Relion® 620 series

Motor Protection and Control REM620 ANSI

Modbus Point List Manual

Power and productivity for a better world™

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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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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

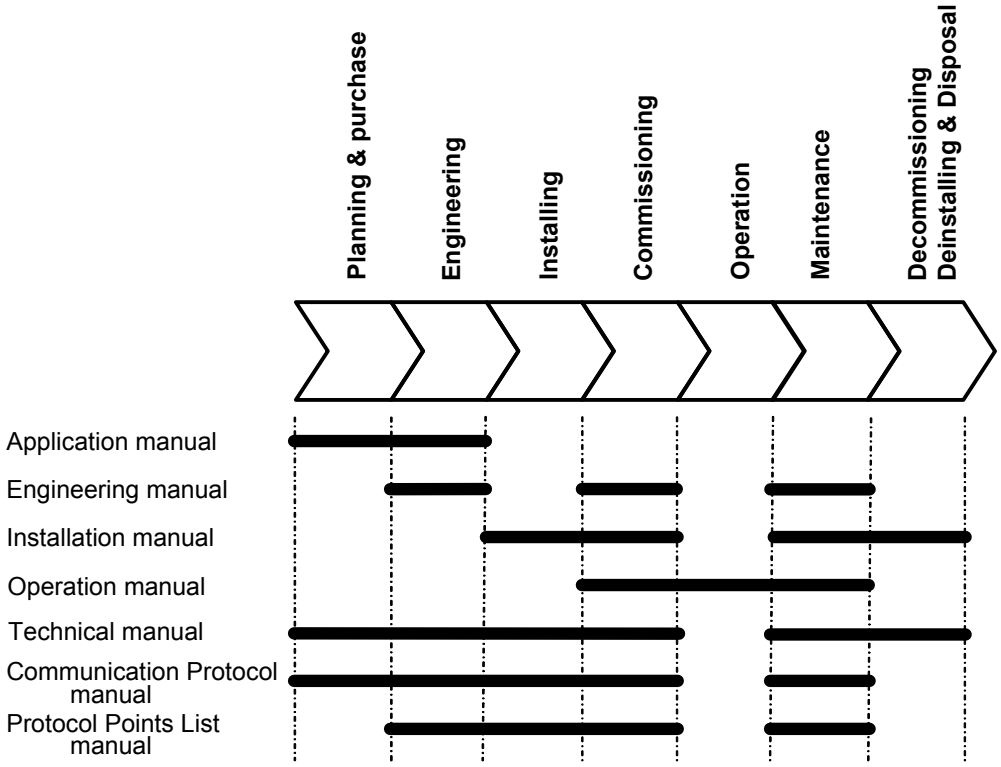

Figure 1: The intended use of manuals in different lifecycles

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	IEC 61850	ANSI/C37.2	IEC60617
Protection			
Three-phase non-directional overcurrent protection, low stage, instance 1	PHLPTOC1	51P	3I> (1)
Three-phase non-directional overcurrent protection, high stage, instance 1	PHHPTOC1	50P	3I>> (1)
Non-directional ground-fault protection, low stage, instance 1	EFLPTOC1	51G	Io> (1)
Non-directional ground-fault protection, high stage, instance 1	EFHPTOC1	50G	Io>> (1)
Directional ground-fault protection, low stage, instance 1	DEFLPDEF1	67/51N	Io> -> (1)
Residual overvoltage protection, instance 1	ROVPTOV1	59G	Uo> (1)
Residual overvoltage protection, instance 2	ROVPTOV2	59N	Uo> (2)
Three-phase under-voltage protection, instance 1	PHPTUV1	27	3U< (1)
Three-phase overvoltage protection, instance 1	PHPTOV1	59	3U> (1)
Positive-sequence undervoltage protection, instance 1	PSPTUV1	27PS	U1<(1)
Negative-sequence overvoltage protection, instance 1	NSPTOV1	47	U2>(1)
Frequency protection, instance 1	FRPFRQ1	81	f>/f<,df/dt(1)
Negative-sequence overcurrent protection for motors, instance 1	MNSPTOC1	46M-1	I2>M(1)
Negative-sequence overcurrent protection for motors, instance 2	MNSPTOC2	46M-2	I2>M(2)

Function	IEC 61850	ANSI/C37.2	IEC60617
Loss of load supervision, instance 1	LOFLPTUC1	37M-1	3I<(1)
Loss of load supervision, instance 2	LOFLPTUC2	37M-2	3I<(2)
Motor load jam protection	JAMPTOC1	51LR	1st>
Motor start-up supervision	STTPMSU1	66/51LRS	Is2t n<
Phase reversal protection	PREVPTOC1	46R	I2>>
Thermal overload protection for motors	MPTTR1	49M	3Ith>M
Motor differential protection	MPDIF1	87M	3dI>M
Circuit breaker failure protection, instance 1	CCBRBRF1	50BF	3I>/Io>BF(1)
Master trip, instance 1	TRPPTRC1	86/94-1	Master Trip(1)
Master trip, instance 2	TRPPTRC2	86/94-2	Master Trip (2)
Arc protection, instance 1	ARCSARC1	AFD-1	ARC (1)
Arc protection, instance 2	ARCSARC2	AFD-2	ARC (2)
Arc protection, instance 3	ARCSARC3	AFD-3	ARC (3)
RTD based thermal protection, instance 1	MAPGAPC1	38-1	MAP(1)
RTD based thermal protection, instance 2	MAPGAPC2	38-2	MAP(2)
RTD based thermal protection, instance 3	MAPGAPC3	38-3	MAP(3)
RTD based thermal protection, instance 4	MAPGAPC4	38-4	MAP(4)
RTD based thermal protection, instance 5	MAPGAPC5	38-5	MAP(5)
RTD based thermal protection, instance 6	MAPGAPC6	38-6	MAP(6)
RTD based thermal protection, instance 7	MAPGAPC7	38-7	MAP(7)
Control			
Circuit-breaker control, instance 1	CBXCBR1	52	I <-> O CB (1)
Condition Monitoring			
Circuit-breaker condition monitoring, instance 1	SSCBR1	52CM	CBCM(1)
Emergency startup	ESMGAPC1	62EST	ESTART
Trip circuit supervision, instance 1	TCSSCBR1	TCM-1	TCS(1)
Trip circuit supervision, instance 2	TCSSCBR2	TCM-2	TCS(2)
Current circuit supervision	CCRDIF1	CCM	MCS 3I
Fuse Failure supervision, instance 1	SEQRFUF1	60	FUSEF(1)
Runtime counter for machines and devices, instance 1	MDSOPT1	OPTM-1	OPTS(1)
Runtime counter for machines and devices, instance 2	MDSOPT2	OPTM-2	OPTS(2)
Measurement			
Three-phase current measurement, instance 1	CMMXU1	IA, IB, IC	3I
Three-phase current measurement, instance 2	CMMXU2	IA, IB, IC (2)	3I(B)
Sequence current measurement, instance 1	CSMSQI1	I1, I2, I0	I1, I2, I0
Sequence current measurement, instance 2	CSMSQI2	I1, I2, I0 (2)	I1, I2, I0(B)
Residual current measurement, instance 1	RESCMMXU 1	IG	Io
Three-phase voltage measurement, instance 1	VMMXU1	VA, VB, VC	3U
Residual voltage measurement	RESVMMXU1	VG	Uo
Sequence voltage measurement, instance 1	VSMSQI1	V1, V2, V0	U1, U2, U0

