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Model Implementation Conformance Statement for the IEC 61850 Interface in M-7679

11-08-2024, D-0347V03.38.12 Reference

Rev. 0.3

HUBBELL®

PROTOCOL

Table of Contents

M-7679 IEC 61850
MODEL IMPLEMENTATION CONFORMANCE STATEMENT

FOR USE WITH FIRMWARE VERSION D-0347V03.38.12

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REV 0.3 08/2024

Initial Release

1.0 Introduction

This Model Implementation Conformance Statement (MICS) applies to the M-7679 using firmware D-0347V03.38.12 and higher.

This MICS document specifies the modeling extensions compared to IEC 61850 edition 1. For the exact details on the standardized model, please compare the ICD substation configuration file: <M76XXTemplate.icd>, version <V03.38.12>.

Clause 2 contains the list of implemented logical nodes.

Clause 3 describes the new and extended logical nodes.

Clause 4 describes the new and extended common data classes (if any).

Clause 5 describes the new and extended enum types.

Clause 6 describes any other extensions.

2.0 Logical Nodes List

The following table contains the list of logical nodes implemented in the device:

B: Logical Nodes for Bus Side Supervision Voltage
BSVS (Bus Side Supervision Voltage)
C: Logical Nodes for Control
CALH (Alarm Handling)
CSWI (Switch Controller)
CLPPIOC (Cold Load Pickup PIOC)
CLPPTOC (Cold Load Pickup PTOC)
CLPRREC
CLBK (Close Block)
G: Logical Nodes for Generic References
GGIO (Generic Process I/O Name)
H: Logic Nodes for Hot Line Tag
HLTPIOC (Hot Line Tag)
HLTPTOC (Hot Line Tag PTOC)
L: System Logical Nodes
LLN0 (Logical Node Zero)
LLN (Logical Node)
LPSH (Loop Scheme)
M: Logical Nodes for Metering and Measurement
MMXU(Measurement)
MHAI (Harmonics and Interharmonics)
MMTR (Metering)
MSQI (Sequence Components)
P: Undervoltage, Overvoltage, Power, & Overcurrent
PTUV (Undervoltage)
PDOP (Directional Overpower)
PDIS (Loss of Field)
PTOC (Negative Sequence Definite Time Overcurrent)
PTOV (Negative Sequence Overvoltage)
PIOC (Phase Instantaneous/Definite Time Overcurrent)
PFLD (Fuse Loss Detection)
PTOF (Frequency)
PHLT
PCLP
PLOS (Loss of Sensing)
PSDE (Sensitive Ground)
R: Logical Nodes for Fault Locator, Autoreclosing, Synchronizing Name
RFLO (Fault Locator)
RBRF (Breaker Failure)
RREC (Auto Reclosing)
RSYN (Synchronism-check or Synchronizing Name)
S: Logical Nodes for Sectionalizer
SECT (Sectionalizer)
T: Logical Nodes for Total Harmonics
THD/TDD (Total Harmonic/Total Demand Distortion)
TCCM (Trip Circuit Monitoring)
Z: Logical Nodes for Battery Charger
ZBAT (Battery Charger)
ZPST (Power Transformer)

3.0 Logical Node Extensions

The following tables use

- M: Data is mandatory in the IEC-61850-7-4.
- O: Data is optional in the IEC-61850-7-4 and is used in the device.
- C: Data is conditional in the IEC-61850-7-4 and is used in the device.
- E: Data is an extension to the IEC-61850-7-4.

All data attributes listed as “optional” and “extended” have been implemented in M-7679.

3.1 Extended Logical Nodes

The following logical nodes have been extended with extra data. All extra data has been highlighted in the tables and marked as “E” (Extended). This data contains the “dataNs” attribute.

3.1.1 Logical Nodes for Generic References: B Group

Bus Side Supervision (BSVS Class) BSVS for F27BV Instance = 1				
BSVS Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
BSVS	Object name	Bus Voltage Supervision		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	INS	Behavior	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	

3.1.2 Logical Nodes for Control Group: C Group

Alarm Handling (CALH Class)				
CALH Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
CALH	Object name	Alarm Handling		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
GrAlm	SPS	Group Alarm	M	
Setpoints				
TrCls	SPG	Trip close	E	
ACPwrBatSt	SPG	AC power or Battery status	E	
EeSPChkS	SPG	EEPROM checksum	E	
DspWac	SPG	DSP watchdog	E	
GasPres	SPG	GAS Pressure	E	
EeCalbChkS	SPG	EEPROM calibration checksum	E	
FlashNFmtd	SPG	Flash Not Formatted	E	
MaxBrkOp	SPG	Maximum Breaker operations	E	
BatFailErr	SPG	Internal Battery Failure	E	

