

RELION® 630 SERIES

Power Management PML630/Compact Load-Shedding Solution

IEC 61850 Point List Manual





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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 device. 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 the communication setup in a substation from a device's 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

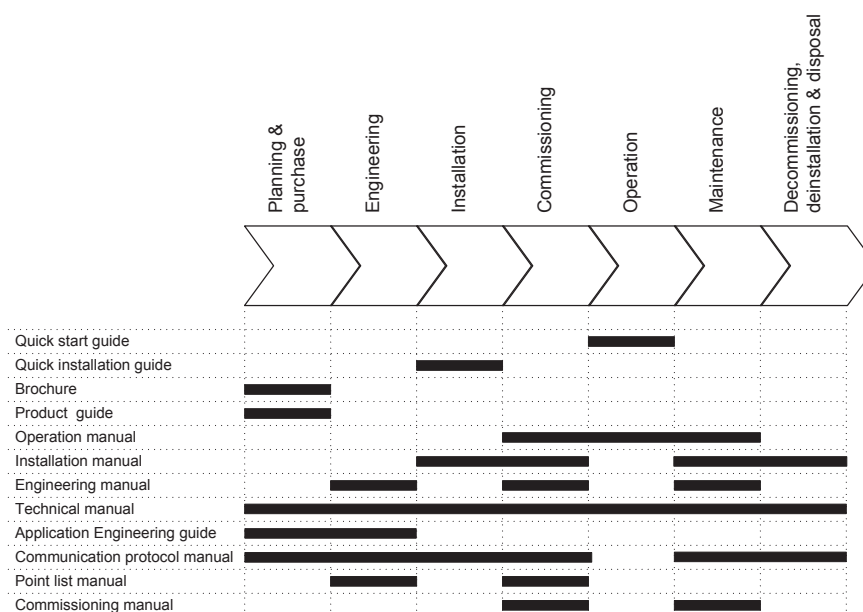


Figure 1: The intended use of documents during the product life cycle



See the 630 series documentation for installation and commissioning manuals. The PML630 documentation set includes only application engineering guide, engineering manual, IEC 61850 communication protocol manual, IEC 61850 point list manual, operation manual and technical manual.

1.3.2 Document revision history

Document revision/date	Product version	History
A/2011-05-04	1.1	First release
B/2011-11-03	1.1.1	Content updated to correspond to the product series version
C/2012-03-29	1.1.2	Content updated to correspond to the product series version
D/2013-10-14	1.2	Content updated to correspond to the product series version
E/2019-08-12	1.2.1	Content updated to correspond to the product series version

1.3.3 Related documentation

Name of the document	Document ID
Application Engineering Guide	1MRS757394
Engineering Manual	1MRS757184
IEC 61850 Communication Protocol Manual	1MRS757260
Operation Manual	1MRS757183
Technical Manual	1MRS757256



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1.4 Symbols and conventions

1.4.1 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 of 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 is necessary to understand that under certain operational conditions, operation of damaged equipment may result in degraded process performance leading to personal injury or death. Therefore, comply fully with all warning and caution notices.

1.4.2 Document conventions

A particular convention may not be used in this manual.

- Abbreviations and acronyms 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.
To navigate between the options, use  and .
- Menu paths are presented in bold.
Select **Main menu/Settings**.
- WHMI menu names are presented in bold.
Click **Information** in the WHMI menu structure.
- LHMI messages are shown in Courier font.
To save the changes in nonvolatile memory, select **Yes** and press .
- Parameter names are shown in italics.
The function can be enabled and disabled with the *Operation* setting.
- The ^ character in front of an input or output signal name in the function block symbol given for a function, indicates that the user can set an own signal name in PCM600.
- The * character after an input or output signal name in the function block symbol given for a function, indicates that the signal must be connected to another function block in the application configuration to achieve a valid application configuration.