Function	IEC 61850	ANSI/C37.2	IEC60617
Single-phase power and energy measurement, instance 1	SPEMMXU1	SP, SE	SP, SE
Three-phase power and energy measurement, instance 1	PEMMXU1	P, E	P, E
Load profile	LDPMSTA1	LoadProf	LoadProf
Frequency measurement	FMMXU1	f	f
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)
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)

Function	IEC 61850	ANSI/C37.2	IEC60617
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 REM620 Ver. 2.0.

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 REM620 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
	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

Coil Addr	4x Register Addr.	W	Dc	Type	Scale	Description	IEC61850 Data Attribute Name
	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
	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

Coil Addr	4x Register Addr.	W	Dc	Type	Scale	Description	IEC61850 Data Attribute Name
	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
	8101		100	u16	100	FLTMSTA1 Phase C to phase A voltage	LD0.FLTMSTA1.VoltsCA.mag.f

Coil Addr	4x Register Addr.	W	Dc	Type	Scale	Description	IEC61850 Data Attribute Name
	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 FaultResistance	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

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
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 : 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 Enable signal for current multiplier	LD0.PHLPTOC1.InEnaMult.stVal
5998		374:14	0					51P Trip	LD0.PHLPTOC1.Op.general
6000		375:0	0					51P Trip phsA	LD0.PHLPTOC1.Op.phsA
6002		375:2	0					51P Trip phsB	LD0.PHLPTOC1.Op.phsB
6004		375:4	0					51P Trip phsC	LD0.PHLPTOC1.Op.phsC

Table 13: 50P : 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 Enable signal for current multiplier	LD0.PHHPTOC1.InEnaMult.stVal
5928		370:8	0					50P Trip	LD0.PHHPTOC1.Op.general
5930		370:10	0					50P Trip phsA	LD0.PHHPTOC1.Op.phsA
5932		370:12	0					50P Trip phsB	LD0.PHHPTOC1.Op.phsB
5934		370:14	0					50P Trip phsC	LD0.PHHPTOC1.Op.phsC

Table 14: 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 15: 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 16: 67/51N : 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 Enable signal for current multiplier	LD0.DEFLPTOC2.InEnaMult.stVal
5828		364:4	0					67/51N Trip	LD0.DEFLPTOC2.Op.general

Table 17: 67/51N : 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 Relay characteristic angle control	LD0.DEFLRDIR2.InRcaCtl.stVal

Table 18: 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 19: 59N : 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 Trip	LD0.ROCPTOV2.Op.general

Table 20: 27 : 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 Trip	LD0.PHPTUV1.Op.general
6388		399:4	0					27 Trip phsA	LD0.PHPTUV1.Op.phsA
6390		399:6	0					27 Trip phsB	LD0.PHPTUV1.Op.phsB
6392		399:8	0					27 Trip phsC	LD0.PHPTUV1.Op.phsC

Table 21: 59 : 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 Trip	LD0.PHPTOV1.Op.general
6052		378:4	0					59 Trip phsA	LD0.PHPTOV1.Op.phsA
6054		378:6	0					59 Trip phsB	LD0.PHPTOV1.Op.phsB
6056		378:8	0					59 Trip phsC	LD0.PHPTOV1.Op.phsC

Table 22: 27PS : Positive-sequence undervoltage protection instance 1 (PSPTUV1)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6406		400:6	0					27PS Trip	LD0.PSPTUV1.Op.general

Table 23: 47 : 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 Trip	LD0.NSPTOV1.Op.general

Table 24: 81 : 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 Trip	LD0.FRPTRC1.Op.general
		3139	6		u16	100		81 Pickup duration	LD0.FRPTRC1.StrDur.mag.f

Table 25: 81: 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 Trip signal for overfrequency	LD0.FRPTOF1.Op.general
		3135	6		u16	100		81 Pickup duration	LD0.FRPTOF1.StrDur.mag.f

Table 26: 81 : 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 Trip signal for underfrequency	LD0.FRPTUF1.Op.general
		3143	6		u16	100		81 Pickup duration	LD0.FRPTUF1.StrDur.mag.f

Table 27: 81 : 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 Trip signal for frequency gradient	LD0.FRPFRC1.Op.general
		3131	6		u16	100		81 Pickup duration	LD0.FRPFRC1.StrDur.mag.f

Table 28: 46M-1 : Negative-sequence overcurrent protection for motors instance 1 (MNSPTOC1)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6038		377:6	0					46M-1 Trip	LD0.MNSPTOC1.Op.general
6040		377:8	0					46M-1 Overheated machine reconnection blocking	LD0.MNSPTOC1.StrInh.stVal

Table 29: 46M-2 : Negative-sequence overcurrent protection for motors instance 2 (MNSPTOC2)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6042		377:10	0					46M-2 Trip	LD0.MNSPTOC2.Op.general
6044		377:12	0					46M-2 Overheated machine reconnection blocking	LD0.MNSPTOC2.StrInh.stVal

