Relion® 620 series

Transformer Protection and Control RET620 ANSI

Modbus Point List Manual

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ABB Inc.
Distribution Automation
4300 Coral Ridge Drive
Coral Springs, FL 33065, USA
Toll-free: 1 (800) 523-2620
Phone: +1 954-752-6700
Fax: +1 954 345-5329
http://www.abb.com/substationautomation

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This product complies with the directive of the Council of the European Communities on the approximation of the laws of the Member States relating to electromagnetic compatibility (EMC Directive 2004/108/EC) and concerning electrical equipment for use within specified voltage limits (Low-voltage directive 2006/95/EC). This conformity is the result of tests conducted by ABB in accordance with the product standards EN 50263 and EN 60255-26 for the EMC directive, and with the product standards EN 60255-6 and EN 60255-27 for the low voltage directive. The IED is designed in accordance with the international standards of the IEC 60255 series and ANSI C37.90.

Section 1 Introduction

1.1 This manual

The point list manual describes the outlook and properties of the data points specific to the IED. The manual should be used in conjunction with the corresponding communication protocol manual.

1.2 Intended audience

This manual addresses the communication system engineer or system integrator responsible for pre-engineering and engineering for communication setup in a substation from an IED perspective.

The system engineer or system integrator must have a basic knowledge of communication in protection and control systems and thorough knowledge of the specific communication protocol.

1.3 Product documentation

1.3.1 Product documentation set

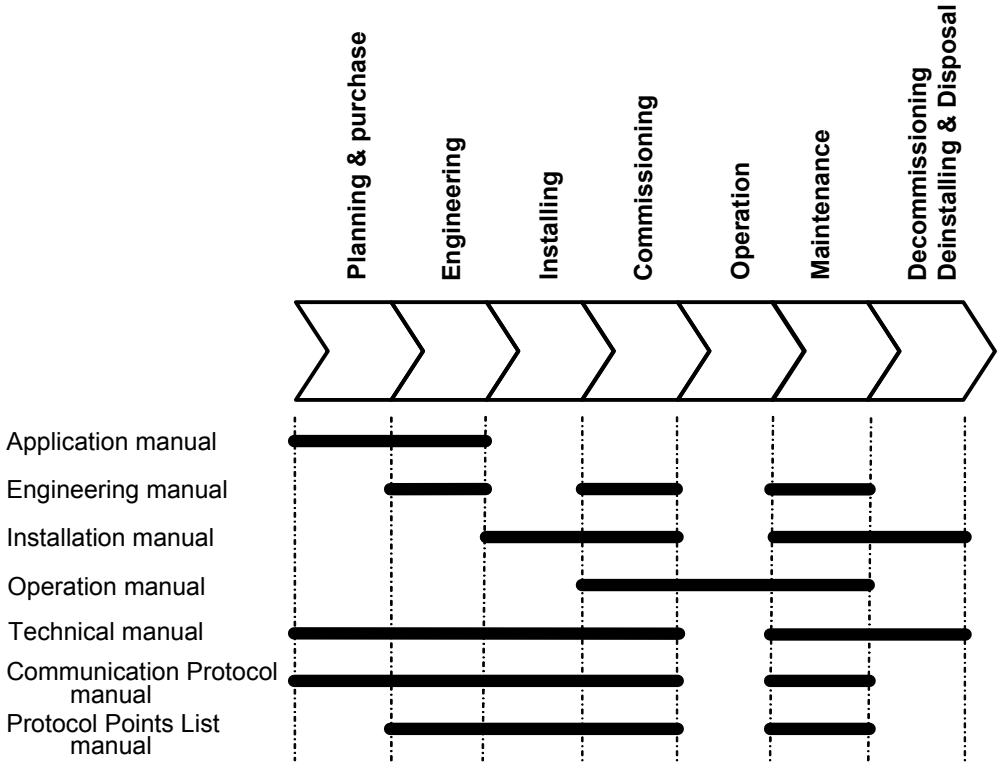

Figure 1: The intended use of manuals in different lifecycles

The engineering manual contains instructions on how to engineer the IEDs using the different tools in PCM600. The manual provides instructions on how to set up a PCM600 project and insert IEDs to the project structure. The manual also recommends a sequence for engineering of protection and control functions, LHMI functions as well as communication engineering for IEC 61850 and DNP3.

The installation manual contains instructions on how to install the IED. The manual provides procedures for mechanical and electrical installation. The chapters are organized in chronological order in which the IED should be installed.

The operation manual contains instructions on how to operate the IED once it has been commissioned. The manual provides instructions for monitoring, controlling and setting the IED. The manual also describes how to identify disturbances and how to view calculated and measured power grid data to determine the cause of a fault.

The application manual contains application descriptions and setting guidelines sorted per function. The manual can be used to find out when and for what purpose a typical protection function can be used. The manual can also be used when calculating settings.

The technical manual contains application and functionality descriptions and lists function blocks, logic diagrams, input and output signals, setting parameters and technical data

sorted per function. The manual can be used as a technical reference during the engineering phase, installation and commissioning phase, and during normal service.

The communication protocol manual describes a communication protocol supported by the IED. The manual concentrates on vendor-specific implementations. The point list manual describes the outlook and properties of the data points specific to the IED. The manual should be used in conjunction with the corresponding communication protocol manual.

1.3.2 Document revision history

Document revision/date	Product series version	History
A/10/26/2012	2.0	First release

Download the latest documents from the ABB web site http://www.abb.com/substationautomation.

1.3.3 Related documentation

Name of the document	Document ID
Modbus Communication Protocol Manual	1MAC458836-IB

1.4 Symbols and conventions

1.4.1 Safety indication symbols

The caution icon indicates important information or warning related to the concept discussed in the text. It might indicate the presence of a hazard which could result in corruption of software or damage to equipment or property.

The information icon alerts the reader to important facts and conditions.

The tip icon indicates advice on, for example, how to design your project or how to use a certain function.

Although warning hazards are related to personal injury, it should be understood that operation of damaged equipment could, under certain operational conditions, result in degraded process performance leading to personal injury or death. Therefore, comply fully with all warning and caution notices.

1.4.2 Manual conventions

Conventions used in IED manuals. A particular convention may not be used in this manual.

- Abbreviations and acronyms in this manual are spelled out in the glossary. The glossary also contains definitions of important terms.
- Push button navigation in the LHMI menu structure is presented by using the push button icons, for example:

  To navigate between the options, use  and  .
- HMI menu paths are presented in bold, for example:

  Select **Main menu > Settings**.
- LHMI messages are shown in Courier font, for example:

  To save the changes in non-volatile memory, select `Yes` and press  .
- Parameter names are shown in italics, for example:

  The function can be enabled and disabled with the *Operation* setting.
- Parameter values are indicated with quotation marks, for example:

  The corresponding parameter values are "Enabled" and "Disabled".
- IED input/output messages and monitored data names are shown in Courier font, for example:

  When the function picks up, the `PICKUP` output is set to TRUE.
- Dimensions are provided both in inches and mm. If it is not specifically mentioned then the dimension is in mm.

1.4.3 Functions, codes and symbols

Table 1: Functions included in standard configurations

Function	IEC61850	ANSI/C37.2	IEC60617
Protection			
Three-phase non-directional overcurrent protection, low stage, instance 1	PHLPTOC1	51P(1)	3I> (1)
Three-phase non-directional overcurrent protection, low stage, instance 2	PHLPTOC2	51P(2)	3I> (2)
Three-phase non-directional overcurrent protection, low stage, instance 3	PHLPTOC3	51P(3)	3I> (3)
Three-phase non-directional overcurrent protection, high stage, instance 1	PHHPTOC1	50P-1(1)	3I>> (1)
Three-phase non-directional overcurrent protection, high stage, instance 2	PHHPTOC2	50P-2(1)	3I>> (2)
Three-phase non-directional overcurrent protection, high stage, instance 3	PHHPTOC3	50P-1(2)	3I>> (3)
Three-phase non-directional overcurrent protection, high stage, instance 4	PHHPTOC4	50P-2(2)	3I>> (4)
Three-phase non-directional overcurrent protection, high stage, instance 5	PHHPTOC5	50P-1(3)	3I>> (5)
Three-phase non-directional overcurrent protection, high stage, instance 6	PHHPTOC6	50P-2(3)	3I>> (6)
Three-phase directional overcurrent protection, low stage, instance 1	DPHLPDOC1	67/51P(1)	3I> -> (1)
Three-phase directional overcurrent protection, low stage, instance 2	DPHLPDOC2	67/51P(2)	3I> -> (2)
Non-directional ground-fault protection, low stage, instance 1	EFLPTOC1	51G	Io> (1)
Non-directional ground-fault protection, low stage, instance 2	EFLPTOC2	51N(1)	Io> (2)
Non-directional ground-fault protection, low stage, instance 3	EFLPTOC3	51N(2)	Io> (3)

Function	IEC61850	ANSI/C37.2	IEC60617
Non-directional ground-fault protection, low stage, instance 4	EFLPTOC4	51N(3)	Io> (4)
Non-directional ground-fault protection, high stage, instance 1	EFHPTOC1	50G	Io>> (1)
Non-directional ground-fault protection, high stage, instance 3	EFHPTOC3	50N-1(1)	Io>> (3)
Non-directional ground-fault protection, high stage, instance 4	EFHPTOC4	50N-1(2)	Io>> (4)
Non-directional ground-fault protection, high stage, instance 5	EFHPTOC5	50N-1(3)	Io>> (5)
Directional ground-fault protection, low stage, instance 1	DEFLPDEF1	67/51N(1)	Io> -> (1)
Directional ground-fault protection, low stage, instance 2	DEFLPDEF2	67/51N(2)	Io> -> (2)
Three phase directional power protection, instance 1	DPSRDIR1	32P(1)	I1-> (1)
Three phase directional power protection, instance 2	DPSRDIR2	32P(2)	I1-> (2)
Ground directional power protection, instance 1	DNZSRDIR1	32N(1)	I2 ->, Io-> (1)
Ground directional power protection, instance 2	DNZSRDIR2	32N(2)	I2 ->, Io-> (2)
Negative-sequence overcurrent protection, instance 1	NSPTOC1	46(1)	I2> (1)
Negative-sequence overcurrent protection, instance 2	NSPTOC2	46(2)	I2> (2)
Negative-sequence overcurrent protection, instance 3	NSPTOC3	46(3)	I2> (3)
Residual overvoltage protection, instance 1	ROVPTOV1	59G	Uo> (1)
Residual overvoltage protection, instance 2	ROVPTOV2	59N (1)	Uo> (2)
Residual overvoltage protection, instance 3	ROVPTOV3	59N (2)	Uo> (3)
Three-phase undervoltage protection, instance 1	PHPTUV1	27-1(1)	3U< (1)
Three-phase undervoltage protection, instance 2	PHPTUV2	27-2(1)	3U< (2)
Three-phase undervoltage protection, instance 3	PHPTUV3	27-1(2)	3U< (3)
Three-phase undervoltage protection, instance 4	PHPTUV4	27-2(2)	3U< (4)
Three-phase overvoltage protection, instance 1	PHPTOV1	59-1(1)	3U> (1)
Three-phase overvoltage protection, instance 2	PHPTOV2	59-2(1)	3U> (2)
Three-phase overvoltage protection, instance 3	PHPTOV3	59-1(2)	3U> (3)
Three-phase overvoltage protection, instance 4	PHPTOV4	59-2(2)	3U> (4)
Negative-sequence overvoltage protection, instance 1	NSPTOV1	47-1(1)	U2> (1)
Negative-sequence overvoltage protection, instance 2	NSPTOV2	47-2(1)	U2> (2)
Negative-sequence overvoltage protection, instance 3	NSPTOV3	47-1(2)	U2> (3)
Negative-sequence overvoltage protection, instance 4	NSPTOV4	47-2(2)	U2> (4)
Frequency protection, instance 1	FRPFRQ1	81-1(1)	f>/f<,df/dt (1)
Frequency protection, instance 2	FRPFRQ2	81-2(1)	f>/f<,df/dt (2)
Frequency protection, instance 3	FRPFRQ3	81-1(2)	f>/f<,df/dt (3)
Frequency protection, instance 4	FRPFRQ4	81-2(2)	f>/f<,df/dt (4)
Voltage per hertz protection, instance 1	OEPVPH1	24-1(1)	U/f> (1)
Voltage per hertz protection, instance 2	OEPVPH2	24-2(1)	U/f> (2)
Voltage per hertz protection, instance 3	OEPVPH3	24-1(2)	U/f> (3)
Voltage per hertz protection, instance 4	OEPVPH4	24-2(2)	U/f> (4)
Three-phase thermal overload protection for power transformers, two time constants	T2PTTR1	49T(1)	3Ith>T
Stabilized and instantaneous differential protection for 3W -Transformers	TR3PTDF1	87T	3dI>T
Numerical stabilized low impedance restricted ground-fault protection	LREFPNDF1	87LOZREF(2)	dIoLo>
Circuit breaker failure protection, instance 1	CCBRBRF1	50BF(1)	3I>/Io>BF (1)

Function	IEC61850	ANSI/C37.2	IEC60617
Circuit breaker failure protection, instance 2	CCBRBRF2	50BF(2)	3I>/Io>BF (2)
Circuit breaker failure protection, instance 3	CCBRBRF3	50BF(3)	3I>/Io>BF (3)
Master trip, instance 1	TRPPTRC1	86/94-1	Master Trip (1)
Master trip, instance 2	TRPPTRC2	86/94-2	Master Trip (2)
Master trip, instance 3	TRPPTRC3	86/94-3	Master Trip (3)
Arc protection, instance 1	ARCSARC1	AFD-1(2)	ARC (1)
Arc protection, instance 2	ARCSARC2	AFD-2(2)	ARC (2)
Arc protection, instance 3	ARCSARC3	AFD-3(2)	ARC (3)
Load shedding and restoration, instance 1	LSHDPFRQ1	81LSH-1(1)	UFLS/R (1)
Load shedding and restoration, instance 2	LSHDPFRQ2	81LSH-2(1)	UFLS/R (2)
Load shedding and restoration, instance 3	LSHDPFRQ3	81LSH-3(1)	UFLS/R (3)
Load shedding and restoration, instance 4	LSHDPFRQ4	81LSH-4(1)	UFLS/R (4)
Load shedding and restoration, instance 5	LSHDPFRQ5	81LSH-1(2)	UFLS/R (5)
Load shedding and restoration, instance 6	LSHDPFRQ6	81LSH-2(2)	UFLS/R (6)
Load shedding and restoration, instance 7	LSHDPFRQ7	81LSH-3(2)	UFLS/R (7)
Load shedding and restoration, instance 8	LSHDPFRQ8	81LSH-4(2)	UFLS/R (8)
RTD based thermal protection, instance 1	MAPGAPC1	38-1	ThA> ThB>
RTD based thermal protection, instance 2	MAPGAPC2	38-2	ThA> ThB>
RTD based thermal protection, instance 3	MAPGAPC3	38-3	ThA> ThB>
Loss of phase, instance 1	PHPTUC1	37(1)	3I< (1)
Loss of phase, instance 2	PHPTUC2	37(2)	3I< (2)
Loss of phase, instance 3	PHPTUC3	37(3)	3I< (3)
Control			
Circuit-breaker control, instance 1	CBXCBR1	52(1)	I <-> O CB (1)
Circuit-breaker control, instance 2	CBXCBR2	52(2)	I <-> O CB (2)
Circuit-breaker control, instance 3	CBXCBR3	52(3)	I <-> O CB (3)
Condition Monitoring			
Circuit-breaker condition monitoring, instance 1	SSCBR1	52CM(1)	CBCM (1)
Circuit-breaker condition monitoring, instance 2	SSCBR2	52CM(2)	CBCM (2)
Circuit-breaker condition monitoring, instance 3	SSCBR3	52CM(3)	CBCM (3)
Trip circuit supervision, instance 1	TCSSCBR1	TCM-1	TCS (1)
Trip circuit supervision, instance 2	TCSSCBR2	TCM-2	TCS (2)
Trip circuit supervision, instance 3	TCSSCBR3	TCM-3	TCS (3)
Advanced current circuit supervision for transformers	CTSRCTF1	MCS 3I, I2	MCS 3I, I2
Fuse failure supervision, instance 1	SEQRFUF1	60(1)	FUSEF (1)
Fuse failure supervision, instance 2	SEQRFUF2	60(2)	FUSEF (2)
Measurement			
Three-phase current measurement, instance 1	CMMXU1	IA, IB, IC(1)	3I
Three-phase current measurement, instance 2	CMMXU2	IA, IB, IC(2)	3I(B)
Three-phase current measurement, instance 3	CMMXU3	IA, IB, IC(3)	3I(C)
Sequence current measurement, instance 1	CSMSQI1	I1, I2, I0(1)	I1, I2, I0

Function	IEC61850	ANSI/C37.2	IEC60617
Sequence current measurement, instance 2	CSMSQI2	I1, I2, I0(2)	I1, I2, I0(B)
Sequence current measurement, instance 3	CSMSQI3	I1, I2, I0(3)	I1, I2, I0(C)
Residual current measurement, instance 1	RESCMMXU1	IG	Io
Three-phase voltage measurement, instance 1	VMMXU1	VA, VB, VC(1)	3U
Three-phase voltage measurement, instance 2	VMMXU2	VA, VB, VC (2)	3U(B)
Residual voltage measurement, instance 1	RESVMMXU1	VG	Uo
Residual voltage measurement, instance 2	RESVMMXU2	VG	Uo(B)
Sequence voltage measurement, instance 1	VSMSQI1	V1, V2, V0(1)	U1, U2, U0
Sequence voltage measurement, instance 2	VSMSQI2	V1, V2, V0 (2)	U1, U2, U0(B)
Single-phase power and energy measurement, instance 1	SPEMMXU1	SP, SE(1)	SP, SE
Single-phase power and energy measurement, instance 2	SPEMMXU2	SP, SE(2)	SP, SE(B)
Three-phase power and energy measurement, instance 1	PEMMXU1	P, E(1)	P, E
Three-phase power and energy measurement, instance 2	PEMMXU2	P, E(2)	P, E(B)
Load profile	LDPMSTA1	LoadProf	LoadProf
Frequency measurement, instance 1	FMMXU1	f	f
Frequency measurement, instance 2	FMMXU2	f	f
Tap changer position indication	TPOSSLTC1	84T	TPOSM
Recorder			
Disturbance recorder	RDRE1	DFR	DR
Fault recorder	FLTMSTA1	FR	FR
Sequence event recorder	SER	SER	SER
Other Functions			
Minimum pulse timer (2 pcs), instance 1	TPGAPC1	TP-1	TP (1)
Minimum pulse timer (2 pcs), instance 2	TPGAPC2	TP-2	TP (2)
Minimum pulse timer (2 pcs), instance 3	TPGAPC3	TP-3	TP (3)
Minimum pulse timer (2 pcs), instance 4	TPGAPC4	TP-4	TP (4)
Pulse timer (8 pcs), instance 1	PTGAPC1	PT-1	PT (1)
Pulse timer (8 pcs), instance 2	PTGAPC2	PT-2	PT (2)
Time delay off (8 pcs), instance 1	TOFGAPC1	TOF-1	TOF (1)
Time delay off (8 pcs), instance 2	TOFGAPC2	TOF-2	TOF (2)
Time delay off (8 pcs), instance 3	TOFGAPC3	TOF-3	TOF (3)
Time delay off (8 pcs), instance 4	TOFGAPC4	TOF-4	TOF (4)
Time delay on (8 pcs), instance 1	TONGAPC1	TON -1	TON (1)
Time delay on (8 pcs), instance 2	TONGAPC2	TON -2	TON (2)
Time delay on (8 pcs), instance 3	TONGAPC3	TON -3	TON (3)
Time delay on (8 pcs), instance 4	TONGAPC4	TON -4	TON (4)
Set reset (8 pcs), instance 1	SRGAPC1	SR-1	SR (1)
Set reset (8 pcs), instance 2	SRGAPC2	SR-2	SR (2)
Set reset (8 pcs), instance 3	SRGAPC3	SR-3	SR (3)
Set reset (8 pcs), instance 4	SRGAPC4	SR-4	SR (4)
Move (8 pcs), instance 1	MVGAPC1	MV-1	MV (1)

Function	IEC61850	ANSI/C37.2	IEC60617
Move (8 pcs), instance 2	MVGAPC2	MV-2	MV (2)
Move (8 pcs), instance 3	MVGAPC3	MV-3	MV (3)
Move (8 pcs), instance 4	MVGAPC4	MV-4	MV (4)
Move (8 pcs), instance 5	MVGAPC5	MV-5	MV (5)
Move (8 pcs), instance 6	MVGAPC6	MV-6	MV (6)
Move (8 pcs), instance 7	MVGAPC7	MV-7	MV (7)
Move (8 pcs), instance 8	MVGAPC8	MV-8	MV (8)
Generic control points, instance 1	SPCGGIO1	CNTRL-1	SPC(1)
Generic control points, instance 2	SPCGGIO2	CNTRL-2	SPC(2)
Generic control points, instance 3	SPCGGIO3	CNTRL-3	SPC(3)
Remote Generic control points, instance 1	SPCRGGIO1	RCNTRL-1	SPCR(1)
Local Generic control points, instance 1	SPCLGGIO1	LCNTRL-1	SPCL(1)
Generic Up-Down Counters, instance 1	UDFCNT1	CTR-1	CTR(1)
Generic Up-Down Counters, instance 2	UDFCNT2	CTR-2	CTR(2)
Generic Up-Down Counters, instance 3	UDFCNT3	CTR-3	CTR(3)
Generic Up-Down Counters, instance 4	UDFCNT4	CTR-4	CTR(4)
Generic Up-Down Counters, instance 5	UDFCNT5	CTR-5	CTR(5)
Generic Up-Down Counters, instance 6	UDFCNT6	CTR-6	CTR(6)
Generic Up-Down Counters, instance 7	UDFCNT7	CTR-7	CTR(7)
Generic Up-Down Counters, instance 8	UDFCNT8	CTR-8	CTR(8)
Generic Up-Down Counters, instance 9	UDFCNT9	CTR-9	CTR(9)
Generic Up-Down Counters, instance 10	UDFCNT10	CTR-10	CTR(10)
Generic Up-Down Counters, instance 11	UDFCNT11	CTR-11	CTR(11)
Generic Up-Down Counters, instance 12	UDFCNT12	CTR-12	CTR(12)
Programmable buttons (16 buttons), instance 1	FKEYGGIO1	FKEY	FKEY

Section 2 Modbus data mappings

2.1 Overview

This document describes the Modbus data points and structures available in RET620 Ver 2.0 ANSI IED.

Point list table columns

Coil Addr (0x)	Coil (0x) PLC address
Input Add (1x)	Input (1x) PLC address
Register(:Bit) Addr (4x)	Register PLC address, and bit within register
Dc	Data category
MCD	Momentary Change Detect
Type	Register type and value interpretation; signed or unsigned
Scale	Scale factor, default value is 1
Offset	Offset factor, default value is 0
Description	Data description
IEC61850 Data Attribute Name	IEDs internal IEC61850 signal name
Control Structure	Internal control structure identity
Control Register Addr	Register PLC Address, available for control operation
Control Bit Number	Control bit within control register for control operation
W	Writable Register

2.2 Point list for RET620 v2.0 ANSI

Table 2: System Status Registers

Coil Addr	4x Register Addr.	Dc	Type	Scale	OffSet	Description	IEC61850 Data Attribute Name
	9000	0	u16			System Status Register, 1	
	9001	0	u16			System Status Register, 2	
	9002	0	u16			System Status Register, 3	
	9003	0	u16			System Status Register, 4	
	9004	0	u16			System Status Register, 5	
	9005	0	u16			System Status Register, 6	
	9200	0	u16			Device Information	
	..	0	u16				
		0	u16				

Table 2.1 Select Parameter Setting Group Registers

Coil Addr	4x Register Addr.	W	Type	Scale	OffSet	Description	IEC61850 Data Attribute Name
	9006	x	u16			Parameter Setting Group in Use	

Table 3: Time Stamp of Last Device Reset

Coil Addr	4x Register Addr.	Dc	Type	Scale	OffSet	Description	IEC61850 Data Attribute Name
	9030	0	u16			Year(High Byte)/Month(Low Byte)	
	9031	0	u16			Day(High Byte)/Hour(Low Byte)	
	9032	0	u16			Min(High Byte)/Sec(Low Byte)	
	9033	0	u16			MilliSecond	
	9034	0	u16			Time Quality	
	9035	0	u16			Cause of Reset (1-Power Reset, 2-Watchdog Reset, 3-Warm Reset)	

Table 4: Device Real-Time clock in local Time

Coil Addr	4x Register Addr.	W	Type	Scale	OffSet	Description	IEC61850 Data Attribute Name
	9010	x	u16			Real-time struct - Control register(0..2)	
	9011	x	u16			Real-time struct - Year (2000-2999)	
	9012	x	u16			Real-time struct - Month (1..12)	
	9013	x	u16			Real-time struct - Day (1..31)	
	9014	x	u16			Real-time struct - Hour (0..23)	
	9015	x	u16			Real-time struct - Minute (0..59)	
	9016	x	u16			Real-time struct - Seconds (0..59)	

Coil Addr	4x Register Addr.	W	Type	Scale	OffSet	Description	IEC61850 Data Attribute Name
	9017	x	u16			Real-time struct - Milliseconds (0..999)	

Table 5: Device Real-Time clock in UTC Time

Coil Addr	4x Register Addr.	W	Type	Scale	OffSet	Description	IEC61850 Data Attribute Name
	9020	x	u16			Real-time struct - Control register(0..2)	
	9021	x	u16			Real-time struct - Year (2000-2999)	
	9022	x	u16			Real-time struct - Month (1..12)	
	9023	x	u16			Real-time struct - Day (1..31)	
	9024	x	u16			Real-time struct - Hour (0..23)	
	9025	x	u16			Real-time struct - Minute (0..59)	
	9026	x	u16			Real-time struct - Seconds (0..59)	
	9027	x	u16			Real-time struct - Milliseconds (0..999)	

Table 6: Event Records

Coil Addr	4x Register Addr.	W	Type	Scale	OffSet	Description	IEC61850 Data Attribute Name
	9040	x	u16			Number of Events to Read	
	9041	x	u16			Event Selection	
	9042		u16			Sequence Number	
	9043		u16			Number of Unread Records	
	9044		u16			Year(High Byte)/Month(Low Byte)	
	9045		u16			Day(High Byte)/Hour(Low Byte)	
	9046		u16			Min(High Byte)/Sec(Low Byte)	
	9047		u16			MilliSecond	
	9048		u16			Event Type	
	9049		u16			Data Object ID 1 [1)]	
	9050		u16			Data Object ID 2 [1)]	
	9051		u16			Event Data Value	
	9052		u16			Event Data Value	

1) See Decoding of Data Object ID1 and 1

Decoding of Data Object ID1 and Data Object ID2

DataObject ID2 displays the coil address of the data object, of which the value change incurs the event. Its counterpart of the 4x Modbus address is DataObject ID2 divided by 16 plus 40000. Bit offset of 4x address is the remainder of DataObject ID2 divided by 16.

For Instance, Bit 2 in register of 40297 would appear in Data Object ID2 as 4754. The coil address is 297 * 16 + 2 = 4754.

Data Object ID1 is reserved for the event caused by a 32bit value change. In this case, Data Object ID1 is non-zero and a 32 bit number is composed of Data Object ID1 as bits from 31 to 16 and Data Object ID2 as bits from 15 to 0.