1.4.3

Functions, codes and symbols

Table 1: *Functions included in the device*

Functionality	IEC 61850
Generic process I/O	
Single point control (8 signals)	SPC8GGIO ¹⁾
Double point indication	DPGGIO ¹⁾
Single point indication	SPGGIO ¹⁾
Generic measured value	MVGGIO ¹⁾
Event counter	CNTGGIO ¹⁾
Monitoring	
Measured value limit supervision	MVEXP ¹⁾
Station battery supervision	SPVNZBAT ¹⁾
Power management (load-shedding)	
Critical circuit breaker	NCBDCSWI
Contingency based load-shedding core function	LSCACLS
Busbar-wise sheddable loads data	LDMMXU
Busbar-wise load feeders load-shedding command	LSPTRC
Power source	PSCSWI
Subnetwork supervision	SNWRCLS
Network power source	NPMMXU
Table continues on next page	

Functionality	IEC 61850
Information exchange between peer PML630s	PPLSGGIO ²⁾
Disturbance recorder functions	
Analog channels 1-10 (samples)	A1RADR
Analog channel 11-20 (samples)	A2RADR
Analog channel 21-30 (samples)	A3RADR ¹⁾
Analog channel 31-40 (calc. val.)	A4RADR ¹⁾
Binary channel 1-16	B1RBDR
Binary channel 17-32	B2RBDR
Binary channel 33-48	B3RBDR
Binary channel 49-64	B4RBDR ¹⁾
Disturbance recorder	DRRDRE
Multipurpose functions	
Position evaluate	POS_EVAL ¹⁾
Double point indication	DPGGIO ¹⁾
Multipurpose analog protection	MAPGAPC ¹⁾
Station communication (GOOSE)	
Binary receive	GOOSEBINRCV
Double point receive	GOOSEDPRCV
Integer receive	GOOSEINTRCV
Measured value receive	GOOSEMVRCV
Single point receive	GOOSESRCV

- 1) The function is not used by default. However, it is kept enabled in the Application Configuration tool for instantiation in any additional logic other than features offered by the PML630 connectivity package.
- 2) The PPLSGGIO function block is instantiated only when the cPMS - LS Configuration B is selected in the configuration wizard of PML630.

Section 2 Logical node list

2.1 Logical nodes

Table 2: *Logical nodes implemented in PML630*

Logical node groups	Logical node	Description
C: Logical nodes for control	CSWI	Calculated circuit breaker status - Critical circuit breaker related information - Generators - Grid transformers - Load feeders
L: System logical nodes	LPHD	Physical device information
	LLN0	Logical node zero
P: Logical nodes for protection functions	PTRC	Load-shedding trip command
G: Logical nodes for generic references	GAPC	Load-shedding status (start/operate)
M: Logical nodes for metering and measurement	MMXU	Measurement: - Critical circuit breaker related information - Generators - Grid transformers - Load feeders

Section 3 Logical node extensions

3.1 New logical nodes

Table 3: *New functions in PML630*

LN Class	Prefix	LN Type	Description
ACLS	LSC	LSCACLS	LN Class: 'A' for Automatic control, 'C' for Contingency based, 'LS' for Load shedding LN Prefix: Contingency based Load shedding (Fast load shedding)
ACLS	PWS	PWSACLS	LN Class: 'A' for Automatic control, 'C' for Contingency based, 'LS' for Load shedding LN Prefix: PoWer Source (Slow load shedding for Grid Transformers)
CCLS	LSC	LSCCCLS	LN Class: 'C' for Supervisory control, 'C' for Contingency based, 'LS' for Load shedding LN Prefix: Load shedding (Manual) Control
RCLS	SNWL	SNWLRCLS	LN Class: 'R' for (Load shedding) Related (function), 'C' for Contingency based, 'LS' for Load shedding LN Prefix: SubNetWork Load shed information
RCLS	SNWA	SNWARCLS	LN Class: 'R' for (Load shedding) Related (function), 'C' for Contingency based, 'LS' for Load shedding LN Prefix: SubNetWork Accumulated load power information
RCLS	LSC	LSCRCLS	LN Class: 'R' for (Load shedding) Related (function), 'C' for Contingency based, 'LS' for Load shedding LN Prefix: (Substation) Load shedding controller information summary

3.1.1 LSCACLS

Table 4: *LSCACLS*

Attribute name	DATA type	Explanation	M/O/E
ACLS class			
ACLS		Contingency load shedding (Fast LS)	M
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode (load shed function Enable / Disable / Test command/status)	M
Beh	ABB_a_dINS	Behaviour (reflects the mode of the function)	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Table continues on next page			