Table 30: 37M-1 : Loss of load supervision instance 1 (LOFLPTUC1)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6160		385:0	0					37M-1 Trip	LD0.LOFLPTUC1.Op.general

Table 31: 37M-2 : Loss of load supervision instance 2 (LOFLPTUC2)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6162		385:2	0					37M-2 Trip	LD0.LOFLPTUC2.Op.general

Table 32: 51LR : Motor load jam protection (JAMPTOC1)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
7312		457:0	0					51LR Trip	LD0.JAMPTOC1.Op.general
7314		457:2	0					51LR Trip phsA	LD0.JAMPTOC1.Op.phsA
7316		457:4	0					51LR Trip phsB	LD0.JAMPTOC1.Op.phsB
7318		457:6	0					51LR Trip phsC	LD0.JAMPTOC1.Op.phsC

Table 33: 66/51LRS : Motor start-up supervision (STTPMSS1)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6664		416:8	0					66/51LRS Blocks lock out condition for restart of motor	LD0.STTPMSS1.BlkLOStr.stVal
6666		416:10	0					66/51LRS Enable emergency start to disable lock of start of motor	LD0.STTPMSS1.EnaEmgStr.stVal
6668		416:12	0					66/51LRS Trip signal for thermal stress.	LD0.STTPMSS1.Op.general

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6670		416:14	0					66/51LRS Signal to show that motor startup is in progress	LD0.STTPMSS1.Str.general

Table 34: 66/51LRS : Motor start-up supervision (STTPMRI1)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6660		416:4	0					66/51LRS Trip signal for stalling protection.	LD0.STTPMRI1.Op.general
6662		416:6	0					66/51LRS Lock out condition for restart of motor.	LD0.STTPMRI1.StrInh.stVal

Table 35: 46R : Phase reversal protection (PREVPTOC1)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6036		377:4	0					46R Trip	LD0.PREVPTOC1.Op.general

Table 36: 49M : Thermal overload protection for motors (MPTTR1)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6296		393:8	0					49M Thermal Alarm	LD0.MPTTR1.AlmThm.general
6298		393:10	0					49M Signal for indicating the need for emergency start	LD0.MPTTR1.EnaEmgStr.stVal
6300		393:12	0					49M Trip	LD0.MPTTR1.Op.general
6302		393:14	0					49M Thermal overload indicator to inhibit restart	LD0.MPTTR1.StrInh.stVal
		3162	0		s16			49M Estimated time to reset of block restart	LD0.MPTTR1.StrInhTms.stVal
		3163	6		u16	100		49M Thermal level at the end of motor startup situation	LD0.MPTTR1.ThmLevEnd.mag.f
		3164	6		u16	100		49M Thermal level at beginning of motor startup	LD0.MPTTR1.ThmLevSt.mag.f
		3165	6		u16	100		49M The calculated temperature of the protected object relative to the trip level	LD0.MPTTR1.TmpRl.mag.f
		3166	6		u16	100		49M The ambient temperature used in the calculation	LD0.MPTTR1.TmpUsed.mag.f

Table 37: 87M : Motor differential protection (MPDIF1)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6288		393:0	0					87M Internal block status	LD0.MPDIF1.BlkInSt.general
6290		393:2	0					87M Trip	LD0.MPDIF1.Op.general
6292		393:4	0					87M Trip from high set	LD0.MPDIF1.OpHiSet.general
6294		393:6	0					87M Trip from low set	LD0.MPDIF1.OpLoSet.general

Table 38: 50BF : 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 CB faulty and unable to trip	LD0.CCBRBRF1.InCBFlt.stVal
5315		332:3		Yes					
5316		332:4	0					50BF CB in closed position	LD0.CCBRBRF1.InPosCls.stVal
5317		332:5		Yes					
5318		332:6	0					50BF CBFP pickup command	LD0.CCBRBRF1.InStr.stVal
5319		332:7		Yes					
5320		332:8	0					50BF Backup trip	LD0.CCBRBRF1.OpEx.general
5321		332:9		Yes					
5322		332:10	0					50BF Retrip	LD0.CCBRBRF1.OpIn.general
5323		332:11		Yes					
5324		332:12	0					50BF Delayed CB failure alarm	LD0.CCBRBRF1.Str.general
5325		332:13		Yes					

Table 39: 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 40: 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 41: AFD-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 Fault arc detected=light signal output	LD0.ARCSARC11.FADet.stVal
5608		350:8	0					AFD-1 Remote Fault arc detected	LD0.ARCSARC11.InRemFA.stVal

Table 42: AFD-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 Operation mode input	LD0.ARCPTRC11.InOpMod.stVal
5596		349:12	0					AFD-1 Trip	LD0.ARCPTRC11.Op.general

Table 43: AFD-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
5594		349:10	0					AFD-1 Operation mode input	LD0.ARCPTRC11.InOpMod.stVal
5596		349:12	0					AFD-1 Trip	LD0.ARCPTRC11.Op.general

Table 44: AFD-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 Fault arc detected=light signal output	LD0.ARCSARC21.FADet.stVal
5612		350:12	0					AFD-2 Remote Fault arc detected	LD0.ARCSARC21.InRemFA.stVal

Table 45: AFD-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 Operation mode input	LD0.ARCPTRC21.InOpMod.stVal
5600		350:0	0					AFD-2 Trip	LD0.ARCPTRC21.Op.general

Table 46: AFD-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 Fault arc detected=light signal output	LD0.ARCSARC31.FADet.stVal
5616		351:0	0					AFD-3 Remote Fault arc detected	LD0.ARCSARC31.InRemFA.stVal

Table 47: AFD-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 Operation mode input	LD0.ARCPTRC31.InOpMod.stVal
5604		350:4	0					AFD-3 Trip	LD0.ARCPTRC31.Op.general

Table 48: 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 49: 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 50: 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 51: 38-4 : RTD based thermal protection instance 4 (MAPGAPC4)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6702		418:14	0					38-4 Enable pickup added	LD0.MAPGAPC4.InEnaAdd.stVal
6704		419:0	0					38-4 Trip	LD0.MAPGAPC4.Op.general