Table 7: Fault records

Coil Addr	4x Register Addr.	W	Dc	Type	Scale	Description	IEC61850 Data Attribute Name
	8000	x		u16		Fault Record Selection	
	8001			u16		Sequence Number	
	8002			u16		Number of Unread Records	
	8003			u16		Year(High Byte)/Month(Low Byte)	
	8004			u16		Day(High Byte)/Hour(Low Byte)	
	8005			u16		Min(High Byte)/Sec(Low Byte)	
	8006			u16		MilliSecond	
	8007			u16		Time Quality	
	8008		100	u16		FLTMSTA1 Active setting group	LD0.FLTMSTA1.ActSG.stVal
	8009		100	u16	100	FLTMSTA1 Phase A current	LD0.FLTMSTA1.AmpsA.mag.f
	8010		100	u16	100	FLTMSTA1 phase A current (b)	LD0.FLTMSTA1.AmpsAb.mag.f
	8011		100	u16	100	FLTMSTA1 Phase A current (c)	LD0.FLTMSTA1.AmpsAc.mag.f
	8012		100	u16	100	FLTMSTA1 Phase B current	LD0.FLTMSTA1.AmpsB.mag.f
	8013		100	u16	100	FLTMSTA1 phase B current (b)	LD0.FLTMSTA1.AmpsBb.mag.f
	8014		100	u16	100	FLTMSTA1 Phase B current (c)	LD0.FLTMSTA1.AmpsBc.mag.f
	8015		100	u16	100	FLTMSTA1 Phase C current	LD0.FLTMSTA1.AmpsC.mag.f
	8016		100	u16	100	FLTMSTA1 phase C current (b)	LD0.FLTMSTA1.AmpsCb.mag.f
	8017		100	u16	100	FLTMSTA1 Phase C current (c)	LD0.FLTMSTA1.AmpsCc.mag.f
	8018		100	u16	100	FLTMSTA1 Residual current	LD0.FLTMSTA1.AmpsN.mag.f
	8019		100	u16	100	FLTMSTA1 Residual current (b)	LD0.FLTMSTA1.AmpsNb.mag.f
	8020		100	u16	100	FLTMSTA1 Residual current (c)	LD0.FLTMSTA1.AmpsNc.mag.f
	8021		100	u16	100	FLTMSTA1 Calculated residual current	LD0.FLTMSTA1.AmpsNClc.mag.f
	8022		100	u16	100	FLTMSTA1 Calculated residual current (b)	LD0.FLTMSTA1.AmpsNClcb.mag.f
	8023		100	u16	100	FLTMSTA1 Calculated residual current (c)	LD0.FLTMSTA1.AmpsNClcc.mag.f
	8024		100	u16	100	FLTMSTA1 Negative sequence current	LD0.FLTMSTA1.AmpsNgSeq.mag.f
	8025		100	u16	100	FLTMSTA1 Negative sequence current (b)	LD0.FLTMSTA1.AmpsNgSeqb.mag.f
	8026		100	u16	100	FLTMSTA1 Negative sequence current (c)	LD0.FLTMSTA1.AmpsNgSeqc.mag.f
	8027		100	u16	100	FLTMSTA1 Positive sequence current	LD0.FLTMSTA1.AmpsPsSeq.mag.f
	8028		100	u16	100	FLTMSTA1 Positive sequence current (b)	LD0.FLTMSTA1.AmpsPsSeqb.mag.f

Coil Addr	4x Register Addr.	W	Dc	Type	Scale	Description	IEC61850 Data Attribute Name
	8029		100	u16	100	FLTMSTA1 Positive sequence current (c)	LD0.FLTMSTA1.AmpsPsSeqc.mag.f
	8030		100	u32	100	FLTMSTA1 Breaker clear time	LD0.FLTMSTA1.CBClrTm.mag.f
	8031						
	8032		100	s32	100	FLTMSTA1 Conductance Yo	LD0.FLTMSTA1.CondN.mag.f
	8033						
	8034		100	u16	100	FLTMSTA1 Angle phase B to phase C voltage - phase A current	LD0.FLTMSTA1.DifAAngBC.mag.f
	8035		100	u16	100	FLTMSTA1 Angle phase B to phase C voltage - phase A current (b)	LD0.FLTMSTA1.DifAAngBCb.mag.f
	8036		100	u16	100	FLTMSTA1 Differential current phase A	LD0.FLTMSTA1.DifAmpsA.mag.f
	8037		100	u16	100	FLTMSTA1 Differential current phase B	LD0.FLTMSTA1.DifAmpsB.mag.f
	8038		100	u16	100	FLTMSTA1 Differential current phase C	LD0.FLTMSTA1.DifAmpsC.mag.f
	8039		100	u16	100	FLTMSTA1 Differential current residual	LD0.FLTMSTA1.DifAmpsN.mag.f
	8040		100	u16	100	FLTMSTA1 Angle phase C to phase A voltage - phase B current	LD0.FLTMSTA1.DifBAngCA.mag.f
	8041		100	u16	100	FLTMSTA1 Angle phase C to phase A voltage - phase B current (b)	LD0.FLTMSTA1.DifBAngCAb.mag.f
	8042		100	u16	100	FLTMSTA1 Angle phase A to phase B voltage - phase C current	LD0.FLTMSTA1.DifCAngAB.mag.f
	8043		100	u16	100	FLTMSTA1 Angle phase A to phase B voltage - phase C current (b)	LD0.FLTMSTA1.DifCAngABb.mag.f
	8044		100	u16	100	FLTMSTA1 Angle residual voltage - residual current	LD0.FLTMSTA1.DifNAngN.mag.f
	8045		100	u16	100	FLTMSTA1 Angle residual voltage - residual current (b)	LD0.FLTMSTA1.DifNAngNb.mag.f
	8046		100	u32	100	FLTMSTA1 Distance to fault measured in pu	LD0.FLTMSTA1.FltDiskm.mag.f
	8047						
	8048		100	u32	100	FLTMSTA1 Fault resistance	LD0.FLTMSTA1.FltZ.cVal.mag.f
	8049						
	8050		100	s16	100		
	8051		100	u16	100	FLTMSTA1 Frequency	LD0.FLTMSTA1.Hz.mag.f
	8052		100	s16	100	FLTMSTA1 Frequency gradient	LD0.FLTMSTA1.HzS.mag.f
	8053		100	u16	100	FLTMSTA1 Maximum phase A current	LD0.FLTMSTA1.MaxAmpsA.mag.f
	8054		100	u16	100	FLTMSTA1 Maximum phase A current (b)	LD0.FLTMSTA1.MaxAmpsAb.mag.f
	8055		100	u16	100	FLTMSTA1 Maximum phase A current (c)	LD0.FLTMSTA1.MaxAmpsAc.mag.f
	8056		100	u16	100	FLTMSTA1 Maximum phase B current	LD0.FLTMSTA1.MaxAmpsB.mag.f
	8057		100	u16	100	FLTMSTA1 Maximum phase B current (b)	LD0.FLTMSTA1.MaxAmpsBb.mag.f
	8058		100	u16	100	FLTMSTA1 Maximum phase B current (c)	LD0.FLTMSTA1.MaxAmpsBc.mag.f
	8059		100	u16	100	FLTMSTA1 Maximum phase C current	LD0.FLTMSTA1.MaxAmpsC.mag.f
	8060		100	u16	100	FLTMSTA1 Maximum phase C current (b)	LD0.FLTMSTA1.MaxAmpsCb.mag.f
	8061		100	u16	100	FLTMSTA1 Maximum phase C current (c)	LD0.FLTMSTA1.MaxAmpsCc.mag.f
	8062		100	u16	100	FLTMSTA1 Maximum residual current	LD0.FLTMSTA1.MaxAmpsN.mag.f
	8063		100	u16	100	FLTMSTA1 Maximum residual current (b)	LD0.FLTMSTA1.MaxAmpsNb.mag.f

Coil Addr	4x Register Addr.	W	Dc	Type	Scale	Description	IEC61850 Data Attribute Name
	8064		100	u16	100	FLTMSTA1 Maximum residual current (c)	LD0.FLTMSTA1.MaxAmpsNc.mag.f
	8065		100	u16	100	FLTMSTA1 calculated temperature of the protected object relative to the trip level	LD0.FLTMSTA1.MaxTmpRl.mag.f
	8066		100	u16	100	FLTMSTA1 Maximum phase A differential current	LD0.FLTMSTA1.MxDifAClcA.mag.f
	8067		100	u16	100	FLTMSTA1 Maximum phase B differential current	LD0.FLTMSTA1.MxDifAClcB.mag.f
	8068		100	u16	100	FLTMSTA1 Maximum phase C differential current	LD0.FLTMSTA1.MxDifAClcC.mag.f
	8069		100	u16	100	FLTMSTA1 Maximum phase A bias current	LD0.FLTMSTA1.MxRstAClcA.mag.f
	8070		100	u16	100	FLTMSTA1 Maximum phase B bias current	LD0.FLTMSTA1.MxRstAClcB.mag.f
	8071		100	u16	100	FLTMSTA1 Maximum phase C bias current	LD0.FLTMSTA1.MxRstAClcC.mag.f
	8072		100	u32		FLTMSTA1 Fault record number	LD0.FLTMSTA1.OpCnt.stVal
	8073						
	8074		100	u32	100	FLTMSTA1 Trip time	LD0.FLTMSTA1.OpTm.mag.f
	8075						
	8076		100	u16	100	FLTMSTA1 PDNSPTOC1 ratio I2/I1	LD0.FLTMSTA1.PDNS1MxRat.mag.f
	8077		100	s32	100	FLTMSTA1 Reactance of fault loop	LD0.FLTMSTA1.PPLoopReac.mag.f
	8078						
	8079		100	s32	100	FLTMSTA1 Resistance of fault loop	LD0.FLTMSTA1.PPLoopRis.mag.f
	8080						
	8081		100	u16		FLTMSTA1 Protection function	LD0.FLTMSTA1.ProFcn.stVal
	8082		100	u16	100	FLTMSTA1 Bias current phase A	LD0.FLTMSTA1.RstAmpsA.mag.f
	8083		100	u16	100	FLTMSTA1 Bias current phase B	LD0.FLTMSTA1.RstAmpsB.mag.f
	8084		100	u16	100	FLTMSTA1 Bias current phase C	LD0.FLTMSTA1.RstAmpsC.mag.f
	8085		100	u16	100	FLTMSTA1 Bias current residual	LD0.FLTMSTA1.RstAmpsN.mag.f
	8086		100	u16		FLTMSTA1 Autoreclosing shot pointer value	LD0.FLTMSTA1.ShotPntr.stVal
	8087		100	u16	100	FLTMSTA1 Maximum pickup duration of all stages during the fault	LD0.FLTMSTA1.StrDur.mag.f
	8088		100	s32	100	FLTMSTA1 Susceptance Yo	LD0.FLTMSTA1.SusN.mag.f
	8089						
	8090		100	u16	100	FLTMSTA1 Negative sequence voltage	LD0.FLTMSTA1.VNgSeq.mag.f
	8091		100	u16	100	FLTMSTA1 Negative sequence voltage (b)	LD0.FLTMSTA1.VNgSeqb.mag.f
	8092		100	u16	100	FLTMSTA1 Phase A voltage	LD0.FLTMSTA1.VoltsA.mag.f
	8093		100	u16	100	FLTMSTA1 Phase A to phase B voltage	LD0.FLTMSTA1.VoltsAB.mag.f
	8094		100	u16	100	FLTMSTA1 Phase A voltage (b)	LD0.FLTMSTA1.VoltsAb.mag.f
	8095		100	u16	100	FLTMSTA1 Phase A to phase B voltage (b)	LD0.FLTMSTA1.VoltsABb.mag.f
	8096		100	u16	100	FLTMSTA1 Phase B voltage	LD0.FLTMSTA1.VoltsB.mag.f
	8097		100	u16	100	FLTMSTA1 Phase B voltage (b)	LD0.FLTMSTA1.VoltsBb.mag.f
	8098		100	u16	100	FLTMSTA1 Phase B to phase C voltage	LD0.FLTMSTA1.VoltsBC.mag.f
	8099		100	u16	100	FLTMSTA1 Phase B to phase C voltage (b)	LD0.FLTMSTA1.VoltsBCb.mag.f
	8100		100	u16	100	FLTMSTA1 Phase C voltage	LD0.FLTMSTA1.VoltsC.mag.f

Coil Addr	4x Register Addr.	W	Dc	Type	Scale	Description	IEC61850 Data Attribute Name
	8101		100	u16	100	FLTMSTA1 Phase C to phase A voltage	LD0.FLTMSTA1.VoltsCA.mag.f
	8102		100	u16	100	FLTMSTA1 Phase C to phase A voltage (b)	LD0.FLTMSTA1.VoltsCAb.mag.f
	8103		100	u16	100	FLTMSTA1 Phase B voltage (b)	LD0.FLTMSTA1.VoltsCb.mag.f
	8104		100	u16	100	FLTMSTA1 Residual voltage	LD0.FLTMSTA1.VoltsN.mag.f
	8105		100	u16	100	FLTMSTA1 Residual voltage (b)	LD0.FLTMSTA1.VoltsNb.mag.f
	8106		100	u16	100	FLTMSTA1 Positive sequence voltage	LD0.FLTMSTA1.VPsSeq.mag.f
	8107		100	u16	100	FLTMSTA1 Positive sequence voltage (b)	LD0.FLTMSTA1.VPsSeqb.mag.f
	8108		100	u16	100	FLTMSTA1 Zero sequence voltage	LD0.FLTMSTA1.VZroSeq.mag.f
	8109		100	u16	100	FLTMSTA1 Zero sequence voltage (b)	LD0.FLTMSTA1.VZroSeqb.mag.f
	8110		100	u32	100	DRFLO1 Fault Distance	LD0.DRFLO1.FltDisKm.mag.f
	8111						
	8112		100	u16	100	DRFLO1 Fault Loop	LD0.DRFLO1.FltLoop.stVal
	8113		100	u32	100	DRFLO1 Loop Reactance	LD0.DRFLO1.FltLoopX.mag.f
	8114						
	8115		100	u32	100	DRFLO1 Fault Resistance	LD0.DRFLO1.FltZ.mag.f

Table 8: LED Status (LEDGGIO1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		3149	0		u16			Programmable LEDs Status of programmable LED 1	LD0.LEDGGIO1.ISCSO1.stVal
		3150	0		u16			Programmable LEDs Status of programmable LED 2	LD0.LEDGGIO1.ISCSO2.stVal
		3151	0		u16			Programmable LEDs Status of programmable LED 3	LD0.LEDGGIO1.ISCSO3.stVal
		3152	0		u16			Programmable LEDs Status of programmable LED 4	LD0.LEDGGIO1.ISCSO4.stVal
		3153	0		u16			Programmable LEDs Status of programmable LED 5	LD0.LEDGGIO1.ISCSO5.stVal
		3154	0		u16			Programmable LEDs Status of programmable LED 6	LD0.LEDGGIO1.ISCSO6.stVal
		3155	0		u16			Programmable LEDs Status of programmable LED 7	LD0.LEDGGIO1.ISCSO7.stVal
		3156	0		u16			Programmable LEDs Status of programmable LED 8	LD0.LEDGGIO1.ISCSO8.stVal
		3157	0		u16			Programmable LEDs Status of programmable LED 9	LD0.LEDGGIO1.ISCSO9.stVal
		3158	0		u16			Programmable LEDs Status of programmable LED 10	LD0.LEDGGIO1.ISCSO10.stVal
		3159	0		u16			Programmable LEDs Status of programmable LED 11	LD0.LEDGGIO1.ISCSO11.stVal

Table 9: LED Condition monitoring (LEDPTRC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6148		384:4	0					Global conditioning Trip general	LD0.LEDPTRC1.Op.general
6149		384:5		Yes					
6150		384:6	0					Global conditioning Trip phsA	LD0.LEDPTRC1.Op.phsA
6151		384:7		Yes					
6152		384:8	0					Global conditioning Trip phsB	LD0.LEDPTRC1.Op.phsB
6153		384:9		Yes					
6154		384:10	0					Global conditioning Trip phsC	LD0.LEDPTRC1.Op.phsC
6155		384:11		Yes					

Table 10: General Device Information (LPHD1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		3077	6		s32			Physical device Number of composition changes	LD0.LPHD1.NumCmpChg.stVal
		3078	6						
		3079	0		u16			Physical device General state	LD0.LPHD1.PhyHealth.stVal
		3080	0		u16			Physical device IED warning	LD0.LPHD1.PhyHealth1.stVal
		3081	0		u16			Physical device IED internal fault	LD0.LPHD1.PhyHealth2.stVal

Table 11: General Device Information (LLN0)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5182		323:14	0					Control LLN0 Local / Remote	CTRL.LLN0.Loc.stVal
5183		323:15		Yes					
6156		384:12	0					Protection LLN0 Settings change	LD0.LLN0.SetChg.stVal
6158		384:14	0					Protection LLN0 Settings reservation	LD0.LLN0.SetSeld.stVal
		3045	0		u16			Control LLN0 LR state monitoring for PCM	CTRL.LLN0.LocRem.stVal
		3076	6		u16			Protection LLN0 Phase rotation order	LD0.LLN0.PhRotSet.setVal

Table 12: 51P (1) : Three-phase non-directional overcurrent protection low stage instance 1 (PHLPTOC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5996		374:12	0					51P(1) Enable signal for current multiplier	LD0.PHLPTOC1.InEnaMult.stVal
5998		374:14	0					51P(1) Trip	LD0.PHLPTOC1.Op.general
6000		375:0	0					51P(1) Trip phsA	LD0.PHLPTOC1.Op.phsA
6002		375:2	0					51P(1) Trip phsB	LD0.PHLPTOC1.Op.phsB

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6004		375:4	0					51P(1) Trip phsC	LD0.PHLPTOC1.Op.phsC

Table 13: 51P (2) : Three-phase non-directional overcurrent protection low stage instance 2 (PHLPTOC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6006		375:6	0					51P(2) Enable signal for current multiplier	LD0.PHLPTOC2.InEnaMult.stVal
6008		375:8	0					51P(2) Trip	LD0.PHLPTOC2.Op.general
6010		375:10	0					51P(2) Trip phsA	LD0.PHLPTOC2.Op.phsA
6012		375:12	0					51P(2) Trip phsB	LD0.PHLPTOC2.Op.phsB
6014		375:14	0					51P(2) Trip phsC	LD0.PHLPTOC2.Op.phsC

Table 14: 51P (3) : Three-phase non-directional overcurrent protection low stage instance 3 (PHLPTOC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6016		376:0	0					51P(3) Enable signal for current multiplier	LD0.PHLPTOC3.InEnaMult.stVal
6018		376:2	0					51P(3) Trip	LD0.PHLPTOC3.Op.general
6020		376:4	0					51P(3) Trip phsA	LD0.PHLPTOC3.Op.phsA
6022		376:6	0					51P(3) Trip phsB	LD0.PHLPTOC3.Op.phsB
6024		376:8	0					51P(3) Trip phsC	LD0.PHLPTOC3.Op.phsC

Table 15: 50P-1 (1) : Three-phase non-directional overcurrent protection high stage instance 1 (PHHPTOC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5926		370:6	0					50P-1(1) Enable signal for current multiplier	LD0.PHHPTOC1.InEnaMult.stVal
5928		370:8	0					50P-1(1) Trip	LD0.PHHPTOC1.Op.general
5930		370:10	0					50P-1(1) Trip phsA	LD0.PHHPTOC1.Op.phsA
5932		370:12	0					50P-1(1) Trip phsB	LD0.PHHPTOC1.Op.phsB
5934		370:14	0					50P-1(1) Trip phsC	LD0.PHHPTOC1.Op.phsC

Table 16: 50P-2 (1) : Three-phase non-directional overcurrent protection high stage instance 2 (PHHPTOC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5936		371:0	0					50P-2(1) Enable signal for current multiplier	LD0.PHHPTOC2.InEnaMult.stVal
5938		371:2	0					50P-2(1) Trip	LD0.PHHPTOC2.Op.general
5940		371:4	0					50P-2(1) Trip phsA	LD0.PHHPTOC2.Op.phsA
5942		371:6	0					50P-2(1) Trip phsB	LD0.PHHPTOC2.Op.phsB
5944		371:8	0					50P-2(1) Trip phsC	LD0.PHHPTOC2.Op.phsC

Table 17: 50P-1 (2) : Three-phase non-directional overcurrent protection high stage instance 3 (PHHPTOC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5946		371:10	0					50P-1(2) Enable signal for current multiplier	LD0.PHHPTOC3.InEnaMult.stVal
5948		371:12	0					50P-1(2) Trip	LD0.PHHPTOC3.Op.general
5950		371:14	0					50P-1(2) Trip phsA	LD0.PHHPTOC3.Op.phsA
5952		372:0	0					50P-1(2) Trip phsB	LD0.PHHPTOC3.Op.phsB
5954		372:2	0					50P-1(2) Trip phsC	LD0.PHHPTOC3.Op.phsC

Table 18: 50P-2 (2) : Three-phase non-directional overcurrent protection high stage instance 4 (PHHPTOC4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5956		372:4	0					50P-2(2) Enable signal for current multiplier	LD0.PHHPTOC4.InEnaMult.stVal
5958		372:6	0					50P-2(2) Trip	LD0.PHHPTOC4.Op.general
5960		372:8	0					50P-2(2) Trip phsA	LD0.PHHPTOC4.Op.phsA
5962		372:10	0					50P-2(2) Trip phsB	LD0.PHHPTOC4.Op.phsB
5964		372:12	0					50P-2(2) Trip phsC	LD0.PHHPTOC4.Op.phsC

Table 19: 50P-1 (3) : Three-phase non-directional overcurrent protection high stage instance 5 (PHHPTOC5)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5966		372:14	0					50P-1(3) Enable signal for current multiplier	LD0.PHHPTOC5.InEnaMult.stVal
5968		373:0	0					50P-1(3) Trip	LD0.PHHPTOC5.Op.general
5970		373:2	0					50P-1(3) Trip phsA	LD0.PHHPTOC5.Op.phsA
5972		373:4	0					50P-1(3) Trip phsB	LD0.PHHPTOC5.Op.phsB
5974		373:6	0					50P-1(3) Trip phsC	LD0.PHHPTOC5.Op.phsC

Table 20: 50P-2 (3) : Three-phase non-directional overcurrent protection high stage instance 6 (PHHPTOC6)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5976		373:8	0					50P-2(3) Enable signal for current multiplier	LD0.PHHPTOC6.InEnaMult.stVal
5978		373:10	0					50P-2(3) Trip	LD0.PHHPTOC6.Op.general
5980		373:12	0					50P-2(3) Trip phsA	LD0.PHHPTOC6.Op.phsA
5982		373:14	0					50P-2(3) Trip phsB	LD0.PHHPTOC6.Op.phsB
5984		374:0	0					50P-2(3) Trip phsC	LD0.PHHPTOC6.Op.phsC

Table 21: 67/51P(1) : Three-phase directional overcurrent protection low stage instance 1 (DPHLPTOC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5850		365:10	0					67/51P(1) Enable signal for current multiplier	LD0.DPHLPTOC1.InEnaMult.stVal
5852		365:12	0					67/51P(1) Trip	LD0.DPHLPTOC1.Op.general
5854		365:14	0					67/51P(1) Trip phsA	LD0.DPHLPTOC1.Op.phsA
5856		366:0	0					67/51P(1) Trip phsB	LD0.DPHLPTOC1.Op.phsB
5858		366:2	0					67/51P(1) Trip phsC	LD0.DPHLPTOC1.Op.phsC

Table 22: 67/51P(2) : Three-phase directional overcurrent protection low stage instance 2 (DPHLPTOC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5860		366:4	0					67/51P(2) Enable signal for current multiplier	LD0.DPHLPTOC2.InEnaMult.stVal
5862		366:6	0					67/51P(2) Trip	LD0.DPHLPTOC2.Op.general
5864		366:8	0					67/51P(2) Trip phsA	LD0.DPHLPTOC2.Op.phsA
5866		366:10	0					67/51P(2) Trip phsB	LD0.DPHLPTOC2.Op.phsB
5868		366:12	0					67/51P(2) Trip phsC	LD0.DPHLPTOC2.Op.phsC

Table 23: 51G : Non-directional earth-fault protection low stage instance 1 (EFLPTOC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5898		368:10	0					51G Enable signal for current multiplier	LD0.EFLPTOC1.InEnaMult.stVal
5900		368:12	0					51G Trip	LD0.EFLPTOC1.Op.general

Table 24: 51N (1) : Non-directional earth-fault protection low stage instance 2 (EFLPTOC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5902		368:14	0					51N(1) Enable signal for current multiplier	LD0.EFLPTOC2.InEnaMult.stVal
5904		369:0	0					51N(1) Trip	LD0.EFLPTOC2.Op.general

Table 25: 51N (2) : Non-directional earth-fault protection low stage instance 3 (EFLPTOC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5906		369:2	0					51N(2) Enable signal for current multiplier	LD0.EFLPTOC3.InEnaMult.stVal
5908		369:4	0					51N(2) Trip	LD0.EFLPTOC3.Op.general

Table 26: 51N (3) : Non-directional earth-fault protection low stage instance 4 (EFLPTOC4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5910		369:6	0					51N(3) Enable signal for current multiplier	LD0.EFLPTOC4.InEnaMult.stVal
5912		369:8	0					51N(3) Trip	LD0.EFLPTOC4.Op.general

Table 27: 50G : Non-directional earth-fault protection high stage instance 1 (EFHPTOC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5870		366:14	0					50G Enable signal for current multiplier	LD0.EFHPTOC1.InEnaMult.stVal
5872		367:0	0					50G Trip	LD0.EFHPTOC1.Op.general

Table 28: 50N-1 (1) : Non-directional earth-fault protection high stage instance 3 (EFHPTOC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5878		367:6	0					50N-1(1) Enable signal for current multiplier	LD0.EFHPTOC3.InEnaMult.stVal
5880		367:8	0					50N-1(1) Trip	LD0.EFHPTOC3.Op.general

Table 29: 50N-1 (2) : Non-directional earth-fault protection high stage instance 4 (EFHPTOC4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5882		367:10	0					50N-1(2) Enable signal for current multiplier	LD0.EFHPTOC4.InEnaMult.stVal
5884		367:12	0					50N-1(2) Trip	LD0.EFHPTOC4.Op.general

Table 30: 50N-1 (3) : Non-directional earth-fault protection high stage instance 5 (EFHPTOC5)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5886		367:14	0					50N-1(3) Enable signal for current multiplier	LD0.EFHPTOC5.InEnaMult.stVal
5888		368:0	0					50N-1(3) Trip	LD0.EFHPTOC5.Op.general

Table 31: 67/51N(1) : Directional earth-fault protection low stage instance 1 (DEFLPTOC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5826		364:2	0					67/51N(1) Enable signal for current multiplier	LD0.DEFLPTOC2.InEnaMult.stVal
5828		364:4	0					67/51N(1) Trip	LD0.DEFLPTOC2.Op.general

Table 32: 67/51N(1) : Directional earth-fault protection low stage instance 1 (DEFLRDIR2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6096		381:0	0					67/51N(1) Relay characteristic angle control	LD0.DEFLRDIR2.InRcaCtl.stVal

Table 33: 67/51N(2) : Directional earth-fault protection low stage instance 2 (DEFLPTOC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5822		363:14	0					67/51N(2) Enable signal for current multiplier	LD0.DEFLPTOC1.InEnaMult.stVal
5824		364:0	0					67/51N(2) Trip	LD0.DEFLPTOC1.Op.general

