor	3	1	V133	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor
	Displ. error	3	1	V134	-1.0000...1.0000	°	0.0	R/W	R	2	Phase displacement error
Voltage divider 3 /*VD3 / Rev B VD3 */ Control Parameters											
	Division ratio	3	1	V141	100...20000	-	10000	R/W	R	2	Division ratio of VD 3
	Primary voltage	3	1	V142	0.100...440.000	kV	20.000	R/W	R	2	Nominal phase-to-phase voltage
	Corr. factor	3	1	V143	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor
	Displ. error	3	1	V144	-1.0000...1.0000	°	0.0	R/W	R	2	Phase displacement error
Voltage transformer 1 /*VT1 / Rev B VT1 */ Control Parameters											
	Second. voltage	3	1	V81	0..3[0 = 100 V; 1 = 110 V; 2 = 115V; 3 = 120 V]	-	0	R/W	R	2	Rated secondary voltage of VT 1
	Primary voltage	3	1	V82	0.100...440.000	kV	11.547	R/W	R	2	Rated primary voltage
	Corr. factor	3	1	V83	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor for amplitude error at 1.00 x Un
	Displ. error	3	1	V84	-2.00...+2.00	°	0.00	R/W	R	2	Phase displacement error at 1.00 x Un
Voltage transformer 2 /*VT2 / Rev B VT2 */ Control Parameters											

	Second. voltage	3	1	V91	0..3[0 = 100 V; 1 = 110 V; 2 = 115V; 3 = 120 V;]	-	0	R/W	R	2	Rated secondary voltage of VT 2
	Primary voltage	3	1	V92	0.100...440.000	kV	20.000	R/W	R	2	Rated primary voltage
	Corr. factor	3	1	V93	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor for amplitude error at 1.00 x Un
	Displ. error	3	1	V94	-2.00...+2.00	°	0.00	R/W	R	2	Phase displacement error at 1.00 x Un
Voltage transformer 3 /*VT3 / Rev B VT3 */ Control Parameters											
	Second. voltage	3	1	V201	0..3[0 = 100 V; 1 = 110 V; 2 = 115V; 3 = 120 V;]	-	0	R/W	R	2	Rated secondary voltage of VT 3
	Primary voltage	3	1	V202	0.100...440.000	kV	20.000	R/W	R	2	Rated primary voltage
	Corr. factor	3	1	V203	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor for amplitude error at 1.00 x Un
	Displ. error	3	1	V204	-2.00...+2.00	°	0.00	R/W	R	2	Phase displacement error at 1.00 x Un
Voltage transformer 4 /*VT4 / Rev B VT4 */ Control Parameters											
	Second. voltage	3	1	V111	0..3[0 = 100 V; 1 = 110 V; 2 = 115V; 3 = 120 V;]	-	0	R/W	R	2	Rated secondary voltage of VT 4
	Primary voltage	3	1	V112	0.100...440.000	kV	20.000	R/W	R	2	Rated primary voltage
	Corr. factor	3	1	V113	0.9000...1.1000	-	1.0000	R/W	R	2	Correction factor for amplitude error at 1.00 x Un
	Displ. error	3	1	V114	-2.00...+2.00	°	0.00	R/W	R	2	Phase displacement error at 1.00 x Un