Attribute name	DATA type	Explanation	M/O/E
StrCntRs	ABB_a_dSPC	Fast load shed start counter reset command	E
Controls			
Rs	ABB_a_dSPC	Load shed function reset command	E
Ntw1Rs	ABB_a_dSPC	Load shed reset command for subnetwork 1	E
Ntw2Rs	ABB_a_dSPC	Load shed reset command for subnetwork 2	E
Ntw3Rs	ABB_a_dSPC	Load shed reset command for subnetwork 3	E
Ntw4Rs	ABB_a_dSPC	Load shed reset command for subnetwork 4	E
Status information			
Op	ABB_b_dACT	Load shed function Operate	O
Str	ABB_d_dACD	Load shed function Start	O

3.1.2

PSACLS

Table 5: PSACLS

Attribute name	DATA type	Explanation	M/O/E
ACLS class			
ACLS		Contingency load shedding (Fast LS)	M
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode (load shed function Enable / Disable / Test, command/status)	M
Beh	ABB_a_dINS	Behaviour (reflects the mode of the function)	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Status information			
Op	ABB_b_dACT	Load shed function Operate	O
Str	ABB_d_dACD	Load shed function Start	O
LSTrgInh	ABB_v1_dSPS	Load shed trigger inhibit	E
SLSTrgInh	ABB_v1_dSPS	Slow load shed inhibited	E
SetChg	ABB_v1_dSPS	One or many basic setting change	E
BlkOvSt	ABB_v1_dSPS	Block is inhibited or override	E
SLSMoSt	ABB_v1_dSPS	Setting due to which slow load shed is enable or disable	E

3.1.3 LSCCCLS

Table 6: *LSCCCLS*

Attribute name	DATA type	Explanation	M/O/E
CCLS class			
CCLS		Contingency load shedding (manual LS)	M
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode (manual load shed function Enable / Disable / Test command/ status)	M
Beh	ABB_a_dINS	Behaviour (reflects the mode of the function)	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Controls			
ManLSCmd	ABB_a_dSPC	Subnetwork manual load shed command	E

3.1.4 SNWLRCLS

Table 7: *SNWLRCLS*

Attribute name	DATA type	Explanation	M/O/E
RCLS class			
RCLS		Contingency load shedding related subnetwork information	M
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Measured values			
NtwPwrDiff	ABB_c_dMV	Difference between the must be load shed (NtwMustLS) and the actual load shed values (NtwALodShd)	E
NtwAvaPwr	ABB_c_dMV	Total available power in the subnetwork	E
NtwLodInhM	ABB_c_dMV	Total inhibited load by the operator in the subnetwork	E
NtwLodInhS	ABB_c_dMV	Total inhibited load by the system in the subnetwork	E
NtwLodMm	ABB_c_dMV	Total load mismatch in the subnetwork	E
Table continues on next page			

Attribute name	DATA type	Explanation	M/O/E
NtwShdLod	ABB_c_dMV	Total amount of sheddable load in subnetwork	E
NtwALodShd	ABB_c_dMV	Actual load shed	E
NtwTotLoad	ABB_c_dMV	Total load in the sub network	E
NtwMustLS	ABB_c_dMV	Must be load shed	E
NtwPwrImb	ABB_c_dMV	Power imbalance in the subnetwork	E
ManLSPwr	ABB_c_dMV	Manual load shed power setting	E
EffPwrImb	ABB_c_dMV	Effective power imbalance in the subnetwork	E
Status information			
LSBlkSt	ABB_c_dSPS	Fast load shed block	E
SlwLSBlkSt	ABB_c_dSPS	Slow load shed block	E
LSPopSt	ABB_c_dSPS	Load shed operated status	E
LsOp	ABB_c_dSPS	Load shed operated	E
NtwActSt	ABB_c_dSPS	Subnetwork active status	E
NtwEnaSt	ABB_c_dSPS	Load shed enable status	E
LSPrioRcd1	ABB_c_dSPS	Record-1 subnetwork shed priority	E
LSPrioRcd2	ABB_c_dSPS	Record-2 subnetwork shed priority	E
LSPrioRcd3	ABB_c_dSPS	Record-3 subnetwork shed priority	E
NgPwrBalSt	ABB_c_dSPS	Negative power balance status	E