Table 34: 67/51N(2) : Directional earth-fault protection low stage instance 2 (DEFLRDIR1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6094		380:14	0					67/51N(2) Relay characteristic angle control	LD0.DEFLRDIR1.InRcaCtl.stVal

Table 35: 32P(1) : Three phase directional power protection instance 1 (DPSRDIR1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6106		381:10	0					32P(1) direction signal	LD0.DPSRDIR1.Dir.general
		3074	6		s16	100		32P(1) Angle between polarizing and operating quantity	LD0.DPSRDIR1.OpChrAng.mag.f

Table 36: 32P(2) : Three phase directional power protection instance 2 (DPSRDIR2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6108		381:12	0					32P(2) direction signal	LD0.DPSRDIR2.Dir.general
		3075	6		s16	100		32P(2) Angle between polarizing and operating quantity	LD0.DPSRDIR2.OpChrAng.mag.f

Table 37: 32N(1) : Ground directional power protection instance 1 (DNZSRDIR1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6098		381:2	0					32N(1) direction signal	LD0.DNZSRDIR1.Dir.general
6100		381:4	0					32N(1) Relay characteristic angle control	LD0.DNZSRDIR1.InRcaCtl.stVal
		3072	6		s16	100		32N(1) Angle between operating angle and characteristic angle	LD0.DNZSRDIR1.OpChrAng.mag.f

Table 38: 32N(2) : Ground directional power protection instance 2 (DNZSRDIR2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6102		381:6	0					32N(2) direction signal	LD0.DNZSRDIR2.Dir.general
6104		381:8	0					32N(2) Relay characteristic angle control	LD0.DNZSRDIR2.InRcaCtl.stVal
		3073	6		s16	100		32N(2) Angle between operating angle and characteristic angle	LD0.DNZSRDIR2.OpChrAng.mag.f

Table 39: 46 (1) : Negative-sequence overcurrent protection instance 1 (NSPTOC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5914		369:10	0					46(1) Enable signal for current multiplier	LD0.NSPTOC1.InEnaMult.stVal
5916		369:12	0					46(1) Trip	LD0.NSPTOC1.Op.general

Table 40: 46 (2) : Negative-sequence overcurrent protection instance 2 (NSPTOC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5918		369:14	0					46(2) Enable signal for current multiplier	LD0.NSPTOC2.InEnaMult.stVal
5920		370:0	0					46(2) Trip	LD0.NSPTOC2.Op.general

Table 41: 46 (3) : Negative-sequence overcurrent protection instance 3 (NSPTOC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5922		370:2	0					46(3) Enable signal for current multiplier	LD0.NSPTOC3.InEnaMult.stVal
5924		370:4	0					46(3) Trip	LD0.NSPTOC3.Op.general

Table 42: 59G : Residual overvoltage protection instance 1 (ROVPTOV1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6076		379:12	0					59G Trip	LD0.ROVPTOV1.Op.general

Table 43: 59N(1) : Residual overvoltage protection instance 2 (ROVPTOV2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6078		379:14	0					59N(1) Trip	LD0.ROVPTOV2.Op.general

Table 44: 59N(2) : Residual overvoltage protection instance 3 (ROVPTOV3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6080		380:0	0					59N(2) Trip	LD0.ROVPTOV3.Op.general

Table 45: 27-1 (1) : Three-phase undervoltage protection instance 1 (PHPTUV1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6386		399:2	0					27-1(1) Trip	LD0.PHPTUV1.Op.general
6388		399:4	0					27-1(1) Trip phsA	LD0.PHPTUV1.Op.phsA
6390		399:6	0					27-1(1) Trip phsB	LD0.PHPTUV1.Op.phsB
6392		399:8	0					27-1(1) Trip phsC	LD0.PHPTUV1.Op.phsC

Table 46: 27-2 (1) :Three-phase undervoltage protection instance 2 (PHPTUV2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6394		399:10	0					27-2(1) Trip	LD0.PHPTUV2.Op.general
6396		399:12	0					27-2(1) Trip phsA	LD0.PHPTUV2.Op.phsA
6398		399:14	0					27-2(1) Trip phsB	LD0.PHPTUV2.Op.phsB
6400		400:0	0					27-2(1) Trip phsC	LD0.PHPTUV2.Op.phsC

Table 47: 27-1 (2) : Three-phase undervoltage protection instance 3 (PHPTUV3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6402		400:2	0					27-1(2) Trip	LD0.PHPTUV3.Op.general

Table 48: 27-2 (2) : Three-phase undervoltage protection instance 4 (PHPTUV4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6404		400:4	0					27-2(2) Trip	LD0.PHPTUV4.Op.general

Table 49: 59-1 (1) : Three-phase overvoltage protection instance 1 (PHPTOV1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6050		378:2	0					59-1(1) Trip	LD0.PHPTOV1.Op.general
6052		378:4	0					59-1(1) Trip phsA	LD0.PHPTOV1.Op.phsA
6054		378:6	0					59-1(1) Trip phsB	LD0.PHPTOV1.Op.phsB
6056		378:8	0					59-1(1) Trip phsC	LD0.PHPTOV1.Op.phsC

Table 50: 59-2 (1) : Three-phase overvoltage protection instance 2 (PHPTOV2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6058		378:10	0					59-2(1) Trip	LD0.PHPTOV2.Op.general
6060		378:12	0					59-2(1) Trip phsA	LD0.PHPTOV2.Op.phsA
6062		378:14	0					59-2(1) Trip phsB	LD0.PHPTOV2.Op.phsB
6064		379:0	0					59-2(1) Trip phsC	LD0.PHPTOV2.Op.phsC

Table 51: 59-1 (2) : Three-phase overvoltage protection instance 3 (PHPTOV3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6066		379:2	0					59-1(2) Trip	LD0.PHPTOV3.Op.general
6068		379:4	0					59-1(2) Trip phsA	LD0.PHPTOV3.Op.phsA
6070		379:6	0					59-1(2) Trip phsB	LD0.PHPTOV3.Op.phsB
6072		379:8	0					59-1(2) Trip phsC	LD0.PHPTOV3.Op.phsC

Table 52: 59-2 (2) : Three-phase overvoltage protection instance 4 (PHPTOV4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6074		379:10	0					59-2(2) Trip	LD0.PHPTOV4.Op.general

Table 53: 47-1 (1) : Negative-sequence overvoltage protection instance 1 (NSPTOV1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6082		380:2	0					47-1(1) Trip	LD0.NSPTOV1.Op.general

Table 54: 47-2 (1) : Negative-sequence overvoltage protection instance 2 (NSPTOV2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6084		380:4	0					47-2(1) Trip	LD0.NSPTOV2.Op.general

Table 55: 47-1 (2) : Negative-sequence overvoltage protection instance 3 (NSPTOV3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6086		380:6	0					47-1(2) Trip	LD0.NSPTOV3.Op.general

Table 56: 47-2 (2) : Negative-sequence overvoltage protection instance 4 (NSPTOV4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6088		380:8	0					47-2(2) Trip	LD0.NSPTOV4.Op.general

Table 57: 81-1(1) : Frequency protection instance 1 (FRPTRC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6128		383:0	0					81-1(1) Trip	LD0.FRPTRC1.Op.general
		3139	6		u16	100		81-1(1) Pickup duration	LD0.FRPTRC1.StrDur.mag.f

Table 58: 81-1(1) : Frequency protection instance 1 (FRPTOF1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6120		382:8	0					81-1(1) Trip signal for overfrequency	LD0.FRPTOF1.Op.general
		3135	6		u16	100		81-1(1) Pickup duration	LD0.FRPTOF1.StrDur.mag.f

Table 59: 81-1(1) : Frequency protection instance 1 (FRPTUF1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6136		383:8	0					81-1(1) Trip signal for underfrequency	LD0.FRPTUF1.Op.general
		3143	6		u16	100		81-1(1) Pickup duration	LD0.FRPTUF1.StrDur.mag.f

Table 60: 81-1(1) : Frequency protection instance 1 (FRPFRC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6112		382:0	0					81-1(1) Trip signal for frequency gradient	LD0.FRPFRC1.Op.general
		3131	6		u16	100		81-1(1) Pickup duration	LD0.FRPFRC1.StrDur.mag.f

Table 61: 81-2(1) : Frequency protection instance 2 (FRPTRC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6130		383:2	0					81-2(1) Trip	LD0.FRPTRC2.Op.general
		3140	6		u16	100		81-2(1) Pickup duration	LD0.FRPTRC2.StrDur.mag.f

Table 62: 81-2(1) : Frequency protection instance 2 (FRPTOF2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6122		382:10	0					81-2(1) Trip signal for overfrequency	LD0.FRPTOF2.Op.general
		3136	6		u16	100		81-2(1) Pickup duration	LD0.FRPTOF2.StrDur.mag.f

Table 63: 81-2(1) : Frequency protection instance 2 (FRPTUF2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6138		383:10	0					81-2(1) Trip signal for underfrequency	LD0.FRPTUF2.Op.general
		3144	6		u16	100		81-2(1) Pickup duration	LD0.FRPTUF2.StrDur.mag.f

Table 64: 81-2(1) : Frequency protection instance 2 (FRPFRC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6114		382:2	0					81-2(1) Trip signal for frequency gradient	LD0.FRPFRC2.Op.general
		3132	6		u16	100		81-2(1) Pickup duration	LD0.FRPFRC2.StrDur.mag.f

Table 65: 81-1(2) : Frequency protection instance 3 (FRPTRC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6132		383:4	0					81-1(2) Trip	LD0.FRPTRC3.Op.general
		3141	6		u16	100		81-1(2) Pickup duration	LD0.FRPTRC3.StrDur.mag.f

Table 66: 81-1(2) : Frequency protection instance 3 (FRPTOF3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6124		382:12	0					81-1(2) Trip signal for overfrequency	LD0.FRPTOF3.Op.general
		3137	6		u16	100		81-1(2) Pickup duration	LD0.FRPTOF3.StrDur.mag.f

Table 67: 81-1(2) : Frequency protection instance 3 (FRPTUF3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6140		383:12	0					81-1(2) Trip signal for underfrequency	LD0.FRPTUF3.Op.general
		3145	6		u16	100		81-1(2) Pickup duration	LD0.FRPTUF3.StrDur.mag.f

Table 68: 81-1(2) : Frequency protection instance 3 (FRPFRC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6116		382:4	0					81-1(2) Trip signal for frequency gradient	LD0.FRPFRC3.Op.general
		3133	6		u16	100		81-1(2) Pickup duration	LD0.FRPFRC3.StrDur.mag.f

Table 69: 81-2(2) : Frequency protection instance 4 (FRPTRC4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6134		383:6	0					81-2(2) Trip	LD0.FRPTRC4.Op.general
		3142	6		u16	100		81-2(2) Pickup duration	LD0.FRPTRC4.StrDur.mag.f

Table 70: 81-2(2) : Frequency protection instance 4 (FRPTOF4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6126		382:14	0					81-2(2) Trip signal for overfrequency	LD0.FRPTOF4.Op.general
		3138	6		u16	100		81-2(2) Pickup duration	LD0.FRPTOF4.StrDur.mag.f

Table 71: 81-2(2) : Frequency protection instance 4 (FRPTUF4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6142		383:14	0					81-2(2) Trip signal for underfrequency	LD0.FRPTUF4.Op.general
		3146	6		u16	100		81-2(2) Pickup duration	LD0.FRPTUF4.StrDur.mag.f

Table 72: 81-2(2) : Frequency protection instance 4 (FRPFRC4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6118		382:6	0					81-2(2) Trip signal for frequency gradient	LD0.FRPFRC4.Op.general
		3134	6		u16	100		81-2(2) Pickup duration	LD0.FRPFRC4.StrDur.mag.f

Table 73: 24-1(1) : Voltage per hertz protection instance 1 (OEPVPH1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6304		394:0	0					24-1(1) Signal to indicate machine is in cooling process	LD0.OEPVPH1.CoolAct.stVal
6306		394:2	0					24-1(1) Trip	LD0.OEPVPH1.Op.general
6308		394:4	0					24-1(1) Signal for blocking reconnection of an overheated machine	LD0.OEPVPH1.StrInh.stVal

Table 74: 24-2(1) : Voltage per hertz protection instance 2 (OEPVPH2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6310		394:6	0					24-2(1) Signal to indicate machine is in cooling process	LD0.OEPVPH2.CoolAct.stVal
6312		394:8	0					24-2(1) Trip	LD0.OEPVPH2.Op.general
6314		394:10	0					24-2(1) Signal for blocking reconnection of an overheated machine	LD0.OEPVPH2.StrInh.stVal

Table 75: 24-1(2) : Voltage per hertz protection instance 3 (OEPVPH3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6316		394:12	0					24-1(2) Signal to indicate machine is in cooling process	LD0.OEPVPH3.CoolAct.stVal
6318		394:14	0					24-1(2) Trip	LD0.OEPVPH3.Op.general
6320		395:0	0					24-1(2) Signal for blocking reconnection of an overheated machine	LD0.OEPVPH3.StrInh.stVal

Table 76: 24-2(2) : Voltage per hertz protection instance 4 (OEPVPH4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6322		395:2	0					24-2(2) Signal to indicate machine is in cooling process	LD0.OEPVPH4.CoolAct.stVal
6324		395:4	0					24-2(2) Trip	LD0.OEPVPH4.Op.general
6326		395:6	0					24-2(2) Signal for blocking reconnection of an overheated machine	LD0.OEPVPH4.StrInh.stVal

Table 77: 49T (1) : Three-phase thermal overload protection for power transformers two time constants (T2PTTR1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6680		417:8	0					49T(1) Thermal Alarm	LD0.T2PTTR1.AlmThm.general
6682		417:10	0					49T(1) Thermal overload indicator. To inhibit reclose.	LD0.T2PTTR1.InhRec.stVal
6684		417:12	0					49T(1) Trip	LD0.T2PTTR1.Op.general
		2990	6		u16	100		49T(1) The calculated temperature of the protected object	LD0.T2PTTR1.Tmp.mag.f
		2991	6		u16	100		49T(1) The calculated temperature of the protected object relative to the trip level	LD0.T2PTTR1.TmpRl.mag.f
		2992	6		u16	100		49T(1) The ambient temperature used in the calculation	LD0.T2PTTR1.TmpUsed.mag.f
		2993	0		s16			49T(1) Estimated time to trip	LD0.T2PTTR1.TmsOp.stVal
		2994	0		s16			49T(1) Estimated time to deactivate BLK_CLOSE in seconds	LD0.T2PTTR1.TmsRecEna.stVal

Table 78: 37 (1) : Loss of phase instance 1 (PHPTUC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6362		397:10	0					37(1) Trip	LD0.PHPTUC1.Op.general
6364		397:12	0					37(1) Trip phase A	LD0.PHPTUC1.Op.phsA
6366		397:14	0					37(1) Trip phase B	LD0.PHPTUC1.Op.phsB
6368		398:0	0					37(1) Trip phase C	LD0.PHPTUC1.Op.phsC

Table 79: 37 (2) : Loss of phase instance 2 (PHPTUC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6370		398:2	0					37(2) Trip	LD0.PHPTUC2.Op.general
6372		398:4	0					37(2) Trip phase A	LD0.PHPTUC2.Op.phsA
6374		398:6	0					37(2) Trip phase B	LD0.PHPTUC2.Op.phsB
6376		398:8	0					37(2) Trip phase C	LD0.PHPTUC2.Op.phsC

Table 80: 37 (3) : Loss of phase instance 3 (PHPTUC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6378		398:10	0					37(3) Trip	LD0.PHPTUC3.Op.general
6380		398:12	0					37(3) Trip phase A	LD0.PHPTUC3.Op.phsA
6382		398:14	0					37(3) Trip phase B	LD0.PHPTUC3.Op.phsB
6384		399:0	0					37(3) Trip phase C	LD0.PHPTUC3.Op.phsC

Table 81: 87T : Stabilized and instantaneous differential protection for 3W Transformers (TR3LPDIF1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7232		452:0	2					87T 2nd harmonic restraint block status	LD0.TR3LPDIF1.Blk2HSt.general
7233		452:1		Yes					
7234		452:2	2					87T Trip from low set	LD0.TR3LPDIF1.Op.general
7235		452:3		Yes					

Table 82: 87T : Stabilized and instantaneous differential protection for 3W Transformers (TR3HPDIF1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7230		451:14	2					87T Trip from high set	LD0.TR3HPDIF1.Op.general
7231		451:15		Yes					

Table 83: 87T : Stabilized and instantaneous differential protection for 3W Transformers (TR3PTRC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7236		452:4	2					87T Trip combined	LD0.TR3PTRC1.Op.general
7237		452:5		Yes					

Table 84: 87LOZREF (2) : Numerical stabilized low impedance restricted earth-fault protection (LREFPDIF1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6164		385:4	0					87LOZREF(2) 2nd harmonic block	LD0.LREFPDIF1.Blk2Hst.general
6166		385:6	0					87LOZREF(2) Trip	LD0.LREFPDIF1.Op.general

Table 85: 50BF (1) : Circuit breaker failure protection instance 1 (CCBRBRF1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5314		332:2	0					50BF(1) CB faulty and unable to trip	LD0.CCBRBRF1.InCBFlt.stVal
5315		332:3		Yes					
5316		332:4	0					50BF(1) CB in closed position	LD0.CCBRBRF1.InPosCls.stVal
5317		332:5		Yes					
5318		332:6	0					50BF(1) CBFP pickup command	LD0.CCBRBRF1.InStr.stVal
5319		332:7		Yes					
5320		332:8	0					50BF(1) Backup trip	LD0.CCBRBRF1.OpEx.general
5321		332:9		Yes					
5322		332:10	0					50BF(1) Retrip	LD0.CCBRBRF1.OpIn.general
5323		332:11		Yes					
5324		332:12	0					50BF(1) Delayed CB failure alarm	LD0.CCBRBRF1.Str.general
5325		332:13		Yes					

Table 86: 50BF (2) : Circuit breaker failure protection instance 2 (CCBRBRF2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5326		332:14	0					50BF(2) CB faulty and unable to trip	LD0.CCBRBRF2.InCBFlt.stVal
5327		332:15		Yes					
5328		333:0	0					50BF(2) CB in closed position	LD0.CCBRBRF2.InPosCls.stVal
5329		333:1		Yes					
5330		333:2	0					50BF(2) CBFP pickup command	LD0.CCBRBRF2.InStr.stVal
5331		333:3		Yes					
5332		333:4	0					50BF(2) Backup trip	LD0.CCBRBRF2.OpEx.general
5333		333:5		Yes					
5334		333:6	0					50BF(2) Retrip	LD0.CCBRBRF2.OpIn.general
5335		333:7		Yes					
5336		333:8	0					50BF(2) Delayed CB failure alarm	LD0.CCBRBRF2.Str.general
5337		333:9		Yes					

Table 87: 50BF (3) : Circuit breaker failure protection instance 3 (CCBRBRF3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5338		333:10	0					50BF(3) CB faulty and unable to trip	LD0.CCBRBRF3.InCBFlt.stVal
5339		333:11		Yes					
5340		333:12	0					50BF(3) CB in closed position	LD0.CCBRBRF3.InPosCls.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5341		333:13		Yes					
5342		333:14	0					50BF(3) CBFP pickup command	LD0.CCBRBRF3.InStr.stVal
5343		333:15		Yes					
5344		334:0	0					50BF(3) Backup trip	LD0.CCBRBRF3.OpEx.general
5345		334:1		Yes					
5346		334:2	0					50BF(3) Retrip	LD0.CCBRBRF3.OpIn.general
5347		334:3		Yes					
5348		334:4	0					50BF(3) Delayed CB failure alarm	LD0.CCBRBRF3.Str.general
5349		334:5		Yes					

Table 88: 86/94-1 : Master trip instance 1 (TRPPTRC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7238		452:6	2					86/94-1 Circuit breaker lockout output (set until reset)	LD0.TRPPTRC1.ClsLO.stVal
7239		452:7		Yes					
7240		452:8	2					86/94-1 Input for resetting the circuit breaker lockout function	LD0.TRPPTRC1.LORs.stVal
7241		452:9		Yes					
7242		452:10	2					86/94-1 Trip	LD0.TRPPTRC1.Op.general
7243		452:11		Yes					
7244		452:12	2					86/94-1 General trip output signal	LD0.TRPPTRC1.Tr.general
7245		452:13		Yes					

Table 89: 86/94-2 : Master trip instance 2 (TRPPTRC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7246		452:14	2					86/94-2 Circuit breaker lockout output (set until reset)	LD0.TRPPTRC2.ClsLO.stVal
7248		453:0	2					86/94-2 Input for resetting the circuit breaker lockout function	LD0.TRPPTRC2.LORs.stVal
7250		453:2	2					86/94-2 Trip	LD0.TRPPTRC2.Op.general
7252		453:4	2					86/94-2 General trip output signal	LD0.TRPPTRC2.Tr.general

Table 90: 86/94-3 : Master trip instance 3 (TRPPTRC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7254		453:6	2					86/94-3 Circuit breaker lockout output (set until reset)	LD0.TRPPTRC3.ClsLO.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7256		453:8	2					86/94-3 Input for resetting the circuit breaker lockout function	LD0.TRPPTRC3.LORs.stVal
7258		453:10	2					86/94-3 Trip	LD0.TRPPTRC3.Op.general
7260		453:12	0					86/94-3 General trip output signal	LD0.TRPPTRC3.Tr.general

Table 91: AFD-1(1) : Arc protection instance 1 (ARCSARC11)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5606		350:6	0					AFD-1(1) Fault arc detected=light signal output	LD0.ARCSARC11.FADet.stVal
5608		350:8	0					AFD-1(1) Remote Fault arc detected	LD0.ARCSARC11.InRemFA.stVal

Table 92: AFD-1(1) : Arc protection instance 1 (ARCPTRC11)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5594		349:10	0					AFD-1(1) Operation mode input	LD0.ARCPTRC11.InOpMod.stVal
5596		349:12	0					AFD-1(1) Trip	LD0.ARCPTRC11.Op.general

Table 93: AFD-2(2) : Arc protection instance 2 (ARCSARC21)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5610		350:10	0					AFD-2(2) Fault arc detected=light signal output	LD0.ARCSARC21.FADet.stVal
5612		350:12	0					AFD-2(2) Remote Fault arc detected	LD0.ARCSARC21.InRemFA.stVal

Table 94: AFD-2(2) : Arc protection instance 2 (ARCPTRC21)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5598		349:14	0					AFD-2(2) Operation mode input	LD0.ARCPTRC21.InOpMod.stVal
5600		350:0	0					AFD-2(2) Trip	LD0.ARCPTRC21.Op.general

Table 95: AFD-3(3) : Arc protection instance 3 (ARCSARC31)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5614		350:14	0					AFD-3(3) Fault arc detected=light signal output	LD0.ARCSARC31.FADet.stVal
5616		351:0	0					AFD-3(3) Remote Fault arc detected	LD0.ARCSARC31.InRemFA.stVal

Table 96: AFD-3(3) : Arc protection instance 3 (ARCPTRC31)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5602		350:2	0					AFD-3(3) Operation mode input	LD0.ARCPTRC31.InOpMod.stVal
5604		350:4	0					AFD-3(3) Trip	LD0.ARCPTRC31.Op.general

Table 97: 81LSH-1(1) : Load shedding and restoration instance 1 (LSHDPTRC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6184		386:8	0					81LSH-1(1) Block restore	LD0.LSHDPTRC1.BlkRest.stVal
6186		386:10	0					81LSH-1(1) Manual restore signal	LD0.LSHDPTRC1.ManRest.stVal
6188		386:12	0					81LSH-1(1) Trip of load shedding	LD0.LSHDPTRC1.Op.general
6190		386:14	0					81LSH-1(1) Restore signal for load restoring purposes	LD0.LSHDPTRC1.RestLodOp.general
6192		387:0	0					81LSH-1(1) Restore frequency attained and restore timer started	LD0.LSHDPTRC1.RestLodStr.general
		3160	6		u16	100		81LSH-1(1) Pickup duration	LD0.LSHDPTRC1.StrDur.mag.f

Table 98: 81LSH-1(1) : Load shedding and restoration instance 1 (LSHDPTUF1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6264		391:8	0					81LSH-1(1) Trip signal for under frequency	LD0.LSHDPTUF1.Op.general

Table 99: 81LSH-1(1) : Load shedding and restoration instance 1 (LSHDPFRC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6168		385:8	0					81LSH-1(1) Trip signal for high df/dt	LD0.LSHDPFRC1.Op.general

Table 100: 81LSH-2(1) : Load shedding and restoration instance 2 (LSHDPTRC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6194		387:2	0					81LSH-2(1) Block restore	LD0.LSHDPTRC2.BlkRest.stVal
6196		387:4	0					81LSH-2(1) Manual restore signal	LD0.LSHDPTRC2.ManRest.stVal
6198		387:6	0					81LSH-2(1) Trip of load shedding	LD0.LSHDPTRC2.Op.general
6200		387:8	0					81LSH-2(1) Restore signal for load restoring purposes	LD0.LSHDPTRC2.RestLodOp.general
6202		387:10	0					81LSH-2(1) Restore frequency attained and restore timer started	LD0.LSHDPTRC2.RestLodStr.general

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		3161	6		u16	100		81LSH-2(1) Pickup duration	LD0.LSHDPTRC2.StrDur.mag.f

Table 101: 81LSH-2(1) : Load shedding and restoration instance 2 (LSHDPTUF2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6266		391:10	0					81LSH-2(1) Trip signal for under frequency	LD0.LSHDPTUF2.Op.general

Table 102: 81LSH-2(1) : Load shedding and restoration instance 2 (LSHDPFRC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6170		385:10	0					81LSH-2(1) Trip signal for high df/dt	LD0.LSHDPFRC2.Op.general

Table 103: 81LSH-3(1) : Load shedding and restoration instance 3 (LSHDPTRC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6204		387:12	0					81LSH-3(1) Block restore	LD0.LSHDPTRC3.BlkRest.stVal
6206		387:14	0					81LSH-3(1) Manual restore signal	LD0.LSHDPTRC3.ManRest.stVal
6208		388:0	0					81LSH-3(1) Trip of load shedding	LD0.LSHDPTRC3.Op.general
6210		388:2	0					81LSH-3(1) Restore signal for load restoring purposes	LD0.LSHDPTRC3.RestLodOp.general
6212		388:4	0					81LSH-3(1) Restore frequency attained and restore timer started	LD0.LSHDPTRC3.RestLodStr.general

Table 104: 81LSH-3(1) : Load shedding and restoration instance 3 (LSHDPTUF3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6268		391:12	0					81LSH-3(1) Trip signal for under frequency	LD0.LSHDPTUF3.Op.general

Table 105: 81LSH-3(1) : Load shedding and restoration instance 3 (LSHDPFRC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6172		385:12	0					81LSH-3(1) Trip signal for high df/dt	LD0.LSHDPFRC3.Op.general

Table 106: 81LSH-4(1) : Load shedding and restoration instance 4 (LSHDPTRC4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6214		388:6	0					81LSH-4(1) Block restore	LD0.LSHDPTRC4.BlkRest.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6216		388:8	0					81LSH-4(1) Manual restore signal	LD0.LSHDPTRC4.ManRest.stVal
6218		388:10	0					81LSH-4(1) Trip of load shedding	LD0.LSHDPTRC4.Op.general
6220		388:12	0					81LSH-4(1) Restore signal for load restoring purposes	LD0.LSHDPTRC4.RestLodOp.general
6222		388:14	0					81LSH-4(1) Restore frequency attained and restore timer started	LD0.LSHDPTRC4.RestLodStr.general