Table 52: 38-5 : RTD based thermal protection instance 5 (MAPGAPC5)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6706		419:2	0					38-5 Enable pickup added	LD0.MAPGAPC5.InEnaAdd.stVal
6708		419:4	0					38-5 Trip	LD0.MAPGAPC5.Op.general

Table 53: 38-6 : RTD based thermal protection instance 6 (MAPGAPC6)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6710		419:6	0					38-6 Enable pickup added	LD0.MAPGAPC6.InEnaAdd.stVal
6712		419:8	0					38-6 Trip	LD0.MAPGAPC6.Op.general

Table 54: 38-7 : RTD based thermal protection instance 7 (MAPGAPC7)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6714		419:10	0					38-7 Enable pickup added	LD0.MAPGAPC7.InEnaAdd.stVal
6716		419:12	0					38-7 Trip	LD0.MAPGAPC7.Op.general

Table 55: 52 : 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 Enables closing	CTRL.CBCILO1.EnaCls.stVal
5105		319:1		Yes					

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

Table 56: 52 : 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 Closing is enabled based on the input status	CTRL.CBCSWI1.ClsEna.stVal
5123		320:3		Yes					
5124		320:4	0					52 Executes the command for close direction	CTRL.CBCSWI1.OpCls.general
5125		320:5		Yes					
5126		320:6	0					52 Opening is enabled based on the input status	CTRL.CBCSWI1.OpnEna.stVal
5127		320:7		Yes					
5128		320:8	0					52 Executes the command for open direction	CTRL.CBCSWI1.OpOpn.general
5129		320:9		Yes					
5130		320:10	0					52 Object selected	CTRL.CBCSWI1.Pos.stSeld
5131		320:11		Yes					
5132		320:12	0					52 Apparatus closed position	CTRL.CBCSWI1.PosCls.stVal
5133		320:13		Yes					
5134		320:14	0					52 Apparatus position is ok	CTRL.CBCSWI1.PosOk.stVal
5135		320:15		Yes					
5136		321:0	0					52 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
5185		324:1		Yes					

Table 57: 52 : 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 Blocks closing	CTRL.CBXCBR1.BlkCls.stVal
5171		323:3		Yes					
5172		323:4	0					52 Blocks opening	CTRL.CBXCBR1.BlkOpn.stVal
5173		323:5		Yes					

Table 58: 62EST : Emergency startup (ESMGAPC1)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6686		417:14	0					62EST Emergency start input	LD0.ESMGAPC1.RqEmgStr.stVal
6688		418:0	0					62EST Emergency start	LD0.ESMGAPC1.Str.general

Table 59: 52CM : 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 Accumulated currents power (Iyt) exceeded alarm limit	LD0.SSCBR1.APwrAlm.stVal
5203		325:3		Yes					
5204		325:4	0					52CM Accumulated currents power (Iyt) exceeded lockout limit	LD0.SSCBR1.APwrLO.stVal
5204		325:5		Yes					
5206		325:6	0					52CM Remaining life of CB exceeded alarm limit	LD0.SSCBR1.CBLifAlm.stVal
5207		325:7		Yes					
5208		325:8	0					52CM CB close travel time exceeded set value	LD0.SSCBR1.ClsAlm.stVal
5209		325:9		Yes					
5210		325:10	0					52CM Signal for close position of apparatus from I/O	LD0.SSCBR1.InPosCls.stVal
5211		325:11		Yes					
5212		325:12	0					52CM Signal for open position of apparatus from I/O	LD0.SSCBR1.InPosOpn.stVal
5213		325:13		Yes					
5214		325:14	0					52CM Binary pressure alarm input	LD0.SSCBR1.InPresAlm.stVal
5215		325:15		Yes					
5216		326:0	0					52CM Binary pressure input for lockout indication	LD0.SSCBR1.InPresLO.stVal
5217		326:1		Yes					
5218		326:2	0					52CM CB spring charged input	LD0.SSCBR1.InSprCha.stVal
5219		326:3		Yes					
5220		326:4	0					52CM CB spring charging started input	LD0.SSCBR1.InSprChStr.stVal
5221		326:5		Yes					
5222		326:6	0					52CM CB 'not tripped for long time' alarm	LD0.SSCBR1.LonTmAlm.stVal
5223		326:7		Yes					
5224		326:8	0					52CM CB open travel time exceeded set value	LD0.SSCBR1.OpnAlm.stVal
5225		326:9		Yes					

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5226		326:10	0					52CM Number of CB operations exceeds alarm limit	LD0.SSCBR1.OpNumAlm.stVal
5227		326:11		Yes					
5228		326:12	0					52CM Number of CB operations exceeds lockout limit	LD0.SSCBR1.OpNumLO.stVal
5229		326:13		Yes					
5230		326:14	0					52CM CB is in closed position	LD0.SSCBR1.PosCls.stVal
5231		326:15		Yes					
5232		327:0	0					52CM CB is in invalid position (not positively open or closed)	LD0.SSCBR1.PosIvd.stVal
5233		327:1		Yes					
5234		327:2	0					52CM CB is in open position	LD0.SSCBR1.PosOpn.stVal
5235		327:3		Yes					
5236		327:4	0					52CM Pressure below alarm level	LD0.SSCBR1.PresAlm.stVal
5237		327:5		Yes					
5238		327:6	0					52CM Pressure below lockout level	LD0.SSCBR1.PresLO.stVal
5239		327:7		Yes					
5240		327:8	0					52CM Reset accumulation energy	LD0.SSCBR1.RsAccAPwr.stVal
5241		327:9		Yes					
5242		327:10	0					52CM Reset input for CB remaining life and operation counter	LD0.SSCBR1.RsCBWear.stVal
5243		327:11		Yes					
5244		327:12	0					52CM Reset input for the charging time of the CB spring	LD0.SSCBR1.RsSprChaTm.stVal
5245		327:13		Yes					
5246		327:14	0					52CM Reset input for CB closing and opening travel times	LD0.SSCBR1.RsTrvTm.stVal
5247		327:15		Yes					
5248		328:0	0					52CM Spring charging time has crossed the set value	LD0.SSCBR1.SprChaAlm.stVal
5249		328:1		Yes					
		2949	5		s32	100		52CM Accumulated currents power (Iyt) phase A	LD0.SSCBR1.AccAPwrPhA.mag.f
		2950	5						
		2951	5		s32	100		52CM Accumulated currents power (Iyt) phase B	LD0.SSCBR1.AccAPwrPhB.mag.f
		2952	5						