3.1.5

SNWARCLS

Table 8: SNWARCLS

Attribute name	DATA type	Explanation	M/O/E
RCLS class			
RCLS		Contingency load shedding related subnetwork accumulated load information	M
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode (fast load shed function Enable / Disable / Test command/status)	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Measured values			
ALodPrio1	ABB_c_dMV	Accumulated load against priority 1	O
ALodPrio2	ABB_c_dMV	Accumulated load against priority 2	O
ALodPrio3	ABB_c_dMV	Accumulated load against priority 3	O
ALodPrio4	ABB_c_dMV	Accumulated load against priority 4	O
Table continues on next page			

Attribute name	DATA type	Explanation	M/O/E
ALodPrio5	ABB_c_dMV	Accumulated load against priority 5	O
ALodPrio6	ABB_c_dMV	Accumulated load against priority 6	O
ALodPrio7	ABB_c_dMV	Accumulated load against priority 7	O
ALodPrio8	ABB_c_dMV	Accumulated load against priority 8	O
ALodPrio9	ABB_c_dMV	Accumulated load against priority 9	O
ALodPrio10	ABB_c_dMV	Accumulated load against priority 10	O
ALodPrio11	ABB_c_dMV	Accumulated load against priority 11	O
ALodPrio12	ABB_c_dMV	Accumulated load against priority 12	O
ALodPrio13	ABB_c_dMV	Accumulated load against priority 13	O
ALodPrio14	ABB_c_dMV	Accumulated load against priority 14	O
ALodPrio15	ABB_c_dMV	Accumulated load against priority 15	O
ALodPrio16	ABB_c_dMV	Accumulated load against priority 16	O
ALodPrio17	ABB_c_dMV	Accumulated load against priority 17	O
ALodPrio18	ABB_c_dMV	Accumulated load against priority 18	O
ALodPrio19	ABB_c_dMV	Accumulated load against priority 19	O
Status information			
ManPrioSet	ABB_b_dINS	Manual load shed priority setting	E

3.1.6

LSCRCLS

Table 9: LSCRCLS

Attribute name	DATA type	Explanation	M/O/E
RCLS class			
RCLS		Contingency load shedding related substation LS controller information	M
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode (Fast load shed function Enable / Disable / Test command/status)	M
Beh	ABB_a_dINS	Behaviour (reflects the mode of the function)	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name pate	M
Status information			
NtwNumBB1	ABB_b_dINS	Subnetwork number of busbar1	E
NtwNumBB2	ABB_b_dINS	Subnetwork number of busbar2	E
NtwNumBB3	ABB_b_dINS	Subnetwork number of busbar3	E
NtwNumBB4	ABB_b_dINS	Subnetwork number of busbar4	E
NtwNumBB5	ABB_b_dINS	Subnetwork number of busbar5	E
NtwNumBB6	ABB_b_dINS	Subnetwork number of busbar6	E
Table continues on next page			

Attribute name	DATA type	Explanation	M/O/E
NtwNumSrc1	ABB_b_dINS	Subnetwork number of power source1	E
NtwNumSrc2	ABB_b_dINS	Subnetwork number of power source2	E
NtwNumSrc3	ABB_b_dINS	Subnetwork number of power source3	E
NtwNumSrc4	ABB_b_dINS	Subnetwork number of power source4	E
NtwNumSrc5	ABB_b_dINS	Subnetwork number of power source5	E
NtwNumSrc6	ABB_b_dINS	Subnetwork number of power source6	E
NtwNumCB1	ABB_b_dINS	Subnetwork number of network CB1	E
NtwNumCB2	ABB_b_dINS	Subnetwork number of network CB2	E
NtwNumCB3	ABB_b_dINS	Subnetwork number of network CB3	E
NtwNumCB4	ABB_b_dINS	Subnetwork number of network CB4	E
NtwNumCB5	ABB_b_dINS	Subnetwork number of network CB5	E
NtwNumCB6	ABB_b_dINS	Subnetwork number of network CB6	E
NtwNumCB7	ABB_b_dINS	Subnetwork number of network CB7	E
NtwNumCB8	ABB_b_dINS	Subnetwork number of network CB8	E
NtwNumCB9	ABB_b_dINS	Subnetwork number of network CB9	E
NtwNumCB10	ABB_b_dINS	Subnetwork number of network CB10	E
NtwNumCB11	ABB_b_dINS	Subnetwork number of network CB11	E
NtwNumCB12	ABB_b_dINS	Subnetwork number of network CB12	E
NtwNumCB13	ABB_b_dINS	Subnetwork number of network CB13	E
NtwNumCB14	ABB_b_dINS	Subnetwork number of network CB14	E
NtwNumCB15	ABB_b_dINS	Subnetwork number of network CB15	E
FLSCnt	ABB_b_dINS	Counter indicating number of fast load shed triggers generated	E
ManLSBeh	ABB_b_dINS	Manual load shed behaviour	E
SetChg	ABB_c_dSPS	One or many basic settings changed	E