Table 107: 81LSH-4(1) : Load shedding and restoration instance 4 (LSHDPTUF4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6270		391:14	0					81LSH-4(1) Trip signal for under frequency	LD0.LSHDPTUF4.Op.general

Table 108: 81LSH-4(1) : Load shedding and restoration instance 4 (LSHDPFRC4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6174		385:14	0					81LSH-4(1) Trip signal for high df/dt	LD0.LSHDPFRC4.Op.general

Table 109: 81LSH-1(2) : Load shedding and restoration instance 5 (LSHDPTRC5)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6224		389:0	0					81LSH-1(2) Block restore	LD0.LSHDPTRC5.BlkRest.stVal
6226		389:2	0					81LSH-1(2) Manual restore signal	LD0.LSHDPTRC5.ManRest.stVal
6228		389:4	0					81LSH-1(2) Trip of load shedding	LD0.LSHDPTRC5.Op.general
6230		389:6	0					81LSH-1(2) Restore signal for load restoring purposes	LD0.LSHDPTRC5.RestLodOp.general
6232		389:8	0					81LSH-1(2) Restore frequency attained and restore timer started	LD0.LSHDPTRC5.RestLodStr.general

Table 110: 81LSH-1(2) : Load shedding and restoration instance 5 (LSHDPTUF5)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6272		392:0	0					81LSH-1(2) Trip signal for under frequency	LD0.LSHDPTUF5.Op.general

Table 111: 81LSH-1(2) : Load shedding and restoration instance 5 (LSHDPFRC5)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6176		386:0	0					81LSH-1(2) Trip signal for high df/dt	LD0.LSHDPFRC5.Op.general

Table 112: 81LSH-2(2) : Load shedding and restoration instance 6 (LSHDPTRC6)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6234		389:10	0					81LSH-2(2) Block restore	LD0.LSHDPTRC6.BlkRest.stVal
6236		389:12	0					81LSH-2(2) Manual restore signal	LD0.LSHDPTRC6.ManRest.stVal
6238		389:14	0					81LSH-2(2) Trip of load shedding	LD0.LSHDPTRC6.Op.general
6240		390:0	0					81LSH-2(2) Restore signal for load restoring purposes	LD0.LSHDPTRC6.RestLodOp.general
6242		390:2	0					81LSH-2(2) Restore frequency attained and restore timer started	LD0.LSHDPTRC6.RestLodStr.general

Table 113: 81LSH-2(2) : Load shedding and restoration instance 6 (LSHDPTUF6)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6274		392:2	0					81LSH-2(2) Trip signal for under frequency	LD0.LSHDPTUF6.Op.general

Table 114: 81LSH-2(2) : Load shedding and restoration instance 6 (LSHDPFRC6)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6178		386:2	0					81LSH-2(2) Trip signal for high df/dt	LD0.LSHDPFRC6.Op.general

Table 115: 81LSH-3(2) : Load shedding and restoration instance 7 (LSHDPTRC7)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6244		390:4	0					81LSH-3(2) Block restore	LD0.LSHDPTRC7.BlkRest.stVal
6246		390:6	0					81LSH-3(2) Manual restore signal	LD0.LSHDPTRC7.ManRest.stVal
6248		390:8	0					81LSH-3(2) Trip of load shedding	LD0.LSHDPTRC7.Op.general
6250		390:10	0					81LSH-3(2) Restore signal for load restoring purposes	LD0.LSHDPTRC7.RestLodOp.general
6252		390:12	0					81LSH-3(2) Restore frequency attained and restore timer started	LD0.LSHDPTRC7.RestLodStr.general

Table 116: 81LSH-3(2) : Load shedding and restoration instance 7 (LSHDPTUF7)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6276		392:4	0					81LSH-3(2) Trip signal for under frequency	LD0.LSHDPTUF7.Op.general

Table 117: 81LSH-3(2) : Load shedding and restoration instance 7 (LSHDPFRC7)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6180		386:4	0					81LSH-3(2) Trip signal for high df/dt	LD0.LSHDPFRC7.Op.general

Table 118: 81LSH-4(2) : Load shedding and restoration instance 8 (LSHDPTRC8)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6254		390:14	0					81LSH-4(2) Block restore	LD0.LSHDPTRC8.BlkRest.stVal
6256		391:0	0					81LSH-4(2) Manual restore signal	LD0.LSHDPTRC8.ManRest.stVal
6258		391:2	0					81LSH-4(2) Trip of load shedding	LD0.LSHDPTRC8.Op.general
6260		391:4	0					81LSH-4(2) Restore signal for load restoring purposes	LD0.LSHDPTRC8.RestLodOp.general
6262		391:6	0					81LSH-4(2) Restore frequency attained and restore timer started	LD0.LSHDPTRC8.RestLodStr.general

Table 119: 81LSH-4(2) : Load shedding and restoration instance 8 (LSHDPTUF8)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6278		392:6	0					81LSH-4(2) Trip signal for under frequency	LD0.LSHDPTUF8.Op.general

Table 120: 81LSH-4(2) : Load shedding and restoration instance 8 (LSHDPFRC8)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6182		386:6	0					81LSH-4(2) Trip signal for high df/dt	LD0.LSHDPFRC8.Op.general

Table 121: 38-1 : RTD based thermal protection instance 1 (MAPGAPC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6690		418:2	0					38-1 Enable pickup added	LD0.MAPGAPC1.InEnaAdd.stVal
6692		418:4	0					38-1 Trip	LD0.MAPGAPC1.Op.general

Table 122: 38-2 : RTD based thermal protection instance 2 (MAPGAPC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6694		418:6	0					38-2 Enable pickup added	LD0.MAPGAPC2.InEnaAdd.stVal
6696		418:8	0					38-2 Trip	LD0.MAPGAPC2.Op.general

Table 123: 38-3 : RTD based thermal protection instance 3 (MAPGAPC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6698		418:10	0					38-3 Enable pickup added	LD0.MAPGAPC3.InEnaAdd.stVal
6700		418:12	0					38-3 Trip	LD0.MAPGAPC3.Op.general

Table 124: 52 (1) : Circuit-breaker control instance 1 (CBCILO1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5104		319:0	0					52(1) Enables closing	CTRL.CBCILO1.EnaCls.stVal
5105		319:1		Yes					
5106		319:2	0					52(1) Enables opening	CTRL.CBCILO1.EnaOpn.stVal
5107		319:3		Yes					
5108		319:4	0					52(1) Discards ENA_OPEN and ENA_CLOSE interlocking when TRUE	CTRL.CBCILO1.ItlByPss.stVal
5109		319:5		Yes					

Table 125: 52 (1) : Circuit-breaker control instance 1 (CBCSWI1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5122		320:2	0					52(1) Closing is enabled based on the input status	CTRL.CBCSWI1.ClsEna.stVal
5123		320:3		Yes					
5124		320:4	0					52(1) Executes the command for close direction	CTRL.CBCSWI1.OpCls.general
5125		320:5		Yes					
5126		320:6	0					52(1) Opening is enabled based on the input status	CTRL.CBCSWI1.OpnEna.stVal
5127		320:7		Yes					
5128		320:8	0					52(1) Executes the command for open direction	CTRL.CBCSWI1.OpOpn.general
5129		320:9		Yes					
5130		320:10	0					52(1) Object selected	CTRL.CBCSWI1.Pos.stSeld
5131		320:11		Yes					
5132		320:12	0					52(1) Apparatus closed position	CTRL.CBCSWI1.PosCls.stVal
5133		320:13		Yes					
5134		320:14	0					52(1) Apparatus position is ok	CTRL.CBCSWI1.PosOk.stVal
5135		320:15		Yes					
5136		321:0	0					52(1) Apparatus open position	CTRL.CBCSWI1.PosOpn.stVal
5137		321:1		Yes					
5184		324:0	0					52-1 Apparatus position indication - Open	CTRL.CBCSWI1.Pos.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5185		324:1		Yes					

Table 126: 52 (1) : Circuit-breaker control instance 1 (CBXCBR1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5170		323:2	0					52(1) Blocks closing	CTRL.CBXCBR1.BlkCls.stVal
5171		323:3		Yes					
5172		323:4	0					52(1) Blocks opening	CTRL.CBXCBR1.BlkOpn.stVal
5173		323:5		Yes					

Table 127: 52 (2) : Circuit-breaker control instance 2 (CBCILO2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5110		319:6	0					52(2) Enables closing	CTRL.CBCILO2.EnaCls.stVal
5111		319:7		Yes					
5112		319:8	0					52(2) Enables opening	CTRL.CBCILO2.EnaOpn.stVal
5113		319:9		Yes					
5114		319:10	0					52(2) Discards ENA_OPEN and ENA_CLOSE interlocking when TRUE	CTRL.CBCILO2.ItlByPss.stVal
5115		319:11		Yes					

Table 128: 52 (2) : Circuit-breaker control instance 2 (CBCSWI2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5138		321:2	0					52(2) Closing is enabled based on the input status	CTRL.CBCSWI2.ClsEna.stVal
5139		321:3		Yes					
5140		321:4	0					52(2) Executes the command for close direction	CTRL.CBCSWI2.OpCls.general
5141		321:5		Yes					
5142		321:6	0					52(2) Opening is enabled based on the input status	CTRL.CBCSWI2.OpnEna.stVal
5143		321:7		Yes					
5144		321:8	0					52(2) Executes the command for open direction	CTRL.CBCSWI2.OpOpn.general
5145		321:9		Yes					
5146		321:10	0					52(2) Object selected	CTRL.CBCSWI2.Pos.stSeld
5147		321:11		Yes					
5148		321:12	0					52(2) Apparatus closed position	CTRL.CBCSWI2.PosCls.stVal
5149		321:13		Yes					
5150		321:14	0					52(2) Apparatus position is ok	CTRL.CBCSWI2.PosOk.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5151		321:15		Yes					
5152		322:0	0					52(2) Apparatus open position	CTRL.CBCSWI2.PosOpn.stVal
5153		322:1		Yes					
5190		324:6	0					52(2) Apparatus position indication- Open	CTRL.CBCSWI2.Pos.stVal
5191		324:7		Yes					
5192		324:8	0					52-2 Apparatus position indication - Close	CTRL.CBCSWI2.Pos.stVal
5193		324:9		Yes					
5194		324:10	0					52-2 Apparatus position indication - OK	CTRL.CBCSWI2.Pos.stVal
5195		324:11		Yes					

Table 129: 52 (2) : Circuit-breaker control instance 2 (CBXCBR2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5174		323:6	0					52(2) Blocks closing	CTRL.CBXCBR2.BlkCls.stVal
5175		323:7		Yes					
5176		323:8	0					52(2) Blocks opening	CTRL.CBXCBR2.BlkOpn.stVal
5177		323:9		Yes					

Table 130: 52 (3) : Circuit-breaker control instance 3 (CBCILO3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5116		319:12	0					52(3) Enables closing	CTRL.CBCILO3.EnaCls.stVal
5117		319:13		Yes					
5118		319:14	0					52(3) Enables opening	CTRL.CBCILO3.EnaOpn.stVal
5119		319:15		Yes					
5120		320:0	0					52(3) Discards ENA_OPEN and ENA_CLOSE interlocking when TRUE	CTRL.CBCILO3.ItlByPss.stVal
5121		320:1		Yes					

Table 131: 52 (3) : Circuit-breaker control instance 3 (CBCSWI3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5154		322:2	0					52(3) Closing is enabled based on the input status	CTRL.CBCSWI3.ClsEna.stVal
5155		322:3		Yes					
5156		322:4	0					52(3) Executes the command for close direction	CTRL.CBCSWI3.OpCls.general
5157		322:5		Yes					
5158		322:6	0					52(3) Opening is enabled based on the input status	CTRL.CBCSWI3.OpnEna.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5159		322:7		Yes					
5160		322:8	0					52(3) Executes the command for open direction	CTRL.CBCSWI3.OpOpn.general
5161		322:9		Yes					
5162		322:10	0					52(3) Object selected	CTRL.CBCSWI3.Pos.stSeld
5163		322:11		Yes					
5164		322:12	0					52(3) Apparatus closed position	CTRL.CBCSWI3.PosCls.stVal
5165		322:13		Yes					
5166		322:14	0					52(3) Apparatus position is ok	CTRL.CBCSWI3.PosOk.stVal
5167		322:15		Yes					
5168		323:0	0					52(3) Apparatus open position	CTRL.CBCSWI3.PosOpn.stVal
5169		323:1		Yes					
5196		324:12	0					52-3 Apparatus position indication - Open	CTRL.CBCSWI3.Pos.stVal
5197		324:13		Yes					
5198		324:14	0					52-3 Apparatus position indication - Close	CTRL.CBCSWI3.Pos.stVal
5199		324:15		Yes					
5200		325:0	0					52-3 Apparatus position indication - OK	CTRL.CBCSWI3.Pos.stVal
5201		325:1		Yes					

Table 132: 52 (3) : Circuit-breaker control instance 3 (CBXCBR3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5178		323:10	0					52(3) Blocks closing	CTRL.CBXCBR3.BlkCls.stVal
5179		323:11		Yes					
5180		323:12	0					52(3) Blocks opening	CTRL.CBXCBR3.BlkOpn.stVal
5181		323:13		Yes					

Table 133: 52CM (1) : Circuit-breaker condition monitoring instance 1 (SSCBR1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5202		325:2	0					52CM(1) Accumulated currents power (Iyt) exceeded alarm limit	LD0.SSCBR1.APwrAlm.stVal
5203		325:3		Yes					
5204		325:4	0					52CM(1) Accumulated currents power (Iyt) exceeded lockout limit	LD0.SSCBR1.APwrLO.stVal
5205		325:5		Yes					
5206		325:6	0					52CM(1) Remaining life of CB exceeded alarm limit	LD0.SSCBR1.CBLifAlm.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5207		325:7		Yes					
5208		325:8	0					52CM(1) CB close travel time exceeded set value	LD0.SSCBR1.ClsAlm.stVal
5209		325:9		Yes					
5210		325:10	0					52CM(1) Signal for closeposition of apparatus from I/O	LD0.SSCBR1.InPosCls.stVal
5211		325:11		Yes					
5212		325:12	0					52CM(1) Signal for open position of apparatus from I/O	LD0.SSCBR1.InPosOpn.stVal
5213		325:13		Yes					
5214		325:14	0					52CM(1) Binary pressure alarm input	LD0.SSCBR1.InPresAlm.stVal
5215		325:15		Yes					
5216		326:0	0					52CM(1) Binary pressure input for lockout indication	LD0.SSCBR1.InPresLO.stVal
5217		326:1		Yes					
5218		326:2	0					52CM(1) CB spring charged input	LD0.SSCBR1.InSprCha.stVal
5219		326:3		Yes					
5220		326:4	0					52CM(1) CB spring charging started input	LD0.SSCBR1.InSprChStr.stVal
5221		326:5		Yes					
5222		326:6	0					52CM(1) CB 'not tripped for long time' alarm	LD0.SSCBR1.LonTmAlm.stVal
5223		326:7		Yes					
5224		326:8	0					52CM(1) CB open travel time exceeded set value	LD0.SSCBR1.OpnAlm.stVal
5225		326:9		Yes					
5226		326:10	0					52CM(1) Number of CB operations exceeds alarm limit	LD0.SSCBR1.OpNumAlm.stVal
5227		326:11		Yes					
5228		326:12	0					52CM(1) Number of CB operations exceeds lockout limit	LD0.SSCBR1.OpNumLO.stVal
5229		326:13		Yes					
5230		326:14	0					52CM(1) CB is in closed position	LD0.SSCBR1.PosCls.stVal
5231		326:15		Yes					
5232		327:0	0					52CM(1) CB is in invalid position (not positively open or closed)	LD0.SSCBR1.PosIvd.stVal
5233		327:1		Yes					
5234		327:2	0					52CM(1) CB is in open position	LD0.SSCBR1.PosOpn.stVal
5235		327:3		Yes					

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5236		327:4	0					52CM(1) Pressure below alarm level	LD0.SSCBR1.PresAlm.stVal
5237		327:5		Yes					
5238		327:6	0					52CM(1) Pressure below lockout level	LD0.SSCBR1.PresLO.stVal
5239		327:7		Yes					
5240		327:8	0					52CM(1) Reset accumulation energy	LD0.SSCBR1.RsAccAPwr.stVal
5241		327:9		Yes					
5242		327:10	0					52CM(1) Reset input for CB remaining life and operation counter	LD0.SSCBR1.RsCBWear.stVal
5243		327:11		Yes					
5244		327:12	0					52CM(1) Reset input for the charging time of the CB spring	LD0.SSCBR1.RsSprChaTm.stVal
5245		327:13		Yes					
5246		327:14	0					52CM(1) Reset input for CB closing and opening travel times	LD0.SSCBR1.RsTrvTm.stVal
5247		327:15		Yes					
5248		328:0	0					52CM(1) Spring charging time has crossed the set value	LD0.SSCBR1.SprChaAlm.stVal
5249		328:1		Yes					
		2949	5		s32	100		52CM(1) Accumulated currents power (Iyt) phase A	LD0.SSCBR1.AccAPwrPhA.mag.f
		2950	5						
		2951	5		s32	100		52CM(1) Accumulated currents power (Iyt) phase B	LD0.SSCBR1.AccAPwrPhB.mag.f
		2952	5						
		2953	5		s32	100		52CM(1) Accumulated currents power (Iyt) phase C	LD0.SSCBR1.AccAPwrPhC.mag.f
		2954	5						
		2955	4		s16			52CM(1) The number of days CB has been inactive	LD0.SSCBR1.InaTmdCnt.stVal
		2956	0		s16			52CM(1) CB Remaining life phase A	LD0.SSCBR1.RmnLifPhA.stVal
		2957	0		s16			52CM(1) CB Remaining life phase B	LD0.SSCBR1.RmnLifPhB.stVal
		2958	0		s16			52CM(1) CB Remaining life phase C	LD0.SSCBR1.RmnLifPhC.stVal
		2959	6		u16	100		52CM(1) Travel time of the CB during closing operation	LD0.SSCBR1.TmmsCls.mag.f

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2960	6		u16	100		52CM(1) Travel time of the CB during opening operation	LD0.SSCBR1.TmmsOpn.mag.f
		2961	6		u16	100		52CM(1) The charging time of the CB spring	LD0.SSCBR1.TmsSprCha.mag.f

Table 134: 52CM (2) : Circuit-breaker condition monitoring instance 2 (SSCBR2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5250		328:2	0					52CM(2) Accumulated currents power (Iyt) exceeded alarm limit	LD0.SSCBR2.APwrAlm.stVal
5251		328:3		Yes					
5252		328:4	0					52CM(2) Accumulated currents power (Iyt) exceeded lockout limit	LD0.SSCBR2.APwrLO.stVal
5253		328:5		Yes					
5254		328:6	0					52CM(2) Remaining life of CB exceeded alarm limit	LD0.SSCBR2.CBLifAlm.stVal
5255		328:7		Yes					
5256		328:8	0					52CM(2) CB close travel time exceeded set value	LD0.SSCBR2.ClsAlm.stVal
5257		328:9		Yes					
5258		328:10	0					52CM(2) Signal for closeposition of apparatus from I/O	LD0.SSCBR2.InPosCls.stVal
5259		328:11		Yes					
5260		328:12	0					52CM(2) Signal for open position of apparatus from I/O	LD0.SSCBR2.InPosOpn.stVal
5261		328:13		Yes					
5262		328:14	0					52CM(2) Binary pressure alarm input	LD0.SSCBR2.InPresAlm.stVal
5263		328:15		Yes					
5264		329:0	0					52CM(2) Binary pressure input for lockout indication	LD0.SSCBR2.InPresLO.stVal
5265		329:1		Yes					
5266		329:2	0					52CM(2) CB spring charged input	LD0.SSCBR2.InSprCha.stVal
5267		329:3		Yes					
5268		329:4	0					52CM(2) CB spring charging started input	LD0.SSCBR2.InSprChStr.stVal
5269		329:5		Yes					
5270		329:6	0					52CM(2) CB 'not tripped for long time' alarm	LD0.SSCBR2.LonTmAlm.stVal
5271		329:7		Yes					

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5272		329:8	0					52CM(2) CB open travel time exceeded set value	LD0.SSCBR2.OpnAlm.stVal
5273		329:9		Yes					
5274		329:10	0					52CM(2) Number of CB operations exceeds alarm limit	LD0.SSCBR2.OpNumAlm.stVal
5275		329:11		Yes					
5276		329:12	0					52CM(2) Number of CB operations exceeds lockout limit	LD0.SSCBR2.OpNumLO.stVal
5277		329:13		Yes					
5278		329:14	0					52CM(2) CB is in closed position	LD0.SSCBR2.PosCls.stVal
5279		329:15		Yes					
5280		330:0	0					52CM(2) CB is in invalid position (not positively open or closed)	LD0.SSCBR2.PosIvd.stVal
5281		330:1		Yes					
5282		330:2	0					52CM(2) CB is in open position	LD0.SSCBR2.PosOpn.stVal
5283		330:3		Yes					
5284		330:4	0					52CM(2) Pressure below alarm level	LD0.SSCBR2.PresAlm.stVal
5285		330:5		Yes					
5286		330:6	0					52CM(2) Pressure below lockout level	LD0.SSCBR2.PresLO.stVal
5287		330:7		Yes					
5288		330:8	0					52CM(2) Reset accumulation energy	LD0.SSCBR2.RsAccAPwr.stVal
5289		330:9		Yes					
5290		330:10	0					52CM(2) Reset input for CB remaining life and operation counter	LD0.SSCBR2.RsCBWear.stVal
5291		330:11		Yes					
5292		330:12	0					52CM(2) Reset input for the charging time of the CB spring	LD0.SSCBR2.RsSprChaTm.stVal
5293		330:13		Yes					
5294		330:14	0					52CM(2) Reset input for CB closing and opening travel times	LD0.SSCBR2.RsTrvTm.stVal
5295		330:15		Yes					
5296		331:0	0					52CM(2) Spring charging time has crossed the set value	LD0.SSCBR2.SprChaAlm.stVal
5297		331:1		Yes					
		2962	6		s32	100		52CM(2) Accumulated currents power (Iyt) phase A	LD0.SSCBR2.AccAPwrPhA.mag.f

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2963	6						
		2964	6		s32	100		52CM(2) Accumulated currents power (Iyt) phase B	LD0.SSCBR2.AccAPwrPhB.mag.f
		2965	6						
		2966	6		s32	100		52CM(2) Accumulated currents power (Iyt) phase C	LD0.SSCBR2.AccAPwrPhC.mag.f
		2967	6						
		2968	6		s16			52CM(2) CB Remaining life phase A	LD0.SSCBR2.RmnLifPhA.stVal
		2969	6		s16			52CM(2) CB Remaining life phase B	LD0.SSCBR2.RmnLifPhB.stVal
		2970	6		s16			52CM(2) CB Remaining life phase C	LD0.SSCBR2.RmnLifPhC.stVal
		2971	6		u16	100		52CM(2) Travel time of the CB during closing operation	LD0.SSCBR2.TmmsCls.mag.f
		2972	6		u16	100		52CM(2) Travel time of the CB during opening operation	LD0.SSCBR2.TmmsOpn.mag.f
		2973	6		u16	100		52CM(2) The charging time of the CB spring	LD0.SSCBR2.TmsSprCha.mag.f

Table 135: 52CM (3) : Circuit-breaker condition monitoring instance 3 (SSCBR3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5298		331:2	0					52CM(3) Accumulated currents power (Iyt) exceeded alarm limit	LD0.SSCBR3.APwrAlm.stVal
5299		331:3		Yes					
5300		331:4	0					52CM(3) Remaining life of CB exceeded alarm limit	LD0.SSCBR3.CBLifAlm.stVal
5301		331:5		Yes					
5302		331:6	0					52CM(3) Number of CB operations exceeds alarm limit	LD0.SSCBR3.OpNumAlm.stVal
5303		331:7		Yes					
5304		331:8	0					52CM(3) CB is in closed position	LD0.SSCBR3.PosCls.stVal
5305		331:9		Yes					
5306		331:10	0					52CM(3) CB is in invalid position (not positively open or closed)	LD0.SSCBR3.PosIvd.stVal
5307		331:11		Yes					
5308		331:12	0					52CM(3) CB is in open position	LD0.SSCBR3.PosOpn.stVal
5309		331:13		Yes					
5310		331:14	0					52CM(3) Pressure below alarm level	LD0.SSCBR3.PresAlm.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5311		331:15		Yes					
5312		332:0	0					52CM(3) Pressure below lockout level	LD0.SSCBR3.PresLO.stVal
5313		332:1		Yes					
		2974	6		s32	100		52CM(3) Accumulated currents power (Iyt) phase A	LD0.SSCBR3.AccAPwrPhA.mag.f
		2975							
		2976	6		s32	100		52CM(3) Accumulated currents power (Iyt) phase B	LD0.SSCBR3.AccAPwrPhB.mag.f
		2977							
		2978	6		s32	100		52CM(3) Accumulated currents power (Iyt) phase C	LD0.SSCBR3.AccAPwrPhC.mag.f
		2979							
		2980	0		s16			52CM(3) The number of days CB has been inactive	LD0.SSCBR3.InaTmdCnt.stVal
		2981	0		s16			52CM(3) CB Remaining life phase A	LD0.SSCBR3.RmnLifPhA.stVal
		2982	0		s16			52CM(3) CB Remaining life phase B	LD0.SSCBR3.RmnLifPhB.stVal
		2983	0		s16			52CM(3) CB Remaining life phase C	LD0.SSCBR3.RmnLifPhC.stVal
		2984	6		u16	100		52CM(3) Travel time of the CB during closing operation	LD0.SSCBR3.TmmsCls.mag.f
		2985	6		u16	100		52CM(3) Travel time of the CB during opening operation	LD0.SSCBR3.TmmsOpn.mag.f
		2986	6		u16	100		52CM(3) The charging time of the CB spring	LD0.SSCBR3.TmsSprCha.mag.f

Table 136: TCM-1 : Trip circuit supervision instance 1 (TCSSCBR1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5586		349:2	0					TCM-1 Alarm output	LD0.TCSSCBR1.CirAlm.stVal

Table 137: TCM-2 : Trip circuit supervision instance 2 (TCSSCBR2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5588		349:4	0					TCM-2 Alarm output	LD0.TCSSCBR2.CirAlm.stVal

Table 138: TCM-3 : Trip circuit supervision instance 3 (TCSSCBR3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5590		349:6	0					TCM-3 Alarm output	LD0.TCSSCBR3.CirAlm.stVal

Table 139: MCS 3I I2 : Advanced current circuit supervision for transformers (CTSRCTF1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5696		356:0	0					MCS 3I I2 Alarm	LD0.CTSRCTF1.Alm.stVal
5698		356:2	0					MCS 3I I2 CT secondary failure	LD0.CTSRCTF1.Op.general
5700		356:4	0					MCS 3I I2 CT secondary failure group 1	LD0.CTSRCTF1.OpGrp1.general
5702		356:6	0					MCS 3I I2 CT secondary failure group 2	LD0.CTSRCTF1.OpGrp2.general
5704		356:8	0					MCS 3I I2 CT secondary failure group 3	LD0.CTSRCTF1.OpGrp3.general

Table 140: 60 (1) : Fuse failure supervision instance 1 (SEQRFUF1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6488		405:8	0					60(1) General pickup of function	LD0.SEQRFUF1.Str.general
6490		405:10	0					60(1) Three-phase pickup of function	LD0.SEQRFUF1.Str3Ph.general