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2953	5		s32	100		52CM Accumulated currents power (Iyt) phase C	LD0.SSCBR1.AccAPwrPhC.mag.f
		2954	5						
		2955	4		s16			52CM The number of days CB has been inactive	LD0.SSCBR1.InaTmdCnt.stVal
		2956	0		s16			52CM CB Remaining life phase A	LD0.SSCBR1.RmnLifPhA.stVal
		2957	0		s16			52CM CB Remaining life phase B	LD0.SSCBR1.RmnLifPhB.stVal
		2958	0		s16			52CM CB Remaining life phase C	LD0.SSCBR1.RmnLifPhC.stVal
		2959	6		u16	100		52CM Travel time of the CB during closing operation	LD0.TmmsCls.mag.f
		2960	6		u16	100		52CM Travel time of the CB during opening operation	LD0.TmmsOpn.mag.f
		2961	6		u16	100		52CM The charging time of the CB spring	LBD0.TmsSprCha.mag.f

Table 60: 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 61: 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 62: CCM : Current circuit supervision (CCRDIF1)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
5618		351:2	0					CCM Alarm output	LD0.CCRDIF1.Alm.stVal
5620		351:4	0					CCM Fail output	LD0.CCRDIF1.Op.general

Table 63: 60 : 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 General pickup of function	LD0.SEQRFUF1.Str.general
6490		405:10	0					60 Three-phase pickup of function	LD0.SEQRFUF1.Str3Ph.general

Table 64: OPTM-1 : Runtime counter for machines and devices instance 1 (MDSOPT1)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6280		392:8	0					OPTM-1 Alarm accumulated operation time exceeds Alarm value	LD0.MDSOPT1.OpTmAlm.stVal

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6282		392:10	0					OPTM-1 Warning accumulated operation time exceeds Warning value	LD0.MDSOPT1.OpTmWrn.stVal

Table 65: OPTM-2 : Runtime counter for machines and devices instance 2 (MDSOPT2)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
6284		392:12	0					OPTM-2 Alarm accumulated operation time exceeds Alarm value	LD0.MDSOPT2.OpTmAlm.stVal
6286		392:14	0					OPTM-2 Warning accumulated operation time exceeds Warning value	LD0.MDSOPT2.OpTmWrn.stVal

Table 66: IA IB IC : 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 High alarm	LD0..HiAlm.stVal
5626		351:10	0					IA IB IC High warning	LD0..HiWrn.stVal
5628		351:12	0					IA IB IC Low alarm	LD0..LoAlm.stVal
5630		351:14	0					IA IB IC Low warning	LD0..LoWrn.stVal
		2954	5						
		2000	6		s32	100		IA IB IC IA Amplitude magnitude of instantaneous value	LD0.CMMXU1.A.phsA.instCVal.mag.f
		2001	6						
		2002	6		s32	100		IA IB IC IB Amplitude magnitude of instantaneous value	LD0.CMMXU1.A.phsB.instCVal.mag.f
		2003	6						
		2004	6		s32	100		IA IB IC IC Amplitude magnitude of instantaneous value	LD0.CMMXU1.A.phsC.instCVal.mag.f
		2005	6						

Table 67: IA IB IC : 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 Demand value of IA current	LD0.CMSTA1.AvAmpsA.mag.f
		2019	5						
		2020	5		s32	100		IA IB IC Demand value of IB current	LD0.CMSTA1.AvAmpsB.mag.f
		2021	5						
		2022	5		s32	100		IA IB IC Demand value of IC current	LD0.CMSTA1.AvAmpsC.mag.f
		2023	5						

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2024	5		s32	100		IA IB IC Maximum demand for Phase A	LD0.CMSTA1.MaxAmpsA.mag.f
		2025	5						
		2026	5		s32	100		IA IB IC Maximum demand for Phase B	LD0.CMSTA1.MaxAmpsB.mag.f
		2027	5						
		2028	5		s32	100		IA IB IC Maximum demand for Phase C	LD0.CMSTA1.MaxAmpsC.mag.f
		2029	5						

Table 68: 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 69: 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						
		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

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2039	5						
		2040	5		s32	100		IA IB IC(2) Maximum demand for Phase C	LD0.CMSTA2.MaxAmpsC.mag.f
		2041	5						

Table 70: I1 I2 I0 : 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 Positive sequence current amplitude instantaneous value	LD0.CSMSQI1.SeqA.c1.instCVal.mag.f
		2055	6						
		2056	6		s32	100		I1 I2 I0 Negative sequence current amplitude instantaneous value	LD0.CSMSQI1.SeqA.c2.instCVal.mag.f
		2057	6						
		2058	6		s32	100		I1 I2 I0 Zero sequence current amplitude instantaneous value	LD0.CSMSQI1.SeqA.c3.instCVal.mag.f
		2059	6						

Table 71: 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 72: 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.RES.HiAlm.stVal
5650		353:2	0					IG High warning	LD0.RES.HiWrn.stVal

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

Table 73: 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 High alarm	LD0.VMMXU1.HiAlm.stVal
5658		353:10	0					VA VB VC High warning	LD0.VMMXU1.HiWrn.stVal
5660		353:12	0					VA VB VC Low alarm	LD0.VMMXU1.LoAlm.stVal
5662		353:14	0					VA VB VC Low warning	LD0.VMMXU1.LoWrn.stVal
		2244	6		u16	100		VA VB VC VA Amplitude magnitude of instantaneous value	LD0.VMMXU1.PhV.phsA.cVal.mag.f
		2245	6		u16	100		VA VB VC VB Amplitude magnitude of instantaneous value	LD0.VMMXU1.PhV.phsB.cVal.mag.f
		2246	6		u16	100		VA VB VC VC Amplitude magnitude of instantaneous value	LD0.VMMXU1.PhV.phsC.cVal.mag.f
		2247	6		u16	100		VA VB VC VAB Amplitude magnitude of instantaneous value	LD0.VMMXU1.PPV.phsAB.instCVal.mag.f
		2248	6		u16	100		VA VB VC VBC Amplitude magnitude of instantaneous value	LD0.VMMXU1.PPV.phsBC.instCVal.mag.f
		2249	6		u16	100		VA VB VC VCA Amplitude magnitude of instantaneous value	LD0.VMMXU1.PPV.phsCA.instCVal.mag.f