3.2 Extended logical nodes

Table 10: *Logical nodes included in the IED*

LN Class	Prefix (default)	LN Type	Description
LLN0		LLN0	General LN0 for LD0
	LD	LDLLN0	LN0 for load busbar (load circuit breaker and power) information
	LS	LSLLN0	LN0 for LS commands per busbar
	SNW	SNWLLN0	LN0 for subnetwork information
	NCBD	NCBDLLN0	LN0 for network circuit breaker information
	LSC	LSCLLN0	LN0 for load shed core functionality
	PS	PSLLN0	LN0 for power source (generator and grid transformer circuit breaker and power) information
	PPLS	PPLSLLN0	LN0 for load shed information
LPHD		LPHD	Physical device information
GAPC	LSC	LSCGAPC	Overall load shedding status
PTRC	LS	LSPTRC	Load shed trip per load feeder
CSWI	PS	PSCSWI	Power source circuit breaker position
MMXU	PS	PSMMXU	Power measurement for power source
MMTR	PS	PSMMTR	Maximum demand and energy calculation for power source
PTOC	PS	PSPTOC	Power source over current function for load shed trigger initiation
MMXU	NP	NPMXU	Power measurement for network power
CSWI	NCBD	NCBDCSWI	Network circuit breaker position
MMXU	NCBD	NCBDMMXU	Power measurement for network circuit breaker
CSWI	LD	LDCSWI	Load feeder circuit breaker position
MMXU	LD	LDMMXU	Power measurement for busbar wise load feeders
GGIO	PPLS	PPLSGGIO	Information exchange between peer PML630s of their network areas
GGIO	SP	SPGGIO	Test mode status of PML630
RDRE	DR	DRRDRE	Disturbance recorder
GGIO	DP	DPGGIO	Double point status (not used by default)
GAPC	MAP	MAPGAPC	Multipurpose analogue protection function
GGIO	CNT	CNTGGIO	Generic counters
GGIO	MV	MVGGIO	Measurement information (not used by default)
ZBAT	SPVN	SPVNZBAT	Station battery supervision (not used by default)

3.2.1 LLN0

Table 11: *LLN0*

Attribute name	DATA type	Explanation	M/O/E
LLN0		General LN0 for LD0	
Data			
Common Logical Node Information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M

3.2.2 LDLLN0

Table 12: *LDLLN0*

Attribute name	DATA type	Explanation	M/O/E
LLN0		LN0 for Load busbar (load circuit breaker and power) information	
Data			
Common Logical Node Information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M

3.2.3 LSLLN0

Table 13: *LSLLN0*

Attribute name	DATA type	Explanation	M/O/E
LLN0		LN0 for LS commands per busbar	
Data			
Common Logical Node Information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M

3.2.4 SNWLLN0

Table 14: *SNWLLN0*

Attribute name	DATA type	Explanation	M/O/E
LLN0		LN0 for SubNetwork information	
Data			
Common Logical Node Information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M

3.2.5 NCBDLLN0

Table 15: *NCBDLLN0*

Attribute name	DATA type	Explanation	M/O/E
LLN0		LN0 for Network circuit breaker information	
Data			
Common Logical Node Information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M

3.2.6 LSCLLN0

Table 16: *LSCLLN0*

Attribute name	DATA type	Explanation	M/O/E
LLN0		LN0 for Load shed core functionality	
Data			
Common Logical Node Information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M