Table 141: 60 (2) : Fuse failure supervision instance 2 (SEQRFUF2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6492		405:12	0					60(2) General pickup of function	LD0.SEQRFUF2.Str.general
6494		405:14	0					60(2) Three-phase pickup of function	LD0.SEQRFUF2.Str3Ph.general

Table 142: IA IB IC (1) : Three-phase current measurement instance 1 (CMMXU1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5624		351:8	0					IA IB IC(1) High alarm	LD0.CMMXU1.HiAlm.stVal
5626		351:10	0					IA IB IC(1) High warning	LD0.CMMXU1.HiWrn.stVal
5628		351:12	0					IA IB IC(1) Low alarm	LD0.CMMXU1.LoAlm.stVal
5630		351:14	0					IA IB IC(1) Low warning	LD0.CMMXU1.LoWrn.stVal
		2000	6		s32	100		IA IB IC(1) IA Amplitude magnitude of instantaneous value	LD0.CMMXU1.A.phsA.instCVal.mag.f
		2001	6						
		2002	6		s32	100		IA IB IC(1) IB Amplitude magnitude of instantaneous value	LD0.CMMXU1.A.phsB.instCVal.mag.f
		2003	6						
		2004	6		s32	100		IA IB IC(1) IC Amplitude magnitude of instantaneous value	LD0.CMMXU1.A.phsC.instCVal.mag.f
		2005	6						

Table 143: IA IB IC (1) : Three-phase current measurement instance 1 (CMSTA1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2018	5		s32	100		IA IB IC(1) Demand value of IA current	LD0.CMSTA1.AvAmpsA.mag.f
		2019	5						
		2020	5		s32	100		IA IB IC(1) Demand value of IB current	LD0.CMSTA1.AvAmpsB.mag.f
		2021	5						
		2022	5		s32	100		IA IB IC(1) Demand value of IC current	LD0.CMSTA1.AvAmpsC.mag.f
		2023	5						
		2024	5		s32	100		IA IB IC(1) Maximum demand for Phase A	LD0.CMSTA1.MaxAmpsA.mag.f
		2025	5						
		2026	5		s32	100		IA IB IC(1) Maximum demand for Phase B	LD0.CMSTA1.MaxAmpsB.mag.f
		2027	5						
		2028	5		s32	100		IA IB IC(1) Maximum demand for Phase C	LD0.CMSTA1.MaxAmpsC.mag.f
		2029	5						

Table 144: IA IB IC (2) : Three-phase current measurement instance 2 (CMMXU2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5632		352:0	0					IA IB IC(2) High alarm	LD0.CMMXU2.HiAlm.stVal
5634		352:2	0					IA IB IC(2) High warning	LD0.CMMXU2.HiWrn.stVal
5636		352:4	0					IA IB IC(2) Low alarm	LD0.CMMXU2.LoAlm.stVal
5638		352:6	0					IA IB IC(2) Low warning	LD0.CMMXU2.LoWrn.stVal
		2006	6		s32	100		IA IB IC(2) IA Amplitude magnitude of instantaneous value	LD0.CMMXU2.A.phsA.instCVal.mag.f
		2007	6						
		2008	6		s32	100		IA IB IC(2) IB Amplitude magnitude of instantaneous value	LD0.CMMXU2.A.phsB.instCVal.mag.f
		2009	6						
		2010	6		s32	100		IA IB IC(2) IC Amplitude magnitude of instantaneous value	LD0.CMMXU2.A.phsC.instCVal.mag.f
		2011	6						

Table 145: IA IB IC (2) : Three-phase current measurement instance 2 (CMSTA2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2030	5		s32	100		IA IB IC(2) Demand value of IA current	LD0.CMSTA2.AvAmpsA.mag.f
		2031	5						

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2032	5		s32	100		IA IB IC(2) Demand value of IB current	LD0.CMSTA2.AvAmpsB.mag.f
		2033	5						
		2034	5		s32	100		IA IB IC(2) Demand value of IC current	LD0.CMSTA2.AvAmpsC.mag.f
		2035	5						
		2036	5		s32	100		IA IB IC(2) Maximum demand for Phase A	LD0.CMSTA2.MaxAmpsA.mag.f
		2037	5						
		2038	5		s32	100		IA IB IC(2) Maximum demand for Phase B	LD0.CMSTA2.MaxAmpsB.mag.f
		2039	5						
		2040	5		s32	100		IA IB IC(2) Maximum demand for Phase C	LD0.CMSTA2.MaxAmpsC.mag.f
		2041	5						

Table 146: IA IB IC (3) : Three-phase current measurement instance 3 (CMMXU3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5640		352:8	0					IA IB IC(3) High alarm	LD0.CMMXU3.HiAlm.stVal
5642		352:10	0					IA IB IC(3) High warning	LD0.CMMXU3.HiWrn.stVal
5644		352:12	0					IA IB IC(3) Low alarm	LD0.CMMXU3.LoAlm.stVal
5646		352:14	0					IA IB IC(3) Low warning	LD0.CMMXU3.LoWrn.stVal
		2012	6		s32	100		IA IB IC(3) IA Amplitude magnitude of instantaneous value	LD0.CMMXU3.A.phsA.instCVal.mag.f
		2013	6						
		2014	6		s32	100		IA IB IC(3) IB Amplitude magnitude of instantaneous value	LD0.CMMXU3.A.phsB.instCVal.mag.f
		2015	6						
		2016	6		s32	100		IA IB IC(3) IC Amplitude magnitude of instantaneous value	LD0.CMMXU3.A.phsC.instCVal.mag.f
		2017	6						

Table 147: IA IB IC (3) : Three-phase current measurement instance 3 (CMSTA3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2042	6		s32	100		IA IB IC(3) Demand value of IA current	LD0.CMSTA3.AvAmpsA.mag.f
		2043	6						
		2044	6		s32	100		IA IB IC(3) Demand value of IB current	LD0.CMSTA3.AvAmpsB.mag.f
		2045	6						
		2046	6		s32	100		IA IB IC(3) Demand value of IC current	LD0.CMSTA3.AvAmpsC.mag.f

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2047	6						
		2048	6		s32	100		IA IB IC(3) Maximum demand for Phase A	LD0.CMSTA3.MaxAmpsA.mag.f
		2049	6						
		2050	6		s32	100		IA IB IC(3) Maximum demand for Phase B	LD0.CMSTA3.MaxAmpsB.mag.f
		2051	6						
		2052	6		s32	100		IA IB IC(3) Maximum demand for Phase C	LD0.CMSTA3.MaxAmpsC.mag.f
		2053	6						

Table 148: I1 I2 I0 (1) : Sequence current measurement instance 1 (CSMSQI1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2054	6		s32	100		I1 I2 I0(1) Positive sequence current amplitude instantaneous value	LD0.CSMSQI1.SeqA.c1.instCVal.mag.f
		2055	6						
		2056	6		s32	100		I1 I2 I0(1) Negative sequence current amplitude instantaneous value	LD0.CSMSQI1.SeqA.c2.instCVal.mag.f
		2057	6						
		2058	6		s32	100		I1 I2 I0(1) Zero sequence current amplitude instantaneous value	LD0.CSMSQI1.SeqA.c3.instCVal.mag.f
		2059	6						

Table 149: I1 I2 I0 (2) : Sequence current measurement instance 2 (CSMSQI2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2060	6		s32	100		I1 I2 I0(2) Positive sequence current amplitude instantaneous value	LD0.CSMSQI2.SeqA.c1.instCVal.mag.f
		2061	6						
		2062	6		s32	100		I1 I2 I0(2) Negative sequence current amplitude instantaneous value	LD0.CSMSQI2.SeqA.c2.instCVal.mag.f
		2063	6						
		2064	6		s32	100		I1 I2 I0(2) Zero sequence current amplitude instantaneous value	LD0.CSMSQI2.SeqA.c3.instCVal.mag.f
		2065	6						

Table 150: I1 I2 I0 (3) : Sequence current measurement instance 3 (CSMSQI3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2066	6		s32	100		I1 I2 I0(3) Positive sequence current amplitude instantaneous value	LD0.CSMSQI3.SeqA.c1.instCVal.mag.f
		2067	6						
		2068	6		s32	100		I1 I2 I0(3) Negative sequence current amplitude instantaneous value	LD0.CSMSQI3.SeqA.c2.instCVal.mag.f
		2069	6						
		2070	6		s32	100		I1 I2 I0(3) Zero sequence current amplitude instantaneous value	LD0.CSMSQI3.SeqA.c3.instCVal.mag.f
		2071	6						

Table 151: IG : Residual current measurement instance 1 (RESCMMXU1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5648		353:0	0					IG High alarm	LD0.RESCMMXU1.HiAlm.stVal
5650		353:2	0					IG High warning	LD0.RESCMMXU1.HiWrn.stVal
		2072	6		s32	100		IG Ground current Amplitude magnitude of instantaneous value	LD0.RESCMMXU1.A.res.instCVal.mag.f
		2073	6						

Table 152: VA VB VC : Three-phase voltage measurement instance 1 (VMMXU1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5656		353:8	0					VA VB VC(1) High alarm	LD0.VMMXU1.HiAlm.stVal
5658		353:10	0					VA VB VC(1) High warning	LD0.VMMXU1.HiWrn.stVal
5660		353:12	0					VA VB VC(1) Low alarm	LD0.VMMXU1.LoAlm.stVal
5662		353:14	0					VA VB VC(1) Low warning	LD0.VMMXU1.LoWrn.stVal
		2244	6		u16	100		VA VB VC(1) VA Amplitude magnitude of instantaneous value	LD0.VMMXU1.PhV.phsA.cVal.mag.f
		2245	6		u16	100		VA VB VC(1) VB Amplitude magnitude of instantaneous value	LD0.VMMXU1.PhV.phsB.cVal.mag.f
		2246	6		u16	100		VA VB VC(1) VC Amplitude magnitude of instantaneous value	LD0.VMMXU1.PhV.phsC.cVal.mag.f

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2247	6		u16	100		VA VB VC(1) VAB Amplitude magnitude of instantaneous value	LD0.VMMXU1.PPV.phsAB.instCVal.mag.f
		2248	6		u16	100		VA VB VC(1) VBC Amplitude magnitude of instantaneous value	LD0.VMMXU1.PPV.phsBC.instCVal.mag.f
		2249	6		u16	100		VA VB VC(1) VCA Amplitude magnitude of instantaneous value	LD0.VMMXU1.PPV.phsCA.instCVal.mag.f

Table 153: VA VB VC (2) : Three-phase voltage measurement instance 2 (VMMXU2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5664		354:0	0					VA VB VC(2) High alarm	LD0.VMMXU2.HiAlm.stVal
5666		354:2	0					VA VB VC(2) High warning	LD0.VMMXU2.HiWrn.stVal
5668		354:4	0					VA VB VC(2) Low alarm	LD0.VMMXU2.LoAlm.stVal
5670		354:6	0					VA VB VC(2) Low warning	LD0.VMMXU2.LoWrn.stVal
		2250	6		u16	100		VA VB VC(2) VA Amplitude magnitude of instantaneous value	LD0.VMMXU2.PhV.phsA.cVal.mag.f
		2251	6		u16	100		VA VB VC(2) VB Amplitude magnitude of instantaneous value	LD0.VMMXU2.PhV.phsB.cVal.mag.f
		2252	6		u16	100		VA VB VC(2) VC Amplitude magnitude of instantaneous value	LD0.VMMXU2.PhV.phsC.cVal.mag.f
		2253	6		u16	100		VA VB VC(2) VAB Amplitude magnitude of instantaneous value	LD0.VMMXU2.PPV.phsAB.instCVal.mag.f
		2254	6		u16	100		VA VB VC(2) VBC Amplitude magnitude of instantaneous value	LD0.VMMXU2.PPV.phsBC.instCVal.mag.f
		2255	6		u16	100		VA VB VC(2) VCA Amplitude magnitude of instantaneous value	LD0.VMMXU2.PPV.phsCA.instCVal.mag.f

Table 154: VG : Residual voltage measurement instance 1 (RESVMMXU1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5672		354:8	0					VG High alarm	LD0.RESVMMXU1.HiAlm.stVal
5674		354:10	0					VG High warning	LD0.RESVMMXU1.HiWrn.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2240	6		s32	100		VG Ground voltage Amplitude	LD0.RESVMMXU1.PhV.res.instCVal.mag.f
		2241	6						

Table 155: VG : Residual voltage measurement instance 2 (RESVMMXU2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5676		354:12	0					VG(2) High alarm	LD0.RESVMMXU2.HiAlm.stVal
5678		354:14	0					VG(2) High warning	LD0.RESVMMXU2.HiWrn.stVal
		2242	6		s32	100		VG(2) Ground voltage Amplitude	LD0.RESVMMXU2.PhV.res.instCVal.mag.f
		2243	6						

Table 156: V1 V2 V0 (1) : Sequence voltage measurement instance 1 (VSMSQI1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2256	6		u16	100		V1 V2 V0(1) Positive sequence voltage amplitude instantaneous value	LD0.VSMSQI1.SeqV.c1.instCVal.mag.f
		2257	6		u16	100		V1 V2 V0(1) Negative sequence voltage amplitude instantaneous value	LD0.VSMSQI1.SeqV.c2.instCVal.mag.f
		2258	6		u16	100		V1 V2 V0(1) Zero sequence voltage amplitude instantaneous value	LD0.VSMSQI1.SeqV.c3.instCVal.mag.f

Table 157: V1 V2 V0 (2) : Sequence voltage measurement instance 2 (VSMSQI2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2259	6		u16	100		V1 V2 V0(2) Positive sequence voltage amplitude instantaneous value	LD0.VSMSQI2.SeqV.c1.instCVal.mag.f
		2260	6		u16	100		V1 V2 V0(2) Negative sequence voltage amplitude instantaneous value	LD0.VSMSQI2.SeqV.c2.instCVal.mag.f
		2261	6		u16	100		V1 V2 V0(2) Zero sequence voltage amplitude instantaneous value	LD0.VSMSQI2.SeqV.c3.instCVal.mag.f

Table 158: P E (1) : Three-phase power and energy measurement instance 1 (PEMMXU1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2388	6		s16	100		P E(1) Average Power factor	LD0.PEMMXU1.TotPF.instMag.f

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2389	6		s32	100		P E(1) Total Apparent Power	LD0.PEMMXU1.TotVA.instMag.f
		2390	6						
		2391	6		s32	100		P E(1) Total Reactive Power	LD0.PEMMXU1.TotVAr.instMag.f
		2392	6						
		2393	6		s32	100		P E(1) Active power magnitude of instantaneous value	LD0.PEMMXU1.TotW.instMag.f
		2394	6						

Table 159: P E (1) : Three-phase power and energy measurement instance 1 (PEMMTR1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6328		395:8	0					P E(1) Reset of accumulated energy reading	LD0.PEMMTR1.SupDmdRs.stVal
		2380	6		u32			P E(1) Accumulated forward reactive energy value	LD0.PEMMTR1.DmdVArh.actVal
		2381	6						
		2382	6		u32			P E(1) Accumulated forward active energy value	LD0.PEMMTR1.DmdWh.actVal
		2383	6						
		2384	6		u32			P E(1) Accumulated reverse reactive energy value	LD0.PEMMTR1.SupVArh.actVal
		2385	6						
		2386	6		u32			P E(1) Accumulated reverse active energy value	LD0.PEMMTR1.SupWh.actVal
		2387	6						

Table 160: P E (2) : Three-phase power and energy measurement instance 2 (PEMMXU2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2395	6		s16	100		P E(2) Average Power factor	LD0.PEMMXU2.TotPF.instMag.f
		2396	6		s32	100		P E(2) Total Apparent Power	LD0.PEMMXU2.TotVA.instMag.f
		2397	6						
		2398	6		s32	100		P E(2) Total Reactive Power	LD0.PEMMXU2.TotVAr.instMag.f
		2399	6						
		2400	6		s32	100		P E(2) Active power magnitude of instantaneous value	LD0.PEMMXU2.TotW.instMag.f
		2401	6						

Table 161: P E (2) : Three-phase power and energy measurement instance 2 (PEMMTR2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6330		395:10	0					P E(2) Reset of accumulated energy reading	LD0.PEMMTR2.SupDmdRs.stVal

Table 162: LoadProf : Load profile instance 1 (LDPMSTA1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6144		384:0	0					LoadProf Recording memory alarm status	LD0.LDPMSTA1.MemAlm.stVal
6146		384:2	0					LoadProf Recording memory warning status	LD0.LDPMSTA1.MemWrn.stVal
		3147	6		s32			LoadProf How much recording memory is currently used	LD0.LDPMSTA1.MemUsed.stVal
		3148	6						

Table 163: f : Frequency measurement instance 1 (FMMXU1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2378	6		u16	100		Frequency instantaneous value	LD0.FMMXU1.Hz.instMag.f

Table 164: f : Frequency measurement instance 2 (FMMXU2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2379	6		u16	100		Frequency instantaneous value	LD0.FMMXU2.Hz.instMag.f

Table 165: SP SE (1) : Single-phase power and energy measurement instance 1 (SPEMMXU1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2426	6		s16	100		SP SE(1) Power factor magnitude of reported value Phase A	LD0.SPEMMXU1.PF.phsA.cVal.mag.f
		2427	6		s16	100		SP SE(1) Power factor magnitude of reported value Phase B	LD0.SPEMMXU1.PF.phsB.cVal.mag.f
		2428	6		s16	100		SP SE(1) Power factor magnitude of reported value Phase C	LD0.SPEMMXU1.PF.phsC.cVal.mag.f
		2429	6		s32	100		SP SE(1) Apparent power magnitude of reported value Phase A	LD0.SPEMMXU1.VA.phsA.cVal.mag.f
		2430	6						
		2431	6		s32	100		SP SE(1) Apparent power magnitude of reported value Phase B	LD0.SPEMMXU1.VA.phsB.cVal.mag.f
		2432	6						
		2433	6		s32	100		SP SE(1) Apparent power magnitude of reported value Phase C	LD0.SPEMMXU1.VA.phsC.cVal.mag.f
		2434	6						
		2435	6		s32	100		SP SE(1) Reactive power magnitude of reported value Phase A	LD0.SPEMMXU1.VAr.phsA.cVal.mag.f
		2436	6						

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2437	6		s32	100		SP SE(1) Reactive power magnitude of reported value Phase B	LD0.SPEMMXU1.VAr.phsB.cVal.mag.f
		2438	6						
		2439	6		s32	100		SP SE(1) Reactive power magnitude of reported value Phase C	LD0.SPEMMXU1.VAr.phsC.cVal.mag.f
		2440	6						
		2441	6		s32	100		SP SE(1) Active power magnitude of reported value Phase A	LD0.SPEMMXU1.W.phsA.cVal.mag.f
		2442	6						
		2443	6		s32	100		SP SE(1) Active power magnitude of reported value Phase B	LD0.SPEMMXU1.W.phsB.cVal.mag.f
		2444	6						
		2445	6		s32	100		SP SE(1) Active power magnitude of reported value Phase C	LD0.SPEMMXU1.W.phsC.cVal.mag.f
		2446	6						

Table 166: SP SE (1) : Single-phase power and energy measurement instance 1 (SPEMMTR1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6656		416:0	0					SP SE(1) Reset of accumulated energy reading	LD0.SPEMMTR1.SupDmdRs.stVal
		2402	6		u32			SP SE(1) Accumulated forward reactive energy value Phase A	LD0.SPEMMTR1.DmdVArhA.actVal
		2403	6						
		2404	6		u32			SP SE(1) Accumulated forward reactive energy value Phase B	LD0.SPEMMTR1.DmdVArhB.actVal
		2405	6						
		2406	6		u32			SP SE(1) Accumulated forward reactive energy value Phase C	LD0.SPEMMTR1.DmdVArhC.actVal
		2407	6						
		2408	6		u32			SP SE(1) Accumulated forward active energy value Phase A	LD0.SPEMMTR1.DmdWhA.actVal
		2409	6						
		2410	6		u32			SP SE(1) Accumulated forward active energy value Phase B	LD0.SPEMMTR1.DmdWhB.actVal
		2411	6						
		2412	6		u32			SP SE(1) Accumulated forward active energy value Phase C	LD0.SPEMMTR1.DmdWhC.actVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2413	6						
		2414	6		u32			SP SE(1) Accumulated reverse reactive energy value Phase A	LD0.SPEMMTR1.SupVArhA.actVal
		2415	6						
		2416	6		u32			SP SE(1) Accumulated reverse reactive energy value Phase B	LD0.SPEMMTR1.SupVArhB.actVal
		2417	6						
		2418	6		u32			SP SE(1) Accumulated reverse reactive energy value Phase C	LD0.SPEMMTR1.SupVArhC.actVal
		2419	6						
		2420	6		u32			SP SE(1) Accumulated reverse active energy value Phase A	LD0.SPEMMTR1.SupWhA.actVal
		2421	6						
		2422	6		u32			SP SE(1) Accumulated reverse active energy value Phase B	LD0.SPEMMTR1.SupWhB.actVal
		2423	6						
		2424	6		u32			SP SE(1) Accumulated reverse active energy value Phase C	LD0.SPEMMTR1.SupWhC.actVal
		2425	6						

Table 167: SP SE (2) : Single-phase power and energy measurement instance 2 (SPEMMXU2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2447	6		s16	100		SP SE(2) Power factor magnitude of reported value Phase A	LD0.SPEMMXU2.PF.phsA.cVal.mag.f
		2448	6		s16	100		SP SE(2) Power factor magnitude of reported value Phase B	LD0.SPEMMXU2.PF.phsB.cVal.mag.f
		2449	6		s16	100		SP SE(2) Power factor magnitude of reported value Phase C	LD0.SPEMMXU2.PF.phsC.cVal.mag.f
		2450	6		s32	100		SP SE(2) Apparent power magnitude of reported value Phase A	LD0.SPEMMXU2.VA.phsA.cVal.mag.f
		2451	6						
		2452	6		s32	100		SP SE(2) Apparent power magnitude of reported value Phase B	LD0.SPEMMXU2.VA.phsB.cVal.mag.f
		2453	6						
		2454	6		s32	100		SP SE(2) Apparent power magnitude of reported value Phase C	LD0.SPEMMXU2.VA.phsC.cVal.mag.f
		2455	6						

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2456	6		s32	100		SP SE(2) Reactive power magnitude of reported value Phase A	LD0.SPEMMXU2.VAr.phsA.cVal.mag.f
		2457	6						
		2458	6		s32	100		SP SE(2) Reactive power magnitude of reported value Phase B	LD0.SPEMMXU2.VAr.phsB.cVal.mag.f
		2459	6						
		2460	6		s32	100		SP SE(2) Reactive power magnitude of reported value Phase C	LD0.SPEMMXU2.VAr.phsC.cVal.mag.f
		2461	6						
		2462	6		s32	100		SP SE(2) Active power magnitude of reported value Phase A	LD0.SPEMMXU2.W.phsA.cVal.mag.f
		2463	6						
		2464	6		s32	100		SP SE(2) Active power magnitude of reported value Phase B	LD0.SPEMMXU2.W.phsB.cVal.mag.f
		2465	6						
		2466	6		s32	100		SP SE(2) Active power magnitude of reported value Phase C	LD0.SPEMMXU2.W.phsC.cVal.mag.f
		2467	6						

Table 168: SP SE (2) : Single-phase power and energy measurement instance 2 (SPEMMTR2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6658		416:2	0					SP SE(2) Reset of accumulated energy reading	LD0.SPEMMTR2.SupDmdRs.stVal

Table 169: 84T : Tap changer position indication (TPOSSLTC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2995	6		s16			84T Tap position indication	LD0.TPOSSLTC1.TapPos.valWTr.posVal

Table 170: TP-1 : Minimum pulse timer (2 pcs) instance 1 (TPGAPC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7198		449:14	0					TP-1 Output 2 status	LD0.TPGAPC1.Op.general
7200		450:0	0					TP-1 Output 1 status	LD0.TPGAPC1.Str.general

Table 171: TP-2 : Minimum pulse timer (2 pcs) instance 2 (TPGAPC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7202		450:2	0					TP-2 Output 2 status	LD0.TPGAPC2.Op.general
7204		450:4	0					TP-2 Output 1 status	LD0.TPGAPC2.Str.general

Table 172: TP-3 : Minimum pulse timer (2 pcs) instance 3 (TPGAPC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7206		450:6	0					TP-3 Output 2 status	LD0.TPGAPC3.Op.general
7208		450:8	0					TP-3 Output 1 status	LD0.TPGAPC3.Str.general

Table 173: TP-4 : Minimum pulse timer (2 pcs) instance 4 (TPGAPC4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7210		450:10	0					TP-4 Output 2 status	LD0.TPGAPC4.Op.general
7212		450:12	0					TP-4 Output 1 status	LD0.TPGAPC4.Str.general

Table 174: PT-1 : Pulse timer (8 pcs) instance 1 (PTGAPC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6846		427:14	0					PT-1 Input 1 status	LD0.PTGAPC1.In1.stVal
6848		428:0	0					PT-1 Input 2 status	LD0.PTGAPC1.In2.stVal
6850		428:2	0					PT-1 Input 3 status	LD0.PTGAPC1.In3.stVal
6852		428:4	0					PT-1 Input 4 status	LD0.PTGAPC1.In4.stVal
6854		428:6	0					PT-1 Input 5 status	LD0.PTGAPC1.In5.stVal
6856		428:8	0					PT-1 Input 6 status	LD0.PTGAPC1.In6.stVal
6858		428:10	0					PT-1 Input 7 status	LD0.PTGAPC1.In7.stVal
6860		428:12	0					PT-1 Input 8 status	LD0.PTGAPC1.In8.stVal
6862		428:14	0					PT-1 Output 1 status	LD0.PTGAPC1.Q1.stVal
6864		429:0	0					PT-1 Output 2 status	LD0.PTGAPC1.Q2.stVal
6866		429:2	0					PT-1 Output 3 status	LD0.PTGAPC1.Q3.stVal
6868		429:4	0					PT-1 Output 4 status	LD0.PTGAPC1.Q4.stVal
6870		429:6	0					PT-1 Output 5 status	LD0.PTGAPC1.Q5.stVal
6872		429:8	0					PT-1 Output 6 status	LD0.PTGAPC1.Q6.stVal
6874		429:10	0					PT-1 Output 7 status	LD0.PTGAPC1.Q7.stVal
6876		429:12	0					PT-1 Output 8 status	LD0.PTGAPC1.Q8.stVal

Table 175: PT-2 : Pulse timer (8 pcs) instance 2 (PTGAPC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6878		429:14	0					PT-2 Input 1 status	LD0.PTGAPC2.In1.stVal
6880		430:0	0					PT-2 Input 2 status	LD0.PTGAPC2.In2.stVal
6882		430:2	0					PT-2 Input 3 status	LD0.PTGAPC2.In3.stVal
6884		430:4	0					PT-2 Input 4 status	LD0.PTGAPC2.In4.stVal
6886		430:6	0					PT-2 Input 5 status	LD0.PTGAPC2.In5.stVal
6888		430:8	0					PT-2 Input 6 status	LD0.PTGAPC2.In6.stVal
6890		430:10	0					PT-2 Input 7 status	LD0.PTGAPC2.In7.stVal
6892		430:12	0					PT-2 Input 8 status	LD0.PTGAPC2.In8.stVal
6894		430:14	0					PT-2 Output 1 status	LD0.PTGAPC2.Q1.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6896		431:0	0					PT-2 Output 2 status	LD0.PTGAPC2.Q2.stVal
6898		431:2	0					PT-2 Output 3 status	LD0.PTGAPC2.Q3.stVal
6900		431:4	0					PT-2 Output 4 status	LD0.PTGAPC2.Q4.stVal
6902		431:6	0					PT-2 Output 5 status	LD0.PTGAPC2.Q5.stVal
6904		431:8	0					PT-2 Output 6 status	LD0.PTGAPC2.Q6.stVal
6906		431:10	0					PT-2 Output 7 status	LD0.PTGAPC2.Q7.stVal
6908		431:12	0					PT-2 Output 8 status	LD0.PTGAPC2.Q8.stVal