Table 74: 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
		2240	6		s32	100		VG Ground voltage Amplitude magnitude of instantaneous value	LD0.RESVMMXU1.PhV.res.instCVal.mag.f
		2241	6						

Table 75: V1 V2 V0 : 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 Positive sequence voltage amplitude instantaneous value	LD0.VSMSQI1.SeqV.c1.instCVal.mag.f
		2257	6		u16	100		V1 V2 V0 Negative sequence voltage amplitude instantaneous value	LD0.VSMSQI1.SeqV.c2.instCVal.mag.f
		2258	6		u16	100		V1 V2 V0 Zero sequence voltage amplitude instantaneous value	LD0.VSMSQI1.SeqV.c3.instCVal.mag.f

Table 76: P E : 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 Average Power factor	LD0.PEMMXU1.TotPF.instMag.f
		2389	6		s32	100		P E Total Apparent Power	LD0.PEMMXU1.TotVA.instMag.f
		2390	6						
		2391	6		s32	100		P E Total Reactive Power	LD0.PEMMXU1.TotVAr.instMag.f
		2392	6						
		2393	6		s32	100		P E Active power magnitude of instantaneous value	LD0.PEMMXU1.TotW.instMag.f
		2394	6						

Table 77: P E : 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 Reset of accumulated energy reading	LD0.PEMMTR1.SupDmdRs.stVal
		2380	6		u32			P E Accumulated forward reactive energy value	LD0.PEMMTR1.DmdVArh.actVal
		2381	6						
		2382	6		u32			P E Accumulated forward active energy value	LD0.PEMMTR1.DmdWh.actVal
		2383	6						
		2384	6		u32			P E Accumulated reverse reactive energy value	LD0.PEMMTR1.SupVArh.actVal
		2385	6						
		2386	6		u32			P E Accumulated reverse active energy value	LD0.PEMMTR1.SupWh.actVal
		2387	6						

Table 78: 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 79: 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 80: SP SE : 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 Power factor magnitude of reported value Phase A	LD0.SPEMMXU1.PF.phsA.cVal.mag.f
		2427	6		s16	100		SP SE Power factor magnitude of reported value Phase B	LD0.SPEMMXU1.PF.phsB.cVal.mag.f
		2428	6		s16	100		SP SE Power factor magnitude of reported value Phase C	LD0.SPEMMXU1.PF.phsC.cVal.mag.f
		2429	6		s32	100		SP SE Apparent power magnitude of reported value Phase A	LD0.SPEMMXU1.VA.phsA.cVal.mag.f
		2430	6						
		2431	6		s32	100		SP SE Apparent power magnitude of reported value Phase B	LD0.SPEMMXU1.VA.phsB.cVal.mag.f
		2432	6						
		2433	6		s32	100		SP SE Apparent power magnitude of reported value Phase C	LD0.SPEMMXU1.VA.phsC.cVal.mag.f
		2434	6						
		2435	6		s32	100		SP SE Reactive power magnitude of reported value Phase A	LD0.SPEMMXU1.VAr.phsA.cVal.mag.f
		2436	6						
		2437	6		s32	100		SP SE Reactive power magnitude of reported value Phase B	LD0.SPEMMXU1.VAr.phsB.cVal.mag.f
		2438	6						
		2439	6		s32	100		SP SE Reactive power magnitude of reported value Phase C	LD0.SPEMMXU1.VAr.phsC.cVal.mag.f

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

Table 81: SP SE : 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 Reset of accumulated energy reading	LD0.SPEMMTR1.SupDmdRs.stVal
		2402	6		u32			SP SE Accumulated forward reactive energy value Phase A	LD0.SPEMMTR1.DmdVArhA.actVal
		2403	6						
		2404	6		u32			SP SE Accumulated forward reactive energy value Phase B	LD0.SPEMMTR1.DmdVArhB.actVal
		2405	6						
		2406	6		u32			SP SE Accumulated forward reactive energy value Phase C	LD0.SPEMMTR1.DmdVArhC.actVal
		2407	6						
		2408	6		u32			SP SE Accumulated forward active energy value Phase A	LD0.SPEMMTR1.DmdWhA.actVal
		2409	6						
		2410	6		u32			SP SE Accumulated forward active energy value Phase B	LD0.SPEMMTR1.DmdWhB.actVal
		2411	6						
		2412	6		u32			SP SE Accumulated forward active energy value Phase C	LD0.SPEMMTR1.DmdWhC.actVal
		2413	6						
		2414	6		u32			SP SE Accumulated reverse reactive energy value Phase A	LD0.SPEMMTR1.SupVArhA.actVal
		2415	6						

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

Table 82: 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 83: 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 84: 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 85: 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 86: 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 87: 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
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 88: 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 89: 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
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 90: 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 91: 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 92: 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
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 93: 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 94: 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 95: 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 96: 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 97: 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
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 98: 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 99: 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 100: 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
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 101: 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

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
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 102: 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 103: 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 104: 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
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 105: 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 106: 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 107: 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
6844		427:12	0					MV-8 Q8 status	LD0.MVGAPC8.Q8.stVal

Table 108: 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

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
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 109: 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 110: 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

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
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 111: 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 112: 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

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
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 113: 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 114: 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 115: 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 116: 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
7276		454:12	0					CTR-4 Status of the up counting	LD0.UDFCNT4.UpCntSt.stVal

Table 117: 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

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

Table 118: CTR-6 : Generic Up-Down Counters 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 119: 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 120: 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 121: 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 122: 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 123: 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