3.1.3 Switch Controller (CSWI Class) NAME: CSWI (TROP)

CSWI Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
CSWI	Object name	Switch Controller		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
OpOpn	ACT	Operation open switch	O	
Controls				
OpCntRsA	INC	Resettable operation counter phase A	O	
OpCntRsB	INC	Resettable operation counter phase B	O	
OpCntRsC	INC	Resettable operation counter phase C	O	
Pos	DPC	switch general (Remote Close)	M	
PosA	DPC	Switch L1 (Remote Close A)	O	
PosB	DPC	Switch L2 (Remote Close B)	O	
PosC	DPC	Switch L3 (Remote Trip C)	O	
PosRst	DPC	Remote Reset (Remote Reset)	O	

3.1.4 Switch Controller (CSWI Class) NAME: CSWI (CLOP)

CSWI Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
CSWI	Object name	Switch Controller		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
OpCls	ACT	Operation close switch	O	
Controls				
OpCntRsA	INC	Resettable operation counter phase A	O	
OpCntRsB	INC	Resettable operation counter phase B	O	
OpCntRsC	INC	Resettable operation counter phase C	O	
Pos	DPC	Switch general (Remote Close)	M	
PosA	DPC	Switch L1 (Remote Close A)	O	
PosB	DPC	Switch L2 (Remote Close B)	O	
PosC	DPC	Switch L3 (Remote Trip C)	O	

3.1.5 Logical Nodes for Generic References: G Group

Generic Process I/O (GGIO Class)				
GGIO Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
GGIO	Object name	Generic Process I/O		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	Status-only
Beh	INS	Behavior	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
BinOutSt1	SPS	Binary 1 Output Status	M	
BinOutSt2	SPS	Binary 2 Output Status	M	
BinOutSt3	SPS	Binary 3 Output Status	E	
BinOutSt4	SPS	Binary 4 Output Status	E	
BinOutSt5	SPS	Binary 5 Output Status	E	
BinOutSt6	SPS	Binary 6 Output Status	E	
BinOutSt7	SPS	Binary 7 Output Status	E	
BinOutSt8	SPS	Binary 8 Output Status	E	
BinOutSt9	SPS	Binary 9 Output Status	E	
BinOutSt10	SPS	Binary 10 Output Status	E	
BinOutSt11	SPS	Binary 11 Output Status	E	
BinOutSt12	SPS	Binary 12 Output Status	E	
Ind1	SPS	Binary 1 Input Status	E	
Ind2	SPS	Binary 2 Input Status	E	
Ind3	SPS	Binary 3 Input Status	E	
Ind4	SPS	Binary 4 Input Status	E	
Ind5	SPS	Binary 5 Input Status	E	
Ind6	SPS	Binary 6 Input Status	E	
Ind7	SPS	Binary 7 Input Status	E	
Ind8	SPS	Binary 8 Input Status	E	
Ind9	SPS	Binary 9 Input Status	E	
Ind10	SPS	Binary 10 Input Status	E	
Ind11	SPS	Binary 11 Input Status	E	
Ind12	SPS	Binary 12 Input Status	E	
IndFL	SPS	Binary Input Fuse Loss	E	
VirInd1	SPS	V1 Virtual Input	E	
VirInd2	SPS	V2 Virtual Input	E	
VirInd3	SPS	V3 Virtual Input	E	

3.1.5 Logical Nodes for Generic References: G Group

Generic Process I/O (GGIO Class)				
GGIO Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
VirInd4	SPS	V4 Virtual Input	E	
VirInd5	SPS	V5 Virtual Input	E	
VirInd6	SPS	V6 Virtual Input	E	
VirInd7	SPS	V7 Virtual Input	E	
VirInd8	SPS	V8 Virtual Input	E	
VirInd9	SPS	V9 Virtual Input	E	
VirInd10	SPS	V10 Virtual Input	E	
VirInd11	SPS	V11 Virtual Input	E	
VirInd12	SPS	V12 Virtual Input	E	
VirInd13	SPS	V13 Virtual Input	E	
VirInd14	SPS	V14 Virtual Input	E	
VirInd15	SPS	V15 Virtual Input	E	
VirInd16	SPS	V16 Virtual Input	E	
VirInd17	SPS	V17 Virtual Input	E	
VirInd18	SPS	V18 Virtual Input	E	
VirInd19	SPS	V19 Virtual Input	E	

3.1.6 Logical Nodes for Common Logical Node: L Group

Common Logic Node (LLN Class)				
LLN Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
LLN	Object name	Common Logic Node		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	Status-only
Beh	INS	Behavior	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
Status				
SwOp69	INS	69 Switch Operation	E	
Bat1St	INS	Battery 1 Status	E	
Bat2St	INS	Battery 2 Status	E	
BatChgTmpSns	INS	Battery Charger Temperature Sensor	E	
BatChgStHubb	INS	Battery Charger Status Hubbell	E	
BMConWea	INS	Breaker Monitor Contacts Wear	E	