Table 176: TOF-1 : Time delay off (8 pcs) instance 1 (TOFGAPC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7006		437:14	0					TOF-1 Input 1 status	LD0.TOFGAPC1.In1.stVal
7008		438:0	0					TOF-1 Input 2 status	LD0.TOFGAPC1.In2.stVal
7010		438:2	0					TOF-1 Input 3 status	LD0.TOFGAPC1.In3.stVal
7012		438:4	0					TOF-1 Input 4 status	LD0.TOFGAPC1.In4.stVal
7014		438:6	0					TOF-1 Input 5 status	LD0.TOFGAPC1.In5.stVal
7016		438:8	0					TOF-1 Input 6 status	LD0.TOFGAPC1.In6.stVal
7018		438:10	0					TOF-1 Input 7 status	LD0.TOFGAPC1.In7.stVal
7020		438:12	0					TOF-1 Input 8 status	LD0.TOFGAPC1.In8.stVal
7022		438:14	0					TOF-1 Output 1 status	LD0.TOFGAPC1.Q1.stVal
7024		439:0	0					TOF-1 Output 2 status	LD0.TOFGAPC1.Q2.stVal
7026		439:2	0					TOF-1 Output 3 status	LD0.TOFGAPC1.Q3.stVal
7028		439:4	0					TOF-1 Output 4 status	LD0.TOFGAPC1.Q4.stVal
7030		439:6	0					TOF-1 Output 5 status	LD0.TOFGAPC1.Q5.stVal
7032		439:8	0					TOF-1 Output 6 status	LD0.TOFGAPC1.Q6.stVal
7034		439:10	0					TOF-1 Output 7 status	LD0.TOFGAPC1.Q7.stVal
7036		439:12	0					TOF-1 Output 8 status	LD0.TOFGAPC1.Q8.stVal

Table 177: TOF- 2 : Time delay off (8 pcs) instance 2 (TOFGAPC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7038		439:14	0					TOF-2 Input 1 status	LD0.TOFGAPC2.In1.stVal
7040		440:0	0					TOF-2 Input 2 status	LD0.TOFGAPC2.In2.stVal
7042		440:2	0					TOF-2 Input 3 status	LD0.TOFGAPC2.In3.stVal
7044		440:4	0					TOF-2 Input 4 status	LD0.TOFGAPC2.In4.stVal
7046		440:6	0					TOF-2 Input 5 status	LD0.TOFGAPC2.In5.stVal
7048		440:8	0					TOF-2 Input 6 status	LD0.TOFGAPC2.In6.stVal
7050		440:10	0					TOF-2 Input 7 status	LD0.TOFGAPC2.In7.stVal
7052		440:12	0					TOF-2 Input 8 status	LD0.TOFGAPC2.In8.stVal
7054		440:14	0					TOF-2 Output 1 status	LD0.TOFGAPC2.Q1.stVal
7056		441:0	0					TOF-2 Output 2 status	LD0.TOFGAPC2.Q2.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7058		441:2	0					TOF-2 Output 3 status	LD0.TOFGAPC2.Q3.stVal
7060		441:4	0					TOF-2 Output 4 status	LD0.TOFGAPC2.Q4.stVal
7062		441:6	0					TOF-2 Output 5 status	LD0.TOFGAPC2.Q5.stVal
7064		441:8	0					TOF-2 Output 6 status	LD0.TOFGAPC2.Q6.stVal
7066		441:10	0					TOF-2 Output 7 status	LD0.TOFGAPC2.Q7.stVal
7068		441:12	0					TOF-2 Output 8 status	LD0.TOFGAPC2.Q8.stVal

Table 178: TOF-3 : Time delay off (8 pcs) instance 3 (TOFGAPC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7070		441:14	0					TOF-3 Output 1 status	LD0.TOFGAPC3.Q1.stVal
7072		442:0	0					TOF-3 Output 2 status	LD0.TOFGAPC3.Q2.stVal
7074		442:2	0					TOF-3 Output 3 status	LD0.TOFGAPC3.Q3.stVal
7076		442:4	0					TOF-3 Output 4 status	LD0.TOFGAPC3.Q4.stVal
7078		442:6	0					TOF-3 Output 5 status	LD0.TOFGAPC3.Q5.stVal
7080		442:8	0					TOF-3 Output 6 status	LD0.TOFGAPC3.Q6.stVal
7082		442:10	0					TOF-3 Output 7 status	LD0.TOFGAPC3.Q7.stVal
7084		442:12	0					TOF-3 Output 8 status	LD0.TOFGAPC3.Q8.stVal

Table 179: TOF- 4 : Time delay off (8 pcs) instance 4 (TOFGAPC4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7086		442:14	0					TOF-4 Output 1 status	LD0.TOFGAPC4.Q1.stVal
7088		443:0	0					TOF-4 Output 2 status	LD0.TOFGAPC4.Q2.stVal
7090		443:2	0					TOF-4 Output 3 status	LD0.TOFGAPC4.Q3.stVal
7092		443:4	0					TOF-4 Output 4 status	LD0.TOFGAPC4.Q4.stVal
7094		443:6	0					TOF-4 Output 5 status	LD0.TOFGAPC4.Q5.stVal
7096		443:8	0					TOF-4 Output 6 status	LD0.TOFGAPC4.Q6.stVal
7098		443:10	0					TOF-4 Output 7 status	LD0.TOFGAPC4.Q7.stVal
7100		443:12	0					TOF-4 Output 8 status	LD0.TOFGAPC4.Q8.stVal

Table 180: TON -1 : Time delay on (8 pcs) instance 1 (TONGAPC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7102		443:14	0					TON -1 Input 1	LD0.TONGAPC1.In1.stVal
7104		444:0	0					TON -1 Input 2	LD0.TONGAPC1.In2.stVal
7106		444:2	0					TON -1 Input 3	LD0.TONGAPC1.In3.stVal
7108		444:4	0					TON -1 Input 4	LD0.TONGAPC1.In4.stVal
7110		444:6	0					TON -1 Input 5	LD0.TONGAPC1.In5.stVal
7112		444:8	0					TON -1 Input 6	LD0.TONGAPC1.In6.stVal
7114		444:10	0					TON -1 Input 7	LD0.TONGAPC1.In7.stVal
7116		444:12	0					TON -1 Input 8	LD0.TONGAPC1.In8.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7118		444:14	0					TON -1 Output 1	LD0.TONGAPC1.Q1.stVal
7120		445:0	0					TON -1 Output 2	LD0.TONGAPC1.Q2.stVal
7122		445:2	0					TON -1 Output 3	LD0.TONGAPC1.Q3.stVal
7124		445:4	0					TON -1 Output 4	LD0.TONGAPC1.Q4.stVal
7126		445:6	0					TON -1 Output 5	LD0.TONGAPC1.Q5.stVal
7128		445:8	0					TON -1 Output 6	LD0.TONGAPC1.Q6.stVal
7130		445:10	0					TON -1 Output 7	LD0.TONGAPC1.Q7.stVal
7132		445:12	0					TON -1 Output 8	LD0.TONGAPC1.Q8.stVal

Table 181: TON -2 : Time delay on (8 pcs) instance 2 (TONGAPC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7134		445:14	0					TON -2 Input 1	LD0.TONGAPC2.In1.stVal
7136		446:0	0					TON -2 Input 2	LD0.TONGAPC2.In2.stVal
7138		446:2	0					TON -2 Input 3	LD0.TONGAPC2.In3.stVal
7140		446:4	0					TON -2 Input 4	LD0.TONGAPC2.In4.stVal
7142		446:6	0					TON -2 Input 5	LD0.TONGAPC2.In5.stVal
7144		446:8	0					TON -2 Input 6	LD0.TONGAPC2.In6.stVal
7146		446:10	0					TON -2 Input 7	LD0.TONGAPC2.In7.stVal
7148		446:12	0					TON -2 Input 8	LD0.TONGAPC2.In8.stVal
7150		446:14	0					TON -2 Output 1	LD0.TONGAPC2.Q1.stVal
7152		447:0	0					TON -2 Output 2	LD0.TONGAPC2.Q2.stVal
7154		447:2	0					TON -2 Output 3	LD0.TONGAPC2.Q3.stVal
7156		447:4	0					TON -2 Output 4	LD0.TONGAPC2.Q4.stVal
7158		447:6	0					TON -2 Output 5	LD0.TONGAPC2.Q5.stVal
7160		447:8	0					TON -2 Output 6	LD0.TONGAPC2.Q6.stVal
7162		447:10	0					TON -2 Output 7	LD0.TONGAPC2.Q7.stVal
7164		447:12	0					TON -2 Output 8	LD0.TONGAPC2.Q8.stVal

Table 182: TON -3 : Time delay on (8 pcs) instance 3 (TONGAPC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7166		447:14	0					TON -3 Output 1	LD0.TONGAPC3.Q1.stVal
7168		448:0	0					TON -3 Output 2	LD0.TONGAPC3.Q2.stVal
7170		448:2	0					TON -3 Output 3	LD0.TONGAPC3.Q3.stVal
7172		448:4	0					TON -3 Output 4	LD0.TONGAPC3.Q4.stVal
7174		448:6	0					TON -3 Output 5	LD0.TONGAPC3.Q5.stVal
7176		448:8	0					TON -3 Output 6	LD0.TONGAPC3.Q6.stVal
7178		448:10	0					TON -3 Output 7	LD0.TONGAPC3.Q7.stVal
7180		448:12	0					TON -3 Output 8	LD0.TONGAPC3.Q8.stVal

Table 183: TON -4 : Time delay on (8 pcs) instance 4 (TONGAPC4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7182		448:14	0					TON -4 Output 1	LD0.TONGAPC4.Q1.stVal
7184		449:0	0					TON -4 Output 2	LD0.TONGAPC4.Q2.stVal
7186		449:2	0					TON -4 Output 3	LD0.TONGAPC4.Q3.stVal
7188		449:4	0					TON -4 Output 4	LD0.TONGAPC4.Q4.stVal
7190		449:6	0					TON -4 Output 5	LD0.TONGAPC4.Q5.stVal
7192		449:8	0					TON -4 Output 6	LD0.TONGAPC4.Q6.stVal
7194		449:10	0					TON -4 Output 7	LD0.TONGAPC4.Q7.stVal
7196		449:12	0					TON -4 Output 8	LD0.TONGAPC4.Q8.stVal

Table 184: SR-1 : Set reset (8 pcs) instance 1 (SRGAPC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6910		431:14	0					SR-1 Q1 status	LD0.SRGAPC1.Q1.stVal
6912		432:0	0					SR-1 Q2 status	LD0.SRGAPC1.Q2.stVal
6914		432:2	0					SR-1 Q3 status	LD0.SRGAPC1.Q3.stVal
6916		432:4	0					SR-1 Q4 status	LD0.SRGAPC1.Q4.stVal
6918		432:6	0					SR-1 Q5 status	LD0.SRGAPC1.Q5.stVal
6920		432:8	0					SR-1 Q6 status	LD0.SRGAPC1.Q6.stVal
6922		432:10	0					SR-1 Q7 status	LD0.SRGAPC1.Q7.stVal
6924		432:12	0					SR-1 Q8 status	LD0.SRGAPC1.Q8.stVal
6926		432:14	0					SR-1 Set Q1 output when set	LD0.SRGAPC1.Set1.stVal
6928		433:0	0					SR-1 Set Q2 output when set	LD0.SRGAPC1.Set2.stVal
6930		433:2	0					SR-1 Set Q3 output when set	LD0.SRGAPC1.Set3.stVal
6932		433:4	0					SR-1 Set Q4 output when set	LD0.SRGAPC1.Set4.stVal
6934		433:6	0					SR-1 Set Q5 output when set	LD0.SRGAPC1.Set5.stVal
6936		433:8	0					SR-1 Set Q6 output when set	LD0.SRGAPC1.Set6.stVal
6938		433:10	0					SR-1 Set Q7 output when set	LD0.SRGAPC1.Set7.stVal
6940		433:12	0					SR-1 Set Q8 output when set	LD0.SRGAPC1.Set8.stVal

Table 185: SR-2 : Set reset (8 pcs) instance 2 (SRGAPC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6942		433:14	0					SR-2 Q1 status	LD0.SRGAPC2.Q1.stVal
6944		434:0	0					SR-2 Q2 status	LD0.SRGAPC2.Q2.stVal
6946		434:2	0					SR-2 Q3 status	LD0.SRGAPC2.Q3.stVal
6948		434:4	0					SR-2 Q4 status	LD0.SRGAPC2.Q4.stVal
6950		434:6	0					SR-2 Q5 status	LD0.SRGAPC2.Q5.stVal
6952		434:8	0					SR-2 Q6 status	LD0.SRGAPC2.Q6.stVal
6954		434:10	0					SR-2 Q7 status	LD0.SRGAPC2.Q7.stVal
6956		434:12	0					SR-2 Q8 status	LD0.SRGAPC2.Q8.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6958		434:14	0					SR-2 Set Q1 output when set	LD0.SRGAPC2.Set1.stVal
6960		435:0	0					SR-2 Set Q2 output when set	LD0.SRGAPC2.Set2.stVal
6962		435:2	0					SR-2 Set Q3 output when set	LD0.SRGAPC2.Set3.stVal
6964		435:4	0					SR-2 Set Q4 output when set	LD0.SRGAPC2.Set4.stVal
6966		435:6	0					SR-2 Set Q5 output when set	LD0.SRGAPC2.Set5.stVal
6968		435:8	0					SR-2 Set Q6 output when set	LD0.SRGAPC2.Set6.stVal
6970		435:10	0					SR-2 Set Q7 output when set	LD0.SRGAPC2.Set7.stVal
6972		435:12	0					SR-2 Set Q8 output when set	LD0.SRGAPC2.Set8.stVal

Table 186: SR-3 : Set reset (8 pcs) instance 3 (SRGAPC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6974		435:14	0					SR-3 Q1 status	LD0.SRGAPC3.Q1.stVal
6976		436:0	0					SR-3 Q2 status	LD0.SRGAPC3.Q2.stVal
6978		436:2	0					SR-3 Q3 status	LD0.SRGAPC3.Q3.stVal
6980		436:4	0					SR-3 Q4 status	LD0.SRGAPC3.Q4.stVal
6982		436:6	0					SR-3 Q5 status	LD0.SRGAPC3.Q5.stVal
6984		436:8	0					SR-3 Q6 status	LD0.SRGAPC3.Q6.stVal
6986		436:10	0					SR-3 Q7 status	LD0.SRGAPC3.Q7.stVal
6988		436:12	0					SR-3 Q8 status	LD0.SRGAPC3.Q8.stVal

Table 187: SR-4 : Set reset (8 pcs) instance 4 (SRGAPC4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6990		436:14	0					SR-4 Q1 status	LD0.SRGAPC4.Q1.stVal
6992		437:0	0					SR-4 Q2 status	LD0.SRGAPC4.Q2.stVal
6994		437:2	0					SR-4 Q3 status	LD0.SRGAPC4.Q3.stVal
6996		437:4	0					SR-4 Q4 status	LD0.SRGAPC4.Q4.stVal
6998		437:6	0					SR-4 Q5 status	LD0.SRGAPC4.Q5.stVal
7000		437:8	0					SR-4 Q6 status	LD0.SRGAPC4.Q6.stVal
7002		437:10	0					SR-4 Q7 status	LD0.SRGAPC4.Q7.stVal
7004		437:12	0					SR-4 Q8 status	LD0.SRGAPC4.Q8.stVal

Table 188: MV-1 : Move (8 pcs) instance 1 (MVGAPC1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6718		419:14	0					MV-1 Q1 status	LD0.MVGAPC1.Q1.stVal
6720		420:0	0					MV-1 Q2 status	LD0.MVGAPC1.Q2.stVal
6722		420:2	0					MV-1 Q3 status	LD0.MVGAPC1.Q3.stVal
6724		420:4	0					MV-1 Q4 status	LD0.MVGAPC1.Q4.stVal
6726		420:6	0					MV-1 Q5 status	LD0.MVGAPC1.Q5.stVal
6728		420:8	0					MV-1 Q6 status	LD0.MVGAPC1.Q6.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6730		420:10	0					MV-1 Q7 status	LD0.MVGAPC1.Q7.stVal
6732		420:12	0					MV-1 Q8 status	LD0.MVGAPC1.Q8.stVal

Table 189: MV-2 : Move (8 pcs) instance 2 (MVGAPC2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6734		420:14	0					MV-2 Q1 status	LD0.MVGAPC2.Q1.stVal
6736		421:0	0					MV-2 Q2 status	LD0.MVGAPC2.Q2.stVal
6738		421:2	0					MV-2 Q3 status	LD0.MVGAPC2.Q3.stVal
6740		421:4	0					MV-2 Q4 status	LD0.MVGAPC2.Q4.stVal
6742		421:6	0					MV-2 Q5 status	LD0.MVGAPC2.Q5.stVal
6744		421:8	0					MV-2 Q6 status	LD0.MVGAPC2.Q6.stVal
6746		421:10	0					MV-2 Q7 status	LD0.MVGAPC2.Q7.stVal
6748		421:12	0					MV-2 Q8 status	LD0.MVGAPC2.Q8.stVal

Table 190: MV-3 : Move (8 pcs) instance 3 (MVGAPC3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6750		421:14	0					MV-3 Q1 status	LD0.MVGAPC3.Q1.stVal
6752		422:0	0					MV-3 Q2 status	LD0.MVGAPC3.Q2.stVal
6754		422:2	0					MV-3 Q3 status	LD0.MVGAPC3.Q3.stVal
6756		422:4	0					MV-3 Q4 status	LD0.MVGAPC3.Q4.stVal
6758		422:6	0					MV-3 Q5 status	LD0.MVGAPC3.Q5.stVal
6760		422:8	0					MV-3 Q6 status	LD0.MVGAPC3.Q6.stVal
6762		422:10	0					MV-3 Q7 status	LD0.MVGAPC3.Q7.stVal
6764		422:12	0					MV-3 Q8 status	LD0.MVGAPC3.Q8.stVal

Table 191: MV-4 : Move (8 pcs) instance 4 (MVGAPC4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6766		422:14	0					MV-4 Q1 status	LD0.MVGAPC4.Q1.stVal
6768		423:0	0					MV-4 Q2 status	LD0.MVGAPC4.Q2.stVal
6770		423:2	0					MV-4 Q3 status	LD0.MVGAPC4.Q3.stVal
6772		423:4	0					MV-4 Q4 status	LD0.MVGAPC4.Q4.stVal
6774		423:6	0					MV-4 Q5 status	LD0.MVGAPC4.Q5.stVal
6776		423:8	0					MV-4 Q6 status	LD0.MVGAPC4.Q6.stVal
6778		423:10	0					MV-4 Q7 status	LD0.MVGAPC4.Q7.stVal
6780		423:12	0					MV-4 Q8 status	LD0.MVGAPC4.Q8.stVal

Table 192: MV-5 : Move (8 pcs) instance 5 (MVGAPC5)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6782		423:14	0					MV-5 Q1 status	LD0.MVGAPC5.Q1.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6784		424:0	0					MV-5 Q2 status	LD0.MVGAPC5.Q2.stVal
6786		424:2	0					MV-5 Q3 status	LD0.MVGAPC5.Q3.stVal
6788		424:4	0					MV-5 Q4 status	LD0.MVGAPC5.Q4.stVal
6790		424:6	0					MV-5 Q5 status	LD0.MVGAPC5.Q5.stVal
6792		424:8	0					MV-5 Q6 status	LD0.MVGAPC5.Q6.stVal
6794		424:10	0					MV-5 Q7 status	LD0.MVGAPC5.Q7.stVal
6796		424:12	0					MV-5 Q8 status	LD0.MVGAPC5.Q8.stVal

Table 193: MV-6 : Move (8 pcs) instance 6 (MVGAPC6)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6798		424:14	0					MV-6 Q1 status	LD0.MVGAPC6.Q1.stVal
6800		425:0	0					MV-6 Q2 status	LD0.MVGAPC6.Q2.stVal
6802		425:2	0					MV-6 Q3 status	LD0.MVGAPC6.Q3.stVal
6804		425:4	0					MV-6 Q4 status	LD0.MVGAPC6.Q4.stVal
6806		425:6	0					MV-6 Q5 status	LD0.MVGAPC6.Q5.stVal
6808		425:8	0					MV-6 Q6 status	LD0.MVGAPC6.Q6.stVal
6810		425:10	0					MV-6 Q7 status	LD0.MVGAPC6.Q7.stVal
6812		425:12	0					MV-6 Q8 status	LD0.MVGAPC6.Q8.stVal

Table 194: MV-7 : Move (8 pcs) instance 7 (MVGAPC7)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6814		425:14	0					MV-7 Q1 status	LD0.MVGAPC7.Q1.stVal
6816		426:0	0					MV-7 Q2 status	LD0.MVGAPC7.Q2.stVal
6818		426:2	0					MV-7 Q3 status	LD0.MVGAPC7.Q3.stVal
6820		426:4	0					MV-7 Q4 status	LD0.MVGAPC7.Q4.stVal
6822		426:6	0					MV-7 Q5 status	LD0.MVGAPC7.Q5.stVal
6824		426:8	0					MV-7 Q6 status	LD0.MVGAPC7.Q6.stVal
6826		426:10	0					MV-7 Q7 status	LD0.MVGAPC7.Q7.stVal
6828		426:12	0					MV-7 Q8 status	LD0.MVGAPC7.Q8.stVal

Table 195: MV-8 : Move (8 pcs) instance 8 (MVGAPC8)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6830		426:14	0					MV-8 Q1 status	LD0.MVGAPC8.Q1.stVal
6832		427:0	0					MV-8 Q2 status	LD0.MVGAPC8.Q2.stVal
6834		427:2	0					MV-8 Q3 status	LD0.MVGAPC8.Q3.stVal
6836		427:4	0					MV-8 Q4 status	LD0.MVGAPC8.Q4.stVal
6838		427:6	0					MV-8 Q5 status	LD0.MVGAPC8.Q5.stVal
6840		427:8	0					MV-8 Q6 status	LD0.MVGAPC8.Q6.stVal
6842		427:10	0					MV-8 Q7 status	LD0.MVGAPC8.Q7.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6844		427:12	0					MV-8 Q8 status	LD0.MVGAPC8.Q8.stVal

Table 196: CNTRL-1 : Generic control points instance 1 (SPCGGIO1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6496		406:0	0					CNTRL-1 Output 1 status	LD0.SPCGGIO1.SPCSO1.stVal
6498		406:2	0					CNTRL-1 Output 2 status	LD0.SPCGGIO1.SPCSO2.stVal
6500		406:4	0					CNTRL-1 Output 3 status	LD0.SPCGGIO1.SPCSO3.stVal
6502		406:6	0					CNTRL-1 Output 4 status	LD0.SPCGGIO1.SPCSO4.stVal
6504		406:8	0					CNTRL-1 Output 5 status	LD0.SPCGGIO1.SPCSO5.stVal
6506		406:10	0					CNTRL-1 Output 6 status	LD0.SPCGGIO1.SPCSO6.stVal
6508		406:12	0					CNTRL-1 Output 7 status	LD0.SPCGGIO1.SPCSO7.stVal
6510		406:14	0					CNTRL-1 Output 8 status	LD0.SPCGGIO1.SPCSO8.stVal
6512		407:0	0					CNTRL-1 Output 9 status	LD0.SPCGGIO1.SPCSO9.stVal
6514		407:2	0					CNTRL-1 Output 10 status	LD0.SPCGGIO1.SPCSO10.stVal
6516		407:4	0					CNTRL-1 Output 11 status	LD0.SPCGGIO1.SPCSO11.stVal
6518		407:6	0					CNTRL-1 Output 12 status	LD0.SPCGGIO1.SPCSO12.stVal
6520		407:8	0					CNTRL-1 Output 13 status	LD0.SPCGGIO1.SPCSO13.stVal
6522		407:10	0					CNTRL-1 Output 14 status	LD0.SPCGGIO1.SPCSO14.stVal
6524		407:12	0					CNTRL-1 Output 15 status	LD0.SPCGGIO1.SPCSO15.stVal
6526		407:14	0					CNTRL-1 Output 16 status	LD0.SPCGGIO1.SPCSO16.stVal

Table 197: CNTRL-2 : Generic control points instance 2 (SPCGGIO2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6528		408:0	0					CNTRL-2 Output 1 status	LD0.SPCGGIO2.SPCSO1.stVal
6530		408:2	0					CNTRL-2 Output 2 status	LD0.SPCGGIO2.SPCSO2.stVal
6532		408:4	0					CNTRL-2 Output 3 status	LD0.SPCGGIO2.SPCSO3.stVal
6534		408:6	0					CNTRL-2 Output 4 status	LD0.SPCGGIO2.SPCSO4.stVal
6536		408:8	0					CNTRL-2 Output 5 status	LD0.SPCGGIO2.SPCSO5.stVal
6538		408:10	0					CNTRL-2 Output 6 status	LD0.SPCGGIO2.SPCSO6.stVal
6540		408:12	0					CNTRL-2 Output 7 status	LD0.SPCGGIO2.SPCSO7.stVal
6542		408:14	0					CNTRL-2 Output 8 status	LD0.SPCGGIO2.SPCSO8.stVal
6544		409:0	0					CNTRL-2 Output 9 status	LD0.SPCGGIO2.SPCSO9.stVal
6546		409:2	0					CNTRL-2 Output 10 status	LD0.SPCGGIO2.SPCSO10.stVal
6548		409:4	0					CNTRL-2 Output 11 status	LD0.SPCGGIO2.SPCSO11.stVal
6550		409:6	0					CNTRL-2 Output 12 status	LD0.SPCGGIO2.SPCSO12.stVal
6552		409:8	0					CNTRL-2 Output 13 status	LD0.SPCGGIO2.SPCSO13.stVal
6554		409:10	0					CNTRL-2 Output 14 status	LD0.SPCGGIO2.SPCSO14.stVal
6556		409:12	0					CNTRL-2 Output 15 status	LD0.SPCGGIO2.SPCSO15.stVal
6558		409:14	0					CNTRL-2 Output 16 status	LD0.SPCGGIO2.SPCSO16.stVal