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

Table 124: 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 125: 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					
	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

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		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 126: 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

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		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	6						
		2889	0		s32			Disturbance recorder How much recording memory is currently used	DR.RDRE1.MemUsed.stVal
		2890	0						

Table 127: 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 128: XRGGIO105 : RTD (X105) 6RTD and 2mA (XRGGIO105)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
4850		303:2	0					X105 (RTD) General alarm	LD0.XRGGIO105.Alm.stVal
4851		303:3		Yes					
4852		303:4	0					X105 (RTD) General warning	LD0.XRGGIO105.Wrn.stVal
4853		303:5		Yes					

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2802	6		s32	100		X105 (RTD) mA input Connectors 1-2 reported value	LD0.XRGGIO105.AnIn1.mag.f
		2803	6						
		2804	6		s32	100		X105 (RTD) mA input Connectors 3-4 reported value	LD0.XRGGIO105.AnIn2.mag.f
		2805	6						
		2806	6		s32	100		X105 (RTD) RTD input Connectors 5-6-11c reported value	LD0.XRGGIO105.AnIn3.mag.f
		2807	6						
		2808	6		s32	100		X105 (RTD) RTD input Connectors 7-8-11c reported value	LD0.XRGGIO105.AnIn4.mag.f
		2809	6						
		2810	6		s32	100		X105 (RTD) RTD input Connectors 9-10-11c reported value	LD0.XRGGIO105.AnIn5.mag.f
		2811	6						
		2812	6		s32	100		X105 (RTD) RTD input Connectors 13-14-12c reported value	LD0.XRGGIO105.AnIn6.mag.f
		2813	6						
		2814	6		s32	100		X105 (RTD) RTD input Connectors 15-16-12c reported value	LD0.XRGGIO105.AnIn7.mag.f
		2815	6						
		2816	6		s32	100		X105 (RTD) RTD input Connectors 17-18-12c reported value	LD0.XRGGIO105.AnIn8.mag.f
		2817	6						

Table 129: XRGGIO110 : RTD (X110) 6RTD and 2mA (XRGGIO110)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
4854		303:6	0					X110 (RTD) General alarm	LD0.XRGGIO110.Alm.stVal
4855		303:7		Yes					
4856		303:8	0					X110 (RTD) General warning	LD0.XRGGIO110.Wrn.stVal
4857		303:9		Yes					
		2818	6		s32	100		X110 (RTD) mA input Connectors 1-2 reported value	LD0.XRGGIO110.AnIn1.mag.f
		2819	6						
		2820	6		s32	100		X110 (RTD) mA input Connectors 3-4 reported value	LD0.XRGGIO110.AnIn2.mag.f
		2821	6						

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2822	6		s32	100		X110 (RTD) RTD input Connectors 5-6-11c reported value	LD0.XRGGIO110.AnIn3.mag.f
		2823	6						
		2824	6		s32	100		X110 (RTD) RTD input Connectors 7-8-11c reported value	LD0.XRGGIO110.AnIn4.mag.f
		2825	6						
		2826	6		s32	100		X110 (RTD) RTD input Connectors 9-10-11c reported value	LD0.XRGGIO110.AnIn5.mag.f
		2827	6						
		2828	6		s32	100		X110 (RTD) RTD input Connectors 13-14-12c reported value	LD0.XRGGIO110.AnIn6.mag.f
		2829	6						
		2830	6		s32	100		X110 (RTD) RTD input Connectors 15-16-12c reported value	LD0.XRGGIO110.AnIn7.mag.f
		2831	6						
		2832	6		s32	100		X110 (RTD) RTD input Connectors 17-18-12c reported value	LD0.XRGGIO110.AnIn8.mag.f
		2833	6						

Table 130: XBGGIO115 : BIO (X115) standard BO card (XBGGIO115)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
	4376	273:8	0					X115 (BIO) Connectors 1-2	LD0.XBGGIO115.Ind1.stVal
		273:9		Yes					
	4378	273:10	0					X115 (BIO) Connectors 3-4	LD0.XBGGIO115.Ind2.stVal
		273:11		Yes					
	4380	273:12	0					X115 (BIO) Connectors 5-6c	LD0.XBGGIO115.Ind3.stVal
		273:13		Yes					
	4382	273:14	0					X115 (BIO) Connectors 7-6c	LD0.XBGGIO115.Ind4.stVal
		273:15		Yes					
	4384	274:0	0					X115 (BIO) Connectors 8-9c	LD0.XBGGIO115.Ind5.stVal
		274:1		Yes					
	4386	274:2	0					X115 (BIO) Connectors 10-9c	LD0.XBGGIO115.Ind6.stVal
		274:3		Yes					
	4388	274:4	0					X115 (BIO) Connectors 11-12c	LD0.XBGGIO115.Ind7.stVal
		274:5		Yes					
	4390	274:6	0					X115 (BIO) Connectors 13-12c	LD0.XBGGIO115.Ind8.stVal
		274:7		Yes					

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
4796		299:12	0					X115 (BIO) Connectors 14c-15no-16nc	LD0.XBGGIO115.SPCSO1.stVal
4797		299:13		Yes					
4798		299:14	0					X115 (BIO) Connectors 17c-18no-19nc	LD0.XBGGIO115.SPCSO2.stVal
4799		299:15		Yes					
4800		300:0	0					X115 (BIO) Connectors 20c-21no-22nc	LD0.XBGGIO115.SPCSO3.stVal
4801		300:1		Yes					
4802		300:2	0					X115 (BIO) Connectors 23-24	LD0.XBGGIO115.SPCSO4.stVal
4803		300:3		Yes					