3.1.6 Logical Nodes for Common Logical Node: L Group (Cont.)

Common Logic Node (LLN0 Class) LNode Type ID = "LLNO 7679 1"				
LLN0 Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
LLN0	Object name	Common Logic Node		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
IPSVirOut1	SPS	IPSLogic Virtual Output 1	O	
IPSVirOut2	SPS	IPSLogic Virtual Output 2	O	
IPSVirOut3	SPS	IPSLogic Virtual Output 3	O	
IPSVirOut4	SPS	IPSLogic Virtual Output 4	O	
IPSVirOut5	SPS	IPSLogic Virtual Output 5	O	
IPSVirOut6	SPS	IPSLogic Virtual Output 6	O	
IPSVirOut7	SPS	IPSLogic Virtual Output 7	O	
IPSVirOut8	SPS	IPSLogic Virtual Output 8	O	
IPSVirOut9	SPS	IPSLogic Virtual Output 9	O	
IPSVirOut10	SPS	IPSLogic Virtual Output 10	O	
IPSVirOut11	SPS	IPSLogic Virtual Output 11	O	
IPSVirOut12	SPS	IPSLogic Virtual Output 12	O	
IPSVirOut13	SPS	IPSLogic Virtual Output 13	O	
IPSVirOut14	SPS	IPSLogic Virtual Output 14	O	
IPSVirOut15	SPS	IPSLogic Virtual Output 15	O	
IPSVirOut16	SPS	IPSLogic Virtual Output 16	O	
IPSVirOut17	SPS	IPSLogic Virtual Output 17	O	
IPSVirOut18	SPS	IPSLogic Virtual Output 18	O	
IPSVirOut19	SPS	IPSLogic Virtual Output 19	O	
IPSVirOut20	SPS	IPSLogic Virtual Output 20	O	
IPSVirOut21	SPS	IPSLogic Virtual Output 21	O	
IPSVirOut22	SPS	IPSLogic Virtual Output 22	O	
IPSVirOut23	SPS	IPSLogic Virtual Output 23	O	
IPSVirOut24	SPS	IPSLogic Virtual Output 24	O	
IPSVirOut25	SPS	IPSLogic Virtual Output 25	O	

3.1.6 Logical Nodes for Common Logical Node: L Group (Cont.)

Common Logic Node (LLN0 Class) LNode Type ID = "LLNO 7679 1"				
LLN0 Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
IPSVirOut26	SPS	IPSLogic Virtual Output 26	O	
IPSVirOut27	SPS	IPSLogic Virtual Output 27	O	
IPSVirOut28	SPS	IPSLogic Virtual Output 28	O	
IPSVirOut29	SPS	IPSLogic Virtual Output 29	O	
IPSVirOut30	SPS	IPSLogic Virtual Output 30	O	
IPSVirOut31	SPS	IPSLogic Virtual Output 31	O	
IPSVirOut32	SPS	IPSLogic Virtual Output 32	O	
CIPSVirOut1	SPS	Common IPSLogic Virtual Output 1	O	
CIPSVirOut2	SPS	Common IPSLogic Virtual Output 2	O	
CIPSVirOut3	SPS	Common IPSLogic Virtual Output 3	O	
CIPSVirOut4	SPS	Common IPSLogic Virtual Output 4	O	
CIPSVirOut5	SPS	Common IPSLogic Virtual Output 5	O	
CIPSVirOut6	SPS	Common IPSLogic Virtual Output 6	O	
CIPSVirOut7	SPS	Common IPSLogic Virtual Output 7	O	
CIPSVirOut8	SPS	Common IPSLogic Virtual Output 8	O	
CIPSVirOut9	SPS	Common IPSLogic Virtual Output 9	O	
CIPSVirOut10	SPS	Common IPSLogic Virtual Output 10	O	
CIPSVirOut11	SPS	Common IPSLogic Virtual Output 11	O	
CIPSVirOut12	SPS	Common IPSLogic Virtual Output 12	O	
CIPSVirOut13	SPS	Common IPSLogic Virtual Output 13	O	
CIPSVirOut14	SPS	Common IPSLogic Virtual Output 14	O	
CIPSVirOut15	SPS	Common IPSLogic Virtual Output 15	O	
CIPSVirOut16	SPS	Common IPSLogic Virtual Output 16	O	
CIPSVirOut17	SPS	Common IPSLogic Virtual Output 17	O	
CIPSVirOut18	SPS	Common IPSLogic Virtual Output 18	O	
CIPSVirOut19	SPS	Common IPSLogic Virtual Output 19	O	
CIPSVirOut20	SPS	Common IPSLogic Virtual Output 20	O	
CIPSVirOut21	SPS	Common IPSLogic Virtual Output 21	O	
CIPSVirOut22	SPS	Common IPSLogic Virtual Output 22	O	
CIPSVirOut23	SPS	Common IPSLogic Virtual Output 23	O	
CIPSVirOut24	SPS	Common IPSLogic Virtual Output 24	O	
CIPSVirOut25	SPS	Common IPSLogic Virtual Output 25	O	
CIPSVirOut26	SPS	Common IPSLogic Virtual Output 26	O	
CIPSVirOut27	SPS	Common IPSLogic Virtual Output 27	O	

3.1.6 Logical Nodes for Common Logical Node: L Group (Cont.)

Common Logic Node (LLN0 Class) LNode Type ID = "LLNO 7679 1"				
LLN0 Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
CIPSVirOut28	SPS	Common IPSLogic Virtual Output 28	O	
CIPSVirOut