3.2.7

PSLLN0

Table 17: *PSLLN0*

Attribute name	DATA type	Explanation	M/O/E
LLN0 class			
LLN0		LN0 for power source function (Generator/Grid/Utility transformer) information	
Data			
Common logical node information			
Mod	ABB_a_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_ln0_dLPL	Name plate	M

3.2.8

PPLSLLN0

Table 18: *PPLSLLN0*

Attribute name	DATA type	Explanation	M/O/E
LLN0 class			
LLN0		LN0 for function information of data exchange between adjacent network area IED	
Data			
Common logical node information			
Mod	ABB_a_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_ln0_dLPL	Name plate	M

3.2.9

LSCGAPC

Table 19: *LSCGAPC*

Attribute name	DATA type	Explanation	M/O/E
GAPC class			
GAPC		Overall load-shedding status	
Data			
Common logical node information			
Mod	ABB_a_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M

Table continues on next page

Attribute name	DATA type	Explanation	M/O/E
NamPlt	ABB_In0_dLPL	Name plate	M
Status information			
Str	ABB_d_dACD	Any load shed function start	M
Op	ABB_b_dACT	Any load shed function operate	M

3.2.10

LSPTRC

Table 20: LSPTRC

Attribute	DATA type	Explanation	M/O/E
PTRC class			
PTRC		Load feeder Load shed trip	
Data			
Common Logical Node Information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Status information			
Tr	ABB_C_dACT	Trip	M

3.2.11

PSCSWI

Table 21: PSCSWI

Attribute name	DATA type	Explanation	M/O/E
CSWI class			
CSWI		Power source (Generator/Grid Utility transformer) circuit breaker position	
Data			
Common logical node information			
Mod	ABB_a_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_a_dLPL	Name plate	M
Status information			
Pos	ABB_b_dDPC	Circuit breaker position	M

3.2.12

PSMMXU

Table 22: *PSMMXU*

Attribute name	DATA type	Explanation	M/O/E
MMXU class			
MMXU		Power source (Generator/Grid/Utility transformer) information	
Data			
Common logical node information			
Mod	ABB_a_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_a_dLPL	Name plate	M
Measurement information			
TotW	ABB_v2_dMV	Active power	E
AvaPow	ABB_v2_dMV	Available power	E
AvaPwrPct	ABB_v2_dMV	Available power on percentage of active power	E
DmdPwr	ABB_v2_dMV	Actual demand	E
MaxDmdLS	ABB_v2_dMV	Maximum demand value above which demand shed started	E
OvLodPwr	ABB_v2_dMV	Overload amount	E
SLSMaPwr	ABB_v2_dMV	Maximum power during slow load shed trigger	E
Status information			
GovModVal	ABB_v1_dINS	Generator governor mode	E
BlkLS	ABB_v1_dSPS	Fast load shed block	E
EnaFactSL	ABB_v1_dSPS	Enable amount of overload based slow load shed	E
LSTrg	ABB_v1_dSPS	Fast load shed trigger	E

3.2.13

PSMMTR

Table 23: *PSMMTR*

Attribute name	DATA type	Explanation	M/O/E
MMTR class			
MMTR		Power source generator/grid transformer demand energy	
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Table continues on next page			

Attribute name	DATA type	Explanation	M/O/E
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Control			
Rs	ABB_v1_dSPC	Demand reset operation	E
Measurements			
WhDmd	ABB_v2_dMV	Real energy demand	E
Status information			
Alm	ABB_v1_dSPS	Maximum demand operate alarm	E
TmmDmdPer	ABB_v1_dINS	Time interval in seconds for demand calculation	E

3.2.14

PSPTOC

Table 24: PSPTOC

Attribute name	DATA type	Explanation	M/O/E
PTOC class			
PTOC		Overcurrent based slow load shed of power source	
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Control			
Rs	ABB_v1_dSPC	Reset operation	E
Measurements			
MaxA	ABB_v2_dMV	Maximum of three phase current of source	E
OvLodTm	ABB_v2_dMV	Elapsed time	E
SetMaxA	ABB_v2_dMV	Current setting for overcurrent low stage	E
TotOvLodTm	ABB_v2_dMV	Time require for overcurrent low stage operate	E
Status information			
Str	ABB_d_dACD	Start	M
Op	ABB_b_dACT	Operate	M