Table 131: XHBGGIO115 : BIO (X115) HSO card (XHBGGIO115)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
	4460	278:12	0					X115 (BIO-H) Connectors 1-5c	LD0.XHBGGIO115.Ind1.stVal
		278:13		Yes					
	4462	278:14	0					X115 (BIO-H) Connectors 2-5c	LD0.XHBGGIO115.Ind2.stVal
		278:15		Yes					
	4464	279:0	0					X115 (BIO-H) Connectors 3-5c	LD0.XHBGGIO115.Ind3.stVal
		279:1		Yes					
	4466	279:2	0					X115 (BIO-H) Connectors 4-5c	LD0.XHBGGIO115.Ind4.stVal
		279:3		Yes					
	4468	279:4	0					X115 (BIO-H) Connectors 6-10c	LD0.XHBGGIO115.Ind5.stVal
		279:5		Yes					
	4470	279:6	0					X115 (BIO-H) Connectors 7-10c	LD0.XHBGGIO115.Ind6.stVal
		279:7		Yes					
	4472	279:8	0					X115 (BIO-H) Connectors 8-10c	LD0.XHBGGIO115.Ind7.stVal
		279:9		Yes					
	4474	279:10	0					X115 (BIO-H) Connectors 9-10c	LD0.XHBGGIO115.Ind8.stVal
		279:11		Yes					
4844		302:12	0					X115 (BIO-H) Connectors 15no-16no	LD0.XHBGGIO115.SPCSO1.stVal
4845		302:13		Yes					
4846		302:14	0					X115 (BIO-H) Connectors 19no-20no	LD0.XHBGGIO115.SPCSO2.stVal
4847		302:15		Yes					

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
4848		303:0	0					X115 (BIO-H) Connectors 23no-24no	LD0.XHBGGIO115.SPCSO3.stVal
4849		303:1		Yes					

Table 132: XAGGIO130 : AIM (X130) 5VT+4BI (XAGGIO130)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
	4352	272:0	0					X130 (AIM) Connectors 1-2	LD0.XAGGIO130.Ind1.stVal
		272:1		Yes					
	4354	272:2	0					X130 (AIM) Connectors 3-4	LD0.XAGGIO130.Ind2.stVal
		272:3		Yes					
	4356	272:4	0					X130 (AIM) Connectors 5-6	LD0.XAGGIO130.Ind3.stVal
		272:5		Yes					
	4358	272:6	0					X130 (AIM) Connectors 7-8	LD0.XAGGIO130.Ind4.stVal
		272:7		Yes					

Table 133: XARGGIO130 : AIM (X130) 5VT+2RTD (XARGGIO130)

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
		2790	6		s32	100		X130 (AIM+RTD) mA input Connectors 1-2 reported value	LD0.XARGGIO130.AnIn1.mag.f
		2791	6						
		2792	6		s32	100		X130 (AIM+RTD) RTD input Connectors 3-4 instantaneous value	LD0.XARGGIO130.AnIn2.mag.f
		2793	6						
		2794	6		s32	100		X130 (AIM+RTD) RTD input Connectors 5-6 instantaneous value	LD0.XARGGIO130.AnIn3.mag.f
		2795	6						

Table 134: 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					

Coil Addr (0x)	Input Addr (1x)	Register (:Bit) Addr (4x)	Dc	MCD	Type	Scale	Offset	Description	IEC61850 Data Attribute Name
	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
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 135: Control Structures

Control Structures	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	RESERVED	
	1003	10	RESERVED	
	1003	11	RESERVED	
	1003	12	RESERVED	
	1003	13	RESERVED	
	1003	14	RESERVED	
	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

Control Structures	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	1008	1	Disturbance recorder Clear all DFR recordings in the memory	DR.RDRE1.MemClr.Oper.ctlVal
	1008	2	RESERVED	
	1008	3	RESERVED	
	1008	4	RESERVED	
	1008	5	RESERVED	
	1008	6	RESERVED	
	1008	7	RESERVED	
	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	RESERVED	
	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	OPTM-1 Resets the accumulated operation time to initial value	LD0.MDSOPT1.OpTmRs.Oper.ctlVal
	1013	6	OPTM-2 Resets the accumulated operation time to initial value	LD0.MDSOPT2.OpTmRs.Oper.ctlVal
	1013	7	49M Reset 49M temperature	LD0.MPTTR1.RsTmp.Oper.ctlVal
	1013	8	P E Reset of accumulated energy reading	LD0.PEMMTR1.SupDmdRs.Oper.ctlVal
	1013	9	RESERVED	
	1013	10	SP SE Reset of accumulated energy reading	LD0.SPEMMTR1.SupDmdRs.Oper.ctlVal
	1013	11	RESERVED	
	1013	12	RESERVED	
	1013	13	RESERVED	
	1013	14	RESERVED	
	1013	15	RESERVED	
	1014		Control Structure 3 Confirmation Register	
4	1015		Control Structure 4 Execute Register	

Control Structures	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	1016		Control Structure 4 Password 1	
	1017		Control Structure 4 Password 2	
	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	

Control Structures	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
6	1025		Control Structure 6 Execute Register	
	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

Control Structures	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	1033	15	CNTRL-2 Trig output 16 - RESET	
	1034		Control Structure 7 Confirmation Register	
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

Control Structures	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	1043	13	CNTRL-3 Trig output 15 - RESET	
	1043	14	CNTRL-3 Trig output 16 - SET	LD0.SPCGGIO3.SPCSO16.Oper.ctlVal
	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

Control Structures	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	1053	11	RCNTRL-1 Output 14 - RESET	
	1053	12	RCNTRL-1 Output 15 - SET	LD0.SPCRGGIO1.SPCSO15.Oper.ctlVal
	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

Control Structures	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	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
	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 Resets accumulation energy	LD0.SSCBR1.RsAccAPwr.Oper.ctlVal
	1068	1	52CM Reset CB remaining life and operation counter	LD0.SSCBR1.RsCBWear.Oper.ctlVal
	1068	2	52CM Reset the charging time of the CB spring	LD0.SSCBR1.RsSprChaTm.Oper.ctlVal
	1068	3	52CM Reset CB closing and opening travel times	LD0.SSCBR1.RsTrvTm.Oper.ctlVal
	1068	4	RESERVED	
	1068	5	RESERVED	
	1068	6	RESERVED	
	1068	7	RESERVED	
	1068	8	RESERVED	
	1068	9	RESERVED	
	1068	10	RESERVED	
	1068	11	RESERVED	
	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	RESERVED	
	1073	2	RESERVED	
	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

Control Structures	Control Register Addr	Control bit number	Description	IEC61850 Data Attribute Name
	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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