Table 198: CNTRL-3 : Generic control points instance 3 (SPCGGIO3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6560		410:0	0					CNTRL-3 Output 1 status	LD0.SPCGGIO3.SPCSO1.stVal
6562		410:2	0					CNTRL-3 Output 2 status	LD0.SPCGGIO3.SPCSO2.stVal
6564		410:4	0					CNTRL-3 Output 3 status	LD0.SPCGGIO3.SPCSO3.stVal
6566		410:6	0					CNTRL-3 Output 4 status	LD0.SPCGGIO3.SPCSO4.stVal
6568		410:8	0					CNTRL-3 Output 5 status	LD0.SPCGGIO3.SPCSO5.stVal
6570		410:10	0					CNTRL-3 Output 6 status	LD0.SPCGGIO3.SPCSO6.stVal
6572		410:12	0					CNTRL-3 Output 7 status	LD0.SPCGGIO3.SPCSO7.stVal
6574		410:14	0					CNTRL-3 Output 8 status	LD0.SPCGGIO3.SPCSO8.stVal
6576		411:0	0					CNTRL-3 Output 9 status	LD0.SPCGGIO3.SPCSO9.stVal
6578		411:2	0					CNTRL-3 Output 10 status	LD0.SPCGGIO3.SPCSO10.stVal
6580		411:4	0					CNTRL-3 Output 11 status	LD0.SPCGGIO3.SPCSO11.stVal
6582		411:6	0					CNTRL-3 Output 12 status	LD0.SPCGGIO3.SPCSO12.stVal
6584		411:8	0					CNTRL-3 Output 13 status	LD0.SPCGGIO3.SPCSO13.stVal
6586		411:10	0					CNTRL-3 Output 14 status	LD0.SPCGGIO3.SPCSO14.stVal
6588		411:12	0					CNTRL-3 Output 15 status	LD0.SPCGGIO3.SPCSO15.stVal
6590		411:14	0					CNTRL-3 Output 16 status	LD0.SPCGGIO3.SPCSO16.stVal

Table 199: RCNTRL-1 : Remote Generic control points instance 1 (SPCRGGIO1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6624		414:0	0					RCNTRL-1 Output 1 status	LD0.SPCRGGIO1.SPCSO1.stVal
6626		414:2	0					RCNTRL-1 Output 2 status	LD0.SPCRGGIO1.SPCSO2.stVal
6628		414:4	0					RCNTRL-1 Output 3 status	LD0.SPCRGGIO1.SPCSO3.stVal
6630		414:6	0					RCNTRL-1 Output 4 status	LD0.SPCRGGIO1.SPCSO4.stVal
6632		414:8	0					RCNTRL-1 Output 5 status	LD0.SPCRGGIO1.SPCSO5.stVal
6634		414:10	0					RCNTRL-1 Output 6 status	LD0.SPCRGGIO1.SPCSO6.stVal
6636		414:12	0					RCNTRL-1 Output 7 status	LD0.SPCRGGIO1.SPCSO7.stVal
6638		414:14	0					RCNTRL-1 Output 8 status	LD0.SPCRGGIO1.SPCSO8.stVal
6640		415:0	0					RCNTRL-1 Output 9 status	LD0.SPCRGGIO1.SPCSO9.stVal
6642		415:2	0					RCNTRL-1 Output 10 status	LD0.SPCRGGIO1.SPCSO10.stVal
6644		415:4	0					RCNTRL-1 Output 11 status	LD0.SPCRGGIO1.SPCSO11.stVal
6646		415:6	0					RCNTRL-1 Output 12 status	LD0.SPCRGGIO1.SPCSO12.stVal
6648		415:8	0					RCNTRL-1 Output 13 status	LD0.SPCRGGIO1.SPCSO13.stVal
6650		415:10	0					RCNTRL-1 Output 14 status	LD0.SPCRGGIO1.SPCSO14.stVal
6652		415:12	0					RCNTRL-1 Output 15 status	LD0.SPCRGGIO1.SPCSO15.stVal
6654		415:14	0					RCNTRL-1 Output 16 status	LD0.SPCRGGIO1.SPCSO16.stVal

Table 200: LCNTRL-1 : Local Generic control points instance 1 (SPCLGGIO1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6592		412:0	0					LCNTRL-1 Output 1 status	LD0.SPCLGGIO1.SPCSO1.stVal
6594		412:2	0					LCNTRL-1 Output 2 status	LD0.SPCLGGIO1.SPCSO2.stVal
6596		412:4	0					LCNTRL-1 Output 3 status	LD0.SPCLGGIO1.SPCSO3.stVal
6598		412:6	0					LCNTRL-1 Output 4 status	LD0.SPCLGGIO1.SPCSO4.stVal
6600		412:8	0					LCNTRL-1 Output 5 status	LD0.SPCLGGIO1.SPCSO5.stVal
6602		412:10	0					LCNTRL-1 Output 6 status	LD0.SPCLGGIO1.SPCSO6.stVal
6604		412:12	0					LCNTRL-1 Output 7 status	LD0.SPCLGGIO1.SPCSO7.stVal
6606		412:14	0					LCNTRL-1 Output 8 status	LD0.SPCLGGIO1.SPCSO8.stVal
6608		413:0	0					LCNTRL-1 Output 9 status	LD0.SPCLGGIO1.SPCSO9.stVal
6610		413:2	0					LCNTRL-1 Output 10 status	LD0.SPCLGGIO1.SPCSO10.stVal
6612		413:4	0					LCNTRL-1 Output 11 status	LD0.SPCLGGIO1.SPCSO11.stVal
6614		413:6	0					LCNTRL-1 Output 12 status	LD0.SPCLGGIO1.SPCSO12.stVal
6616		413:8	0					LCNTRL-1 Output 13 status	LD0.SPCLGGIO1.SPCSO13.stVal
6618		413:10	0					LCNTRL-1 Output 14 status	LD0.SPCLGGIO1.SPCSO14.stVal
6620		413:12	0					LCNTRL-1 Output 15 status	LD0.SPCLGGIO1.SPCSO15.stVal
6622		413:14	0					LCNTRL-1 Output 16 status	LD0.SPCLGGIO1.SPCSO16.stVal

Table 201: CTR-1 : Generic Up-Down Counters instance 1 (UDFCNT1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7262		453:14	0					CTR-1 Status of the down counting	LD0.UDFCNT1.DnCntSt.stVal
7264		454:0	0					CTR-1 Status of the up counting	LD0.UDFCNT1.UpCntSt.stVal

Table 202: CTR-2 : Generic Up-Down Counters instance 2 (UDFCNT2)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7266		454:2	0					CTR-2 Status of the down counting	LD0.UDFCNT2.DnCntSt.stVal
7268		454:4	0					CTR-2 Status of the up counting	LD0.UDFCNT2.UpCntSt.stVal

Table 203: CTR-3 : Generic Up-Down Counters instance 3 (UDFCNT3)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7270		454:6	0					CTR-3 Status of the down counting	LD0.UDFCNT3.DnCntSt.stVal
7272		454:8	0					CTR-3 Status of the up counting	LD0.UDFCNT3.UpCntSt.stVal

Table 204: CTR-4 : Generic Up-Down Counters instance 4 (UDFCNT4)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7274		454:10	0					CTR-4 Status of the down counting	LD0.UDFCNT4.DnCntSt.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7276		454:12	0					CTR-4 Status of the up counting	LD0.UDFCNT4.UpCntSt.stVal

Table 205: CTR-5 : Generic Up-Down Counters instance 5 (UDFCNT5)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7278		454:14	0					CTR-5 Status of the down counting	LD0.UDFCNT5.DnCntSt.stVal
7280		455:0	0					CTR-5 Status of the up counting	LD0.UDFCNT5.UpCntSt.stVal

Table 206: CTR-6 : Generic Up-Down Counters instance instance 6 (UDFCNT6)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7282		455:2	0					CTR-6 Status of the down counting	LD0.UDFCNT6.DnCntSt.stVal
7284		455:4	0					CTR-6 Status of the up counting	LD0.UDFCNT6.UpCntSt.stVal

Table 207: CTR-7 : Generic Up-Down Counters instance 7 (UDFCNT7)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7286		455:6	0					CTR-7 Status of the down counting	LD0.UDFCNT7.DnCntSt.stVal
7288		455:8	0					CTR-7 Status of the up counting	LD0.UDFCNT7.UpCntSt.stVal

Table 208: CTR-8 : Generic Up-Down Counters instance 8 (UDFCNT8)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7290		455:10	0					CTR-8 Status of the down counting	LD0.UDFCNT8.DnCntSt.stVal
7292		455:12	0					CTR-8 Status of the up counting	LD0.UDFCNT8.UpCntSt.stVal

Table 209: CTR-9 : Generic Up-Down Counters instance 9 (UDFCNT9)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7294		455:14	0					CTR-9 Status of the down counting	LD0.UDFCNT9.DnCntSt.stVal
7296		456:0	0					CTR-9 Status of the up counting	LD0.UDFCNT9.UpCntSt.stVal

Table 210: CTR-10 : Generic Up-Down Counters instance 10 (UDFCNT10)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7298		456:2	0					CTR-10 Status of the down counting	LD0.UDFCNT10.DnCntSt.stVal
7300		456:4	0					CTR-10 Status of the up counting	LD0.UDFCNT10.UpCntSt.stVal

Table 211: CTR-11 : Generic Up-Down Counters instance 11 (UDFCNT11)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7302		456:6	0					CTR-11 Status of the down counting	LD0.UDFCNT11.DnCntSt.stVal
7304		456:8	0					CTR-11 Status of the up counting	LD0.UDFCNT11.UpCntSt.stVal

Table 212: CTR-12 : Generic Up-Down Counters instance 12 (UDFCNT12)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7306		456:10	0					CTR-12 Status of the down counting	LD0.UDFCNT12.DnCntSt.stVal
7308		456:12	0					CTR-12 Status of the up counting	LD0.UDFCNT12.UpCntSt.stVal

Table 213: FKEY : Programmable buttons (16 buttons) instance 1 (FKEYGGIO1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
	4476	279:12	0					FKEY KEY 1	LD0.FKEYGGIO1.Ind1.stVal
		279:13		Yes					
	4478	279:14	0					FKEY KEY 2	LD0.FKEYGGIO1.Ind2.stVal
		279:15		Yes					
	4480	280:0	0					FKEY KEY 3	LD0.FKEYGGIO1.Ind3.stVal
		280:1		Yes					
	4482	280:2	0					FKEY KEY 4	LD0.FKEYGGIO1.Ind4.stVal
		280:3		Yes					
	4484	280:4	0					FKEY KEY 5	LD0.FKEYGGIO1.Ind5.stVal
		280:5		Yes					
	4486	280:6	0					FKEY KEY 6	LD0.FKEYGGIO1.Ind6.stVal
		280:7		Yes					
	4488	280:8	0					FKEY KEY 7	LD0.FKEYGGIO1.Ind7.stVal
		280:9		Yes					
	4490	280:10	0					FKEY KEY 8	LD0.FKEYGGIO1.Ind8.stVal
		280:11		Yes					
	4492	280:12	0					FKEY KEY 9	LD0.FKEYGGIO1.Ind9.stVal
		280:13		Yes					
	4494	280:14	0					FKEY KEY 10	LD0.FKEYGGIO1.Ind10.stVal
		280:15		Yes					
	4496	281:0	0					FKEY KEY 11	LD0.FKEYGGIO1.Ind11.stVal
		281:1		Yes					
	4498	281:2	0					FKEY KEY 12	LD0.FKEYGGIO1.Ind12.stVal
		281:3		Yes					
	4500	281:4	0					FKEY KEY 13	LD0.FKEYGGIO1.Ind13.stVal
		281:5		Yes					

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
	4502	281:6	0					FKEY KEY 14	LD0.FKEYGGIO1.Ind14.stVal
		281:7		Yes					
	4504	281:8	0					FKEY KEY 15	LD0.FKEYGGIO1.Ind15.stVal
		281:9		Yes					
	4506	281:10	0					FKEY KEY 16	LD0.FKEYGGIO1.Ind16.stVal
		281:11		Yes					
4752		297:0	0					FKEY LED 1	LD0.FKEYGGIO1.SPCSO1.stVal
4753		297:1		Yes					
4754		297:2	0					FKEY LED 2	LD0.FKEYGGIO1.SPCSO2.stVal
4755		297:3		Yes					
4756		297:4	0					FKEY LED 3	LD0.FKEYGGIO1.SPCSO3.stVal
4757		297:5		Yes					
4758		297:6	0					FKEY LED 4	LD0.FKEYGGIO1.SPCSO4.stVal
4759		297:7		Yes					
4760		297:8	0					FKEY LED 5	LD0.FKEYGGIO1.SPCSO5.stVal
4761		297:9		Yes					
4762		297:10	0					FKEY LED 6	LD0.FKEYGGIO1.SPCSO6.stVal
4763		297:11		Yes					
4764		297:12	0					FKEY LED 7	LD0.FKEYGGIO1.SPCSO7.stVal
4765		297:13		Yes					
4766		297:14	0					FKEY LED 8	LD0.FKEYGGIO1.SPCSO8.stVal
4767		297:15		Yes					
4768		298:0	0					FKEY LED 9	LD0.FKEYGGIO1.SPCSO9.stVal
4769		298:1		Yes					
4770		298:2	0					FKEY LED 10	LD0.FKEYGGIO1.SPCSO10.stVal
4771		298:3		Yes					
4772		298:4	0					FKEY LED 11	LD0.FKEYGGIO1.SPCSO11.stVal
4773		298:5		Yes					
4774		298:6	0					FKEY LED 12	LD0.FKEYGGIO1.SPCSO12.stVal
4775		298:7		Yes					
4776		298:8	0					FKEY LED 13	LD0.FKEYGGIO1.SPCSO13.stVal
4777		298:9		Yes					
4778		298:10	0					FKEY LED 14	LD0.FKEYGGIO1.SPCSO14.stVal
4779		298:11		Yes					
4780		298:12	0					FKEY LED 15	LD0.FKEYGGIO1.SPCSO15.stVal
4781		298:13		Yes					
4782		298:14	0					FKEY LED 16	LD0.FKEYGGIO1.SPCSO16.stVal
4783		298:15		Yes					

Table 214: DFR : Disturbance recorder (RDRE1)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5592		349:8	0					Disturbance recorder Recording made	DR.RDRE1.RcdMade.stVal
		2883	6		s32			Disturbance recorder Remaining amount of recordings that fit into the available recording memory when present settings are used	DR.RDRE1.EMaxNumRcd.stVal
		2884	6						
		2885	6		s32			Disturbance recorder Time remaining to the next periodic triggering	DR.RDRE1.EPerTRem.stVal
		2886	6						
		2887	0		s32			Disturbance recorder Number of recordings in the memory	DR.RDRE1.FltNum.stVal
		2888	0						
		2889	0		s32			Disturbance recorder How much recording memory is currently used	DR.RDRE1.MemUsed.stVal
		2890	0						

Table 215: XGGIO100 : PSM (X100) card (XGGIO100)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
4804		300:4	0					X100 (PSM) Connectors 6-7	LD0.XGGIO100.SPCSO1.stVal
4805		300:5		Yes					
4806		300:6	0					X100 (PSM) Connectors 8-9	LD0.XGGIO100.SPCSO2.stVal
4807		300:7		Yes					
4808		300:8	0					X100 (PSM) Connectors 10c-11nc-12no	LD0.XGGIO100.SPCSO3.stVal
4809		300:9		Yes					
4810		300:10	0					X100 (PSM) Connectors 13c-14no	LD0.XGGIO100.SPCSO4.stVal
4811		300:11		Yes					
4812		300:12	0					X100 (PSM) Connectors 15-17/18-19	LD0.XGGIO100.SPCSO5.stVal
4813		300:13		Yes					
4814		300:14	0					X100 (PSM) Connectors 20-22/23-24	LD0.XGGIO100.SPCSO6.stVal
4815		300:15		Yes					

Table 216: XGGIO105 : BIO (X105) standard BO card (XGGIO105)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
	4392	274:8	0					X105 (BIO) Connectors 1-2	LD0.XGGIO105.Ind1.stVal
		274:9		Yes					

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
	4394	274:10	0					X105 (BIO) Connectors 3-4	LD0.XGGIO105.Ind2.stVal
		274:11		Yes					
	4396	274:12	0					X105 (BIO) Connectors 5-6c	LD0.XGGIO105.Ind3.stVal
		274:13		Yes					
	4398	274:14	0					X105 (BIO) Connectors 7-6c	LD0.XGGIO105.Ind4.stVal
		274:15		Yes					
	4400	275:0	0					X105 (BIO) Connectors 8-9c	LD0.XGGIO105.Ind5.stVal
		275:1		Yes					
	4402	275:2	0					X105 (BIO) Connectors 10-9c	LD0.XGGIO105.Ind6.stVal
		275:3		Yes					
	4404	275:4	0					X105 (BIO) Connectors 11-12c	LD0.XGGIO105.Ind7.stVal
		275:5		Yes					
	4406	275:6	2					X105 (BIO) Connectors 13-12c	LD0.XGGIO105.Ind8.stVal
		275:7		Yes					
4816		301:0	0					X105 (BIO) Connectors 14c-15no-16nc	LD0.XGGIO105.SPCSO1.stVal
4817		301:1		Yes					
4818		301:2	0					X105 (BIO) Connectors 17c-18no-19nc	LD0.XGGIO105.SPCSO2.stVal
4819		301:3		Yes					
4820		301:4	0					X105 (BIO) Connectors 20c-21no-22nc	LD0.XGGIO105.SPCSO3.stVal
4821		301:5		Yes					
4822		301:6	0					X105 (BIO) Connectors 23-24	LD0.XGGIO105.SPCSO4.stVal
4823		301:7		Yes					

Table 217: XHBGGIO105 : BIO (X105) HSO card (XHBGGIO105)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
	4444	277:12	0					X105 (BIO-H) Connectors 1-5c	LD0.XHBGGIO105.Ind1.stVal
		277:13		Yes					
	4446	277:14	0					X105 (BIO-H) Connectors 2-5c	LD0.XHBGGIO105.Ind2.stVal
		277:15		Yes					
	4448	278:0	0					X105 (BIO-H) Connectors 3-5c	LD0.XHBGGIO105.Ind3.stVal
		278:1		Yes					
	4450	278:2	0					X105 (BIO-H) Connectors 4-5c	LD0.XHBGGIO105.Ind4.stVal
		278:3		Yes					

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
	4452	278:4	0					X105 (BIO-H) Connectors 6-10c	LD0.XHBGGIO105.Ind5.stVal
		278:5		Yes					
	4454	278:6	0					X105 (BIO-H) Connectors 7-10c	LD0.XHBGGIO105.Ind6.stVal
		278:7		Yes					
	4456	278:8	0					X105 (BIO-H) Connectors 8-10c	LD0.XHBGGIO105.Ind7.stVal
		278:9		Yes					
	4458	278:10	0					X105 (BIO-H) Connectors 9-10c	LD0.XHBGGIO105.Ind8.stVal
		278:11		Yes					
4838		302:6	0					X105 (BIO-H) Connectors 15no-16no	LD0.XHBGGIO105.SPCSO1.stVal
4839		302:7		Yes					
4840		302:8	0					X105 (BIO-H) Connectors 19no-20no	LD0.XHBGGIO105.SPCSO2.stVal
4841		302:9		Yes					
4842		302:10	0					X105 (BIO-H) Connectors 23no-24no	LD0.XHBGGIO105.SPCSO3.stVal
4843		302:11		Yes					

Table 218: XGGIO110 : BIO (X110) standard BO card (XGGIO110)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
	4408	275:8	0					X110 (BIO) Connectors 1-2	LD0.XGGIO110.Ind1.stVal
		275:9		Yes					
	4410	275:10	0					X110 (BIO) Connectors 3-4	LD0.XGGIO110.Ind2.stVal
		275:11		Yes					
	4412	275:12	0					X110 (BIO) Connectors 5-6c	LD0.XGGIO110.Ind3.stVal
		275:13		Yes					
	4414	275:14	0					X110 (BIO) Connectors 7-6c	LD0.XGGIO110.Ind4.stVal
		275:15		Yes					
	4416	276:0	0					X110 (BIO) Connectors 8-9c	LD0.XGGIO110.Ind5.stVal
		276:1		Yes					
	4418	276:2	0					X110 (BIO) Connectors 10-9c	LD0.XGGIO110.Ind6.stVal
		276:3		Yes					
	4420	276:4	0					X110 (BIO) Connectors 11-12c	LD0.XGGIO110.Ind7.stVal
		276:5		Yes					
	4422	276:6	0					X110 (BIO) Connectors 13-12c	LD0.XGGIO110.Ind8.stVal
		276:7		Yes					

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
4824		301:8	0					X110 (BIO) Connectors 14c-15no-16nc	LD0.XGGIO110.SPCSO1.stVal
4825		301:9		Yes					
4826		301:10	0					X110 (BIO) Connectors 17c-18no-19nc	LD0.XGGIO110.SPCSO2.stVal
4827		301:11		Yes					
4828		301:12	0					X110 (BIO) Connectors 20c-21no-22nc	LD0.XGGIO110.SPCSO3.stVal
4829		301:13		Yes					
4830		301:14	0					X110 (BIO) Connectors 23-24	LD0.XGGIO110.SPCSO4.stVal
4831		301:15		Yes					

Table 219: XBGGIO110 : BIO (X110) HSO card (XBGGIO110)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
	4360	272:8	0					X110 (BIO-H) Connectors 1-5c	LD0.XBGGIO110.Ind1.stVal
		272:9		Yes					
	4362	272:10	0					X110 (BIO-H) Connectors 2-5c	LD0.XBGGIO110.Ind2.stVal
		272:11		Yes					
	4364	272:12	0					X110 (BIO-H) Connectors 3-5c	LD0.XBGGIO110.Ind3.stVal
		272:13		Yes					
	4366	272:14	0					X110 (BIO-H) Connectors 4-5c	LD0.XBGGIO110.Ind4.stVal
		272:15		Yes					
	4368	273:0	0					X110 (BIO-H) Connectors 6-10c	LD0.XBGGIO110.Ind5.stVal
		273:1		Yes					
	4370	273:2	0					X110 (BIO-H) Connectors 7-10c	LD0.XBGGIO110.Ind6.stVal
		273:3		Yes					
	4372	273:4	0					X110 (BIO-H) Connectors 8-10c	LD0.XBGGIO110.Ind7.stVal
		273:5		Yes					
	4374	273:6	0					X110 (BIO-H) Connectors 9-10c	LD0.XBGGIO110.Ind8.stVal
		273:7		Yes					
4790		299:6	0					X110 (BIO-H) Connectors 15no-16no	LD0.XBGGIO110.SPCSO1.stVal
4791		299:7		Yes					
4792		299:8	0					X110 (BIO-H) Connectors 19no-20no	LD0.XBGGIO110.SPCSO2.stVal
4793		299:9		Yes					

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
4794		299:10	0					X110 (BIO-H) Connectors 23no-24no	LD0.XBGGIO110.SPCSO3.stVal
4795		299:11		Yes					

*Table 220: XBRGGIO130 : RTD (X130) 2*RTD+1mA + 1TO (TCS M25) + 2*SO (XBRGGIO130)*

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
4784		299:0	0					X130 (BIO+RTD) Connectors 9c-10nc-11no	LD0.XBGGIO110.Ind8.stVal
4785		299:1		Yes					
4786		299:2	0					X130 (BIO+RTD) Connectors 12c-13nc-14no	LD0.XBRGGIO130.SPCSO2.stVal
4787		299:3		Yes					
4788		299:4	0					X130 (BIO+RTD) Trip output with TCS Connectors 16-17	LD0.XBRGGIO130.SPCSO3.stVal
4789		299:5		Yes					
		2796	6		s32	100		X130 (BIO+RTD) mA input Connectors 1-2 reported value	LD0.XBRGGIO130.AnIn1.mag.f
		2797	6						
		2798	6		s32	100		X130 (BIO+RTD) RTD input Connectors 3-5 reported value	LD0.XBRGGIO130.AnIn2.mag.f
		2799	6						
		2800	6		s32	100		X130 (BIO+RTD) RTD input Connectors 6-8 reported value	LD0.XBRGGIO130.AnIn3.mag.f
		2801	6						

Table 221: XGGIO130 : BIO (X130) card (XGGIO130)

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
	4432	277:0	0					X130 (BIO) Connectors 1-2c	LD0.XGGIO130.Ind1.stVal
		277:1		Yes					
	4434	277:2	0					X130 (BIO) Connectors 3-2c	LD0.XGGIO130.Ind2.stVal
		277:3		Yes					
	4436	277:4	0					X130 (BIO) Connectors 4-5c	LD0.XGGIO130.Ind3.stVal
		277:5		Yes					
	4438	277:6	0					X130 (BIO) Connectors 6-5c	LD0.XGGIO130.Ind4.stVal
		277:7		Yes					
	4440	277:8	0					X130 (BIO) Connectors 7-8c	LD0.XGGIO130.Ind5.stVal
		277:9		Yes					
	4442	277:10	0					X130 (BIO) Connectors 9-8c	LD0.XGGIO130.Ind6.stVal
		277:11		Yes					
4832		302:0	0					X130 (BIO) Connectors 10c-11no-12nc	LD0.XGGIO130.SPCSO1.stVal

Coil Addr (0x)	Input Addr (1x)	Register(:Bit) Addr (4x)	Dc	MC D	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
4833		302:1		Yes					
4834		302:2	0					X130 (BIO) Connectors 13c-14no-15nc	LD0.XGGIO130.SPCSO2.stVal
4835		302:3		Yes					
4836		302:4	0					X130 (BIO) Connectors 16c-17no-18nc	LD0.XGGIO130.SPCSO3.stVal
4837		302:5		Yes					

Table 222: Control Structures

Control Structure	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
1	1000		Control Structure 1 Execute Register	
	1001		Control Structure 1 Password 1	
	1002		Control Structure 1 Password 2	
	1003	0	Protection LLN0 Clear indication LEDs and texts	LD0.LLN0.LEDRs1.Oper.ctlVal
	1003	1	Protection LLN0 Clear alarm LEDs	LD0.LLN0.LEDRs2.Oper.ctlVal
	1003	2	Protection LLN0 Reset all power quality data	LD0.LLN0.PQRs.Oper.ctlVal
	1003	3	52-1 Select Open Breaker 1	CTRL.CBCSWI1.Pos.Oper.ctlVal
	1003	4	52-1 Select Close Breaker 1	
	1003	5	52-1 Cancel Select Breaker 1	
	1003	6	52-1 Operate Select Breaker 1	
	1003	7	52-1 Direct Open Breaker 1	
	1003	8	52-1 Direct Close Breaker 1	
	1003	9	52-2 Select Open Breaker 2	CTRL.CBCSWI2.Pos.Oper.ctlVal
	1003	10	52-2 Select Close Breaker 2	
	1003	11	52-2 Cancel Select Breaker 2	
	1003	12	52-2 Operate Select Breaker 2	
	1003	13	52-2 Direct Open Breaker 2	
	1003	14	52-2 Direct Close Breaker 2	
	1003	15	FLTMSTA1 Reset fault records	LD0.FLTMSTA1.RecRs.Oper.ctlVal
	1004		Control Structure 1 Confirmation Register	
2	1005		Control Structure 2 Execute Register	
	1006		Control Structure 2 Password 1	
	1007		Control Structure 2 Password 2	
	1008	0	Disturbance recorder Manual trigger for the disturbance recorder	DR.RDRE1.RcdTrg.Oper.ctlVal
	1008	1	Disturbance recorder Clear all DFR recordings in the memory	DR.RDRE1.MemClr.Oper.ctlVal
	1008	2	52-3 Select Open Breaker 3	CTRL.CBCSWI3.Pos.Oper.ctlVal