3.2.15

NPMMXU

Table 25: *NPMMXU*

Attribute name	DATA type	Explanation	M/O/E
MMXU class			
MMXU		Network power source power value	
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Measurements			
AvaPwrSrc1	ABB_v2_dMV	Available power of source1	E
AvaPwrSrc2	ABB_v2_dMV	Available power of source2	E
TotWSrc1	ABB_v2_dMV	Active power of source1	E
TotWSrc2	ABB_v2_dMV	Active power of source2	E

3.2.16

NCBDCSWI

Table 26: *NCBDCSWI*

Attribute name	DATA type	Explanation	M/O/E
CSWI class			
CSWI		Network circuit breaker data	
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Control			
Pos	ABB_b_dDPC	Position	M
Status information			
BlkLS	ABB_v1_dSPS	Fast load shed block	E
BlkOvSt	ABB_v1_dSPS	Block is inhibited or bypass status	E
LSTrg	ABB_v1_dSPS	Fast load shed trigger	E
SetChg	ABB_v1_dSPS	One or many basic settings change	E
VirCBEna	ABB_v1_dSPS	Virtual CB configuration is selected	E

3.2.17

NCBDMMXU

Table 27: NCBDMMXU

Attribute	DATA type	Explanation	M/O/E
MMXU class			
MMXU		Network circuit breaker power flow value	
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Measurement			
TotW	ABB_b_dMV	Total active power (Total P)	O

3.2.18

LDCSWI

Table 28: LDCSWI

Attribute	DATA type	Explanation	M/O/E
CSWI class			
CSWI		Load feeder Circuit Breaker position	
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Control			
Pos	ABB_b_dDPC	Position	M

3.2.19

LDMMXU

Table 29: LDMMXU

Attribute name	DATA type	Explanation	M/O/E
MMXU class			
MMXU		Load feeder power value	
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode	M
Table continues on next page			

Attribute name	DATA type	Explanation	M/O/E
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Measurements			
TotW	ABB_c_dMV	Active power	O
Status information			
InhLSSt	ABB_v1_dINS	Load shed inhibit status for load feeder	E
LodPrioSt	ABB_v1_dINS	Feeder priority	E

3.2.20

PPLSGGIO

Table 30: PPLSGGIO

Attribute name	DATA type	Explanation	M/O/E
GGIO class			
GGIO		Information exchange between adjacent network area IED	
Data			
Common logical node information			
Mod	ABB_c_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_b_dLPL	Name plate	M
Measurements			
RxLSPwr	ABB_v2_dMV	Received load shed power	E
RxSpRsvPwr	ABB_v2_dMV	Received spinning reserve power	E
Status information			
NtwLSGrInt	ABB_v1_dINS	Subnetwork grouped load shed integer	E
RxCBBIk	ABB_v1_dSPS	Received CB quality block	E
RxCBSt	ABB_v1_dSPS	Received CB status	E
RxNtwBlk	ABB_v1_dSPS	Received network block	E
RxSigErr	ABB_v1_dSPS	Received load shed signal error	E
SigErr	ABB_v1_dSPS	Load shed signal error	E

3.2.21

SPGGIO

Table 31: SPGGIO

Attribute name	DATA type	Explanation	M/O/E
GGIO Class			
GGIO		Test mode status of PML630 IED	M
Data			
Common logical node information			
Mod	ABB_a_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_a_dLPL	Name plate	M
Status information			
Ind	ABB_c_dSPS	Test mode status	O

3.2.22

DRRDRE

Table 32: DRRDRE

Attribute	DATA type	Explanation	M/O/E
RDRE class			
RDRE		Load Shedding disturbance records	
Data			
Common logical node information			
Mod	ABB_a_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_a_dLPL	Name plate	M
Status			
RcdMade	ABB_d_dSPS	Recording made	O
FltNum	ABB_b_dINS	Fault Number	M
RcdStr	ABB_d_dSPS	Recording started	O
MemUsed	ABB_b_dINS	Memory used in %	O
RcdClr	ABB_v2_dSPS	Recordings cleared	E
MemUsedAlm	ABB_v2_dSPS	Memory used alarm	E