Control Structure	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	1008	3	52-3 Select Close Breaker 3	
	1008	4	52-3 Cancel Select Breaker 3	
	1008	5	52-3 Operate Select Breaker 3	
	1008	6	52-3 Direct Open Breaker 3	
	1008	7	52-3 Direct Close Breaker 3	
	1008	8	RESERVED	
	1008	9	IA IB IC(1) CMMXU1 demands	LD0.CMSTA1.RecRs.Oper.ctlVal
	1008	10	IA IB IC(2) CMMXU2 demands	LD0.CMSTA2.RecRs.Oper.ctlVal
	1008	11	IA IB IC(3) CMMXU3 demands	LD0.CMSTA3.RecRs.Oper.ctlVal
	1008	12	RESERVED	
	1008	13	RESERVED	
	1008	14	RESERVED	
	1008	15	Physical device Reset of IED	LD0.LPHD1.RsDev.Oper.ctlVal
	1009		Control Structure 2 Confirmation Register	
3	1010		Control Structure 3 Execute Register	
	1011		Control Structure 3 Password 1	
	1012		Control Structure 3 Password 2	
	1013	0	RESERVED	
	1013	1	RESERVED	
	1013	2	RESERVED	
	1013	3	RESERVED	
	1013	4	LoadProf Reset load profile record	LD0.LDPMSTA1.RecRs.Oper.ctlVal
	1013	5	RESERVED	
	1013	6	RESERVED	
	1013	7	RESERVED	
	1013	8	P E Reset of accumulated energy reading	LD0.PEMMTR1.SupDmdRs.Oper.ctlVal
	1013	9	P E(2) Reset of accumulated energy reading	LD0.PEMMTR2.SupDmdRs.Oper.ctlVal
	1013	10	SP SE Reset of accumulated energy reading	LD0.SPEMMTR1.SupDmdRs.Oper.ctlVal
	1013	11	SP SE(2) Reset of accumulated energy reading	LD0.SPEMMTR2.SupDmdRs.Oper.ctlVal
	1013	12	RESERVED	
	1013	13	RESERVED	
	1013	14	RESERVED	
	1013	15	49T(1) Reset 49T temperature	LD0.T2PTTR1.RsTmp.Oper.ctlVal
	1014		Control Structure 3 Confirmation Register	
4	1015		Control Structure 4 Execute Register	
	1016		Control Structure 4 Password 1	
	1017		Control Structure 4 Password 2	

Control Structure	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	1018	0	CNTRL-1 Trig output 1 - SET	LD0.SPCGGIO1.SPCSO1.Oper.ctlVal
	1018	1	CNTRL-1 Trig output 1 - RESET	
	1018	2	CNTRL-1 Trig output 2 - SET	LD0.SPCGGIO1.SPCSO2.Oper.ctlVal
	1018	3	CNTRL-1 Trig output 2 - RESET	
	1018	4	CNTRL-1 Trig output 3 - SET	LD0.SPCGGIO1.SPCSO3.Oper.ctlVal
	1018	5	CNTRL-1 Trig output 3 - RESET	
	1018	6	CNTRL-1 Trig output 4 - SET	LD0.SPCGGIO1.SPCSO4.Oper.ctlVal
	1018	7	CNTRL-1 Trig output 4 - RESET	
	1018	8	CNTRL-1 Trig output 5 - SET	LD0.SPCGGIO1.SPCSO5.Oper.ctlVal
	1018	9	CNTRL-1 Trig output 5 - RESET	
	1018	10	CNTRL-1 Trig output 6 - SET	LD0.SPCGGIO1.SPCSO6.Oper.ctlVal
	1018	11	CNTRL-1 Trig output 6 - RESET	
	1018	12	CNTRL-1 Trig output 7 - SET	LD0.SPCGGIO1.SPCSO7.Oper.ctlVal
	1018	13	CNTRL-1 Trig output 7 - RESET	
	1018	14	CNTRL-1 Trig output 8 - SET	LD0.SPCGGIO1.SPCSO8.Oper.ctlVal
	1018	15	CNTRL-1 Trig output 8 - RESET	
	1019		Control Structure 4 Confirmation Register	
5	1020		Control Structure 5 Execute Register	
	1021		Control Structure 5 Password 1	
	1022		Control Structure 5 Password 2	
	1023	0	CNTRL-1 Trig output 9 - SET	LD0.SPCGGIO1.SPCSO9.Oper.ctlVal
	1023	1	CNTRL-1 Trig output 9 - RESET	
	1023	2	CNTRL-1 Trig output 10 - SET	LD0.SPCGGIO1.SPCSO10.Oper.ctlVal
	1023	3	CNTRL-1 Trig output 10 - RESET	
	1023	4	CNTRL-1 Trig output 11 - SET	LD0.SPCGGIO1.SPCSO11.Oper.ctlVal
	1023	5	CNTRL-1 Trig output 11 - RESET	
	1023	6	CNTRL-1 Trig output 12 - SET	LD0.SPCGGIO1.SPCSO12.Oper.ctlVal
	1023	7	CNTRL-1 Trig output 12 - RESET	
	1023	8	CNTRL-1 Trig output 13 - SET	LD0.SPCGGIO1.SPCSO13.Oper.ctlVal
	1023	9	CNTRL-1 Trig output 13 - RESET	
	1023	10	CNTRL-1 Trig output 14 - SET	LD0.SPCGGIO1.SPCSO14.Oper.ctlVal
	1023	11	CNTRL-1 Trig output 14 - RESET	
	1023	12	CNTRL-1 Trig output 15 - SET	LD0.SPCGGIO1.SPCSO15.Oper.ctlVal
	1023	13	CNTRL-1 Trig output 15 - RESET	
	1023	14	CNTRL-1 Trig output 16 - SET	LD0.SPCGGIO1.SPCSO16.Oper.ctlVal
	1023	15	CNTRL-1 Trig output 16 - RESET	
	1024		Control Structure 5 Confirmation Register	
6	1025		Control Structure 6 Execute Register	

Control Structure	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	1026		Control Structure 6 Password 1	
	1027		Control Structure 6 Password 2	
	1028	0	CNTRL-2 Trig output 1 - SET	LD0.SPCGGIO2.SPCSO1.Oper.ctlVal
	1028	1	CNTRL-2 Trig output 1 - RESET	
	1028	2	CNTRL-2 Trig output 2 - SET	LD0.SPCGGIO2.SPCSO2.Oper.ctlVal
	1028	3	CNTRL-2 Trig output 2 - RESET	
	1028	4	CNTRL-2 Trig output 3 - SET	LD0.SPCGGIO2.SPCSO3.Oper.ctlVal
	1028	5	CNTRL-2 Trig output 3 - RESET	
	1028	6	CNTRL-2 Trig output 4 - SET	LD0.SPCGGIO2.SPCSO4.Oper.ctlVal
	1028	7	CNTRL-2 Trig output 4 - RESET	
	1028	8	CNTRL-2 Trig output 5 - SET	LD0.SPCGGIO2.SPCSO5.Oper.ctlVal
	1028	9	CNTRL-2 Trig output 5 - RESET	
	1028	10	CNTRL-2 Trig output 6 - SET	LD0.SPCGGIO2.SPCSO6.Oper.ctlVal
	1028	11	CNTRL-2 Trig output 6 - RESET	
	1028	12	CNTRL-2 Trig output 7 - SET	LD0.SPCGGIO2.SPCSO7.Oper.ctlVal
	1028	13	CNTRL-2 Trig output 7 - RESET	
	1028	14	CNTRL-2 Trig output 8 - SET	LD0.SPCGGIO2.SPCSO8.Oper.ctlVal
	1028	15	CNTRL-2 Trig output 8 - RESET	
	1029		Control Structure 6 Confirmation Register	
7	1030		Control Structure 7 Execute Register	
	1031		Control Structure 7 Password 1	
	1032		Control Structure 7 Password 2	
	1033	0	CNTRL-2 Trig output 9 - SET	LD0.SPCGGIO2.SPCSO9.Oper.ctlVal
	1033	1	CNTRL-2 Trig output 9 - RESET	
	1033	2	CNTRL-2 Trig output 10 - SET	LD0.SPCGGIO2.SPCSO10.Oper.ctlVal
	1033	3	CNTRL-2 Trig output 10 - RESET	
	1033	4	CNTRL-2 Trig output 11 - SET	LD0.SPCGGIO2.SPCSO11.Oper.ctlVal
	1033	5	CNTRL-2 Trig output 11 - RESET	
	1033	6	CNTRL-2 Trig output 12 - SET	LD0.SPCGGIO2.SPCSO12.Oper.ctlVal
	1033	7	CNTRL-2 Trig output 12 - RESET	
	1033	8	CNTRL-2 Trig output 13 - SET	LD0.SPCGGIO2.SPCSO13.Oper.ctlVal
	1033	9	CNTRL-2 Trig output 13 - RESET	
	1033	10	CNTRL-2 Trig output 14 - SET	LD0.SPCGGIO2.SPCSO14.Oper.ctlVal
	1033	11	CNTRL-2 Trig output 14 - RESET	
	1033	12	CNTRL-2 Trig output 15 - SET	LD0.SPCGGIO2.SPCSO15.Oper.ctlVal
	1033	13	CNTRL-2 Trig output 15 - RESET	
	1033	14	CNTRL-2 Trig output 16 - SET	LD0.SPCGGIO2.SPCSO16.Oper.ctlVal
	1033	15	CNTRL-2 Trig output 16 - RESET	
	1034		Control Structure 7 Confirmation Register	

Control Structure	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
8	1035		Control Structure 8 Execute Register	
	1036		Control Structure 8 Password 1	
	1037		Control Structure 8 Password 2	
	1038	0	CNTRL-3 Trig output 1 - SET	LD0.SPCGGIO3.SPCSO1.Oper.ctlVal
	1038	1	CNTRL-3 Trig output 1 - RESET	
	1038	2	CNTRL-3 Trig output 2 - SET	LD0.SPCGGIO3.SPCSO2.Oper.ctlVal
	1038	3	CNTRL-3 Trig output 2 - RESET	
	1038	4	CNTRL-3 Trig output 3 - SET	LD0.SPCGGIO3.SPCSO3.Oper.ctlVal
	1038	5	CNTRL-3 Trig output 3 - RESET	
	1038	6	CNTRL-3 Trig output 4 - SET	LD0.SPCGGIO3.SPCSO4.Oper.ctlVal
	1038	7	CNTRL-3 Trig output 4 - RESET	
	1038	8	CNTRL-3 Trig output 5 - SET	LD0.SPCGGIO3.SPCSO5.Oper.ctlVal
	1038	9	CNTRL-3 Trig output 5 - RESET	
	1038	10	CNTRL-3 Trig output 6 - SET	LD0.SPCGGIO3.SPCSO6.Oper.ctlVal
	1038	11	CNTRL-3 Trig output 6 - RESET	
	1038	12	CNTRL-3 Trig output 7 - SET	LD0.SPCGGIO3.SPCSO7.Oper.ctlVal
	1038	13	CNTRL-3 Trig output 7 - RESET	
	1038	14	CNTRL-3 Trig output 8 - SET	LD0.SPCGGIO3.SPCSO8.Oper.ctlVal
	1038	15	CNTRL-3 Trig output 8 - RESET	
	1039		Control Structure 8 Confirmation Register	
9	1040		Control Structure 9 Execute Register	
	1041		Control Structure 9 Password 1	
	1042		Control Structure 9 Password 2	
	1043	0	CNTRL-3 Trig output 9 - SET	LD0.SPCGGIO3.SPCSO9.Oper.ctlVal
	1043	1	CNTRL-3 Trig output 9 - RESET	
	1043	2	CNTRL-3 Trig output 10 - SET	LD0.SPCGGIO3.SPCSO10.Oper.ctlVal
	1043	3	CNTRL-3 Trig output 10 -RESET	
	1043	4	CNTRL-3 Trig output 11 - SET	LD0.SPCGGIO3.SPCSO11.Oper.ctlVal
	1043	5	CNTRL-3 Trig output 11 - RESET	
	1043	6	CNTRL-3 Trig output 12 - SET	LD0.SPCGGIO3.SPCSO12.Oper.ctlVal
	1043	7	CNTRL-3 Trig output 12 -RESET	
	1043	8	CNTRL-3 Trig output 13 - SET	LD0.SPCGGIO3.SPCSO13.Oper.ctlVal
	1043	9	CNTRL-3 Trig output 13 -RESET	
	1043	10	CNTRL-3 Trig output 14 - SET	LD0.SPCGGIO3.SPCSO14.Oper.ctlVal
	1043	11	CNTRL-3 Trig output 14 - RESET	
	1043	12	CNTRL-3 Trig output 15 - SET	LD0.SPCGGIO3.SPCSO15.Oper.ctlVal
	1043	13	CNTRL-3 Trig output 15 - RESET	
	1043	14	CNTRL-3 Trig output 16 - SET	LD0.SPCGGIO3.SPCSO16.Oper.ctlVal

Control Structure	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	1043	15	CNTRL-3 Trig output 16 - RESET	
	1044		Control Structure 9 Confirmation Register	
10	1045		Control Structure 10 Execute Register	
	1046		Control Structure 10 Password 1	
	1047		Control Structure 10 Password 2	
	1048	0	RCNTRL-1 Output 1 - SET	LD0.SPCRGGIO1.SPCSO1.Oper.ctlVal
	1048	1	RCNTRL-1 Output 1 - RESET	
	1048	2	RCNTRL-1 Output 2 - SET	LD0.SPCRGGIO1.SPCSO2.Oper.ctlVal
	1048	3	RCNTRL-1 Output 2 - RESET	
	1048	4	RCNTRL-1 Output 3 - SET	LD0.SPCRGGIO1.SPCSO3.Oper.ctlVal
	1048	5	RCNTRL-1 Output 3 - RESET	
	1048	6	RCNTRL-1 Output 4 - SET	LD0.SPCRGGIO1.SPCSO4.Oper.ctlVal
	1048	7	RCNTRL-1 Output 4 - RESET	
	1048	8	RCNTRL-1 Output 5 - SET	LD0.SPCRGGIO1.SPCSO5.Oper.ctlVal
	1048	9	RCNTRL-1 Output 5 - RESET	
	1048	10	RCNTRL-1 Output 6 - SET	LD0.SPCRGGIO1.SPCSO6.Oper.ctlVal
	1048	11	RCNTRL-1 Output 6 - RESET	
	1048	12	RCNTRL-1 Output 7 - SET	LD0.SPCRGGIO1.SPCSO7.Oper.ctlVal
	1048	13	RCNTRL-1 Output 7 - RESET	
	1048	14	RCNTRL-1 Output 8 - SET	LD0.SPCRGGIO1.SPCSO8.Oper.ctlVal
	1048	15	RCNTRL-1 Output 8 - RESET	
	1049		Control Structure 10 Confirmation Register	
11	1050		Control Structure 11 Execute Register	
	1051		Control Structure 11 Password 1	
	1052		Control Structure 11 Password 2	
	1053	0	RCNTRL-1 Output 9 - SET	LD0.SPCRGGIO1.SPCSO9.Oper.ctlVal
	1053	1	RCNTRL-1 Output 9 - RESET	
	1053	2	RCNTRL-1 Output 10 - SET	LD0.SPCRGGIO1.SPCSO10.Oper.ctlVal
	1053	3	RCNTRL-1 Output 10 - RESET	
	1053	4	RCNTRL-1 Output 11 - SET	LD0.SPCRGGIO1.SPCSO11.Oper.ctlVal
	1053	5	RCNTRL-1 Output 11 - RESET	
	1053	6	RCNTRL-1 Output 12 - SET	LD0.SPCRGGIO1.SPCSO12.Oper.ctlVal
	1053	7	RCNTRL-1 Output 12 - RESET	
	1053	8	RCNTRL-1 Output 13 - SET	LD0.SPCRGGIO1.SPCSO13.Oper.ctlVal
	1053	9	RCNTRL-1 Output 13 - RESET	
	1053	10	RCNTRL-1 Output 14 - SET	LD0.SPCRGGIO1.SPCSO14.Oper.ctlVal
	1053	11	RCNTRL-1 Output 14 - RESET	
	1053	12	RCNTRL-1 Output 15 - SET	LD0.SPCRGGIO1.SPCSO15.Oper.ctlVal

Control Structure	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	1053	13	RCNTRL-1 Output 15 - RESET	
	1053	14	RCNTRL-1 Output 16 -SET	LD0.SPCRGGIO1.SPCSO16.Oper.ctlVal
	1053	15	RCNTRL-1 Output 16 -RESET	
	1054		Control Structure 11 Confirmation Register	
12	1055		Control Structure 12 Execute Register	
	1056		Control Structure 12 Password 1	
	1057		Control Structure 12 Password 2	
	1058	0	SR-1 Resets Q1 output when set	LD0.SRGAPC1.Rs1.Oper.ctlVal
	1058	1	SR-1 Resets Q2 output when set	LD0.SRGAPC1.Rs2.Oper.ctlVal
	1058	2	SR-1 Resets Q3 output when set	LD0.SRGAPC1.Rs3.Oper.ctlVal
	1058	3	SR-1 Resets Q4 output when set	LD0.SRGAPC1.Rs4.Oper.ctlVal
	1058	4	SR-1 Resets Q5 output when set	LD0.SRGAPC1.Rs5.Oper.ctlVal
	1058	5	SR-1 Resets Q6 output when set	LD0.SRGAPC1.Rs6.Oper.ctlVal
	1058	6	SR-1 Resets Q7 output when set	LD0.SRGAPC1.Rs7.Oper.ctlVal
	1058	7	SR-1 Resets Q8 output when set	LD0.SRGAPC1.Rs8.Oper.ctlVal
	1058	8	SR-2 Resets Q1 output when set	LD0.SRGAPC2.Rs1.Oper.ctlVal
	1058	9	SR-2 Resets Q2 output when set	LD0.SRGAPC2.Rs2.Oper.ctlVal
	1058	10	SR-2 Resets Q3 output when set	LD0.SRGAPC2.Rs3.Oper.ctlVal
	1058	11	SR-2 Resets Q4 output when set	LD0.SRGAPC2.Rs4.Oper.ctlVal
	1058	12	SR-2 Resets Q5 output when set	LD0.SRGAPC2.Rs5.Oper.ctlVal
	1058	13	SR-2 Resets Q6 output when set	LD0.SRGAPC2.Rs6.Oper.ctlVal
	1058	14	SR-2 Resets Q7 output when set	LD0.SRGAPC2.Rs7.Oper.ctlVal
	1058	15	SR-2 Resets Q8 output when set	LD0.SRGAPC2.Rs8.Oper.ctlVal
	1059		Control Structure 12 Confirmation Register	
13	1060		Control Structure 13 Execute Register	
	1061		Control Structure 13 Password 1	
	1062		Control Structure 13 Password 2	
	1063	0	SR-3 Resets Q1 output when set	LD0.SRGAPC3.Rs1.Oper.ctlVal
	1063	1	SR-3 Resets Q2 output when set	LD0.SRGAPC3.Rs2.Oper.ctlVal
	1063	2	SR-3 Resets Q3 output when set	LD0.SRGAPC3.Rs3.Oper.ctlVal
	1063	3	SR-3 Resets Q4 output when set	LD0.SRGAPC3.Rs4.Oper.ctlVal
	1063	4	SR-3 Resets Q5 output when set	LD0.SRGAPC3.Rs5.Oper.ctlVal
	1063	5	SR-3 Resets Q6 output when set	LD0.SRGAPC3.Rs6.Oper.ctlVal
	1063	6	SR-3 Resets Q7 output when set	LD0.SRGAPC3.Rs7.Oper.ctlVal
	1063	7	SR-3 Resets Q8 output when set	LD0.SRGAPC3.Rs8.Oper.ctlVal
	1063	8	SR-4 Resets Q1 output when set	LD0.SRGAPC4.Rs1.Oper.ctlVal
	1063	9	SR-4 Resets Q2 output when set	LD0.SRGAPC4.Rs2.Oper.ctlVal
	1063	10	SR-4 Resets Q3 output when set	LD0.SRGAPC4.Rs3.Oper.ctlVal

Control Structure	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	1063	11	SR-4 Resets Q4 output when set	LD0.SRGAPC4.Rs4.Oper.ctlVal
	1063	12	SR-4 Resets Q5 output when set	LD0.SRGAPC4.Rs5.Oper.ctlVal
	1063	13	SR-4 Resets Q6 output when set	LD0.SRGAPC4.Rs6.Oper.ctlVal
	1063	14	SR-4 Resets Q7 output when set	LD0.SRGAPC4.Rs7.Oper.ctlVal
	1063	15	SR-4 Resets Q8 output when set	LD0.SRGAPC4.Rs8.Oper.ctlVal
	1064		Control Structure 13 Confirmation Register	
14	1065		Control Structure 14 Execute Register	
	1066		Control Structure 14 Password 1	
	1067		Control Structure 14 Password 2	
	1068	0	52CM(1) Resets accumulation energy	LD0.SSCBR1.RsAccAPwr.Oper.ctlVal
	1068	1	52CM(1) Reset CB remaining life and operation counter	LD0.SSCBR1.RsCBWear.Oper.ctlVal
	1068	2	52CM(1) Reset the charging time of the CB spring	LD0.SSCBR1.RsSprChaTm.Oper.ctlVal
	1068	3	52CM(1) Reset CB closing and opening travel times	LD0.SSCBR1.RsTrvTm.Oper.ctlVal
	1068	4	52CM(2) Resets accumulation energy	LD0.SSCBR2.RsAccAPwr.Oper.ctlVal
	1068	5	52CM(2) Reset CB remaining life and operation counter	LD0.SSCBR2.RsCBWear.Oper.ctlVal
	1068	6	52CM(2) Reset the charging time of the CB spring	LD0.SSCBR2.RsSprChaTm.Oper.ctlVal
	1068	7	52CM(2) Reset CB closing and opening travel times	LD0.SSCBR2.RsTrvTm.Oper.ctlVal
	1068	8	52CM(3) Resets accumulation energy	LD0.SSCBR3.RsAccAPwr.Oper.ctlVal
	1068	9	52CM(3) Reset CB remaining life and operation counter	LD0.SSCBR3.RsCBWear.Oper.ctlVal
	1068	10	52CM(3) Reset the charging time of the CB spring	LD0.SSCBR3.RsSprChaTm.Oper.ctlVal
	1068	11	52CM(3) Reset CB closing and opening travel times	LD0.SSCBR3.RsTrvTm.Oper.ctlVal
	1068	12	86/94-1 Reset 86/94-1 lockout and latch	LD0.TRPPTRC1.LORs.Oper.ctlVal
	1068	13	86/94-1 Reset latched trip	LD0.TRPPTRC1.TrRs.Oper.ctlVal
	1068	14	86/94-2 Reset 86/94-2 lockout and latch	LD0.TRPPTRC2.LORs.Oper.ctlVal
	1068	15	RESERVED	
	1069		Control Structure 14 Confirmation Register	
15	1070		Control Structure 15 Execute Register	
	1071		Control Structure 15 Password 1	
	1072		Control Structure 15 Password 2	
	1073	0	86/94-2 Reset latched trip	LD0.TRPPTRC2.TrRs.Oper.ctlVal
	1073	1	86/94-3 Reset 86/94-3 lockout and latch	LD0.TRPPTRC3.LORs.Oper.ctlVal
	1073	2	86/94-3 Reset latched trip	LD0.TRPPTRC3.TrRs.Oper.ctlVal

Control Structure	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	1073	3	CTR-1 Loads the counter to preset value	LD0.UDFCNT1.LodCnt.Oper.ctlVal
	1073	4	CTR-1 Resets counter value	LD0.UDFCNT1.RsCnt.Oper.ctlVal
	1073	5	CTR-2 Loads the counter to preset value	LD0.UDFCNT2.LodCnt.Oper.ctlVal
	1073	6	CTR-2 Resets counter value	LD0.UDFCNT2.RsCnt.Oper.ctlVal
	1073	7	CTR-3 Loads the counter to preset value	LD0.UDFCNT3.LodCnt.Oper.ctlVal
	1073	8	CTR-3 Resets counter value	LD0.UDFCNT3.RsCnt.Oper.ctlVal
	1073	9	CTR-4 Loads the counter to preset value	LD0.UDFCNT4.LodCnt.Oper.ctlVal
	1073	10	CTR-4 Resets counter value	LD0.UDFCNT4.RsCnt.Oper.ctlVal
	1073	11	CTR-5 Loads the counter to preset value	LD0.UDFCNT5.LodCnt.Oper.ctlVal
	1073	12	CTR-5 Resets counter value	LD0.UDFCNT5.RsCnt.Oper.ctlVal
	1073	13	CTR-6 Loads the counter to preset value	LD0.UDFCNT6.LodCnt.Oper.ctlVal
	1073	14	CTR-6 Resets counter value	LD0.UDFCNT6.RsCnt.Oper.ctlVal
	1073	15	CTR-7 Loads the counter to preset value	LD0.UDFCNT7.LodCnt.Oper.ctlVal
	1074		Control Structure 15 Confirmation Register	
16	1075		Control Structure 16 Execute Register	
	1076		Control Structure 16 Password 1	
	1077		Control Structure 16 Password 2	
	1078	0	CTR-7 Resets counter value	LD0.UDFCNT7.RsCnt.Oper.ctlVal
	1078	1	CTR-8 Loads the counter to preset value	LD0.UDFCNT8.LodCnt.Oper.ctlVal
	1078	2	CTR-8 Resets counter value	LD0.UDFCNT8.RsCnt.Oper.ctlVal
	1078	3	CTR-9 Loads the counter to preset value	LD0.UDFCNT9.LodCnt.Oper.ctlVal
	1078	4	CTR-9 Resets counter value	LD0.UDFCNT9.RsCnt.Oper.ctlVal
	1078	5	CTR-10 Loads the counter to preset value	LD0.UDFCNT10.LodCnt.Oper.ctlVal
	1078	6	CTR-10 Resets counter value	LD0.UDFCNT10.RsCnt.Oper.ctlVal
	1078	7	CTR-11 Loads the counter to preset value	LD0.UDFCNT11.LodCnt.Oper.ctlVal
	1078	8	CTR-11 Resets counter value	LD0.UDFCNT11.RsCnt.Oper.ctlVal
	1078	9	CTR-12 Loads the counter to preset value	LD0.UDFCNT12.LodCnt.Oper.ctlVal
	1078	10	CTR-12 Resets counter value	LD0.UDFCNT12.RsCnt.Oper.ctlVal
	1078	11	RESERVED	
	1078	12	RESERVED	
	1078	13	RESERVED	
	1078	14	RESERVED	
	1078	15	RESERVED	
	1079		Control Structure 16 Confirmation Register	

Section 3 Glossary

AFL	Application function block library
ANSI	American National Standards Institute
AR	Autoreclosing
CB	Circuit breaker
CT	Current transformer
CTRL	Control logical device
DFR	Digital fault recorder
DNP3	A distributed network protocol originally developed by Westronic. The DNP3 Users Group has the ownership of the protocol and assumes responsibility for its evolution.
DR	Disturbance recorder
EMC	Electromagnetic compatibility
HMI	Human-machine interface
I/O	Input/output
ID	Identifier or identification
IEC 61850	International standard for substation communication and modelling
IED	Intelligent electronic device
LD0	Logical device zero (0)
LED	Light-emitting diode
LHMI	Local human-machine interface
LLN0	Logical node zero (0)
MCD	Momentary change detect
Modbus	A serial communication protocol developed by the Modicon company in 1979. Originally used for communication in PLCs and RTU devices.
MOM	Momentary position
PCM600	Protection and Control IED Manager
PLC	Programmable logic controller
SBO	Select-before-operate

stVal	Status value
SW	Software
UTC	Coordinated universal time
Val	Value

Contact us

ABB Inc.
Distribution Automation
4300 Coral Ridge Drive
Coral Springs, FL 33065, USA
Phone:+1 (800) 523-2620
Phone:+1 954-752-6700
Fax:+1 954 345-5329
www.abb.com/substationautomation

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