3.2.23

DPGGIO

Table 33: *DPGGIO*

Attribute	DATA type	Explanation	M/O/E
GGIO class			
GGIO		Generic Double Point status	
Data			
Common logical node information			
Mod	ABB_a_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_a_dLPL	Name plate	M
Status			
DPCSO	ABB_b_dDPC	General position indication (status-only)	O

3.2.24

MAPGAPC

Table 34: *MAPGAPC*

Attribute name	DATA type	Explanation	M/O/E
GAPC class			
GAPC		Multipurpose analogue protection function	M
Data			
Common Logical Node Information			
Mod	ABB_a_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_d_dLPL	Nam plate	M
Status Information			
Op	ABB_b_dACT	Operate	M
Str	ABB_d_dACD	Start	M
StrDur	ABB_v2_dMV	Start duration	E

3.2.25

CNTGGIO Revision 1

Table 35: *CNTGGIO Revision 1*

Attribute name	DATA type	Explanation	M/O/E	Remarks
GGIO class				
GGIO		Event counters		
Data				
Table continues on next page				

Attribute name	DATA type	Explanation	M/O/E	Remarks
Common Logical Node Information				
Mod	ABB_a_dINC	Mode	M	
Beh	ABB_a_dINS	Behaviour	M	
Health	ABB_c_dINS	Health	M	
NamPlt	ABB_a_dLPL	Name plate	M	
Status Information				
RsCnt	ABB_v1_dSPC	Reset counters	E	Controllable
Cnt1	ABB_v1_dBCR	Output of counter 1	E	Data type for counter value is INT32 (INT128 is not supported)
Cnt2	ABB_v1_dBCR	Output of counter 2	E	Data type for counter value is INT32 (INT128 is not supported)
Cnt3	ABB_v1_dBCR	Output of counter 3	E	Data type for counter value is INT32 (INT128 is not supported)
Cnt4	ABB_v1_dBCR	Output of counter 4	E	Data type for counter value is INT32 (INT128 is not supported)
Cnt5	ABB_v1_dBCR	Output of counter 5	E	Data type for counter value is INT32 (INT128 is not supported)
Cnt6	ABB_v1_dBCR	Output of counter 6	E	Data type for counter value is INT32 (INT128 is not supported)

3.2.26

MVGGIO

Table 36: MVGGIO

Attribute	DATA type	Explanation	M/O/E
GGIO class			
GGIO		Generic measured value	
Data			
Common logical node information			
Mod	ABB_a_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Table continues on next page			

Attribute	DATA type	Explanation	M/O/E
Health	ABB_c_dINS	Health	M
NamPlt	ABB_a_dLPL	Name plate	M
Status			
AnIN	ABB_a_dMV	Measurement Value	O

3.2.27

SPVNZBAT

Table 37: *SPVNZBAT*

Attribute	DATA type	Explanation	M/O/E
ZBAT class			
ZBAT		Station battery supervision	
Data			
Common logical node information			
Mod	ABB_a_dINC	Mode	M
Beh	ABB_a_dINS	Behaviour	M
Health	ABB_c_dINS	Health	M
NamPlt	ABB_a_dLPL	Name plate	M
Status			
Vol	ABB_b_dMV	Battery voltage	M
BatHi	ABB_a_dSPS	Battery high (voltage or charge - overcharge)	O
BatLo	ABB_a_dSPS	Battery low (voltage or charge)	O
OpBatLo	ABB_v1_dSPS	Operate command when battery voltage drops below lower limit	E
OpBatHi	ABB_v1_dSPS	Operate command when battery voltage exceeds upper limit	E

Section 4 Glossary

Beh	Behavior
cPMS	Compact power management solution
E	Data extension to IEC 61850-7-4
EMC	Electromagnetic compatibility
IEC	International Electrotechnical Commission
IEC 61850	International standard for substation communication and modeling
IED	Intelligent electronic device
LD0	Logical device zero (0)
LHMI	Local human-machine interface
LLN0	Logical node zero (0)
LN	Logical node
M	Mandatory data according to IEC 61850-7-4
O	Optional data according to IEC 61850-7-4
PCM600	Protection and Control IED Manager
WHMI	Web human-machine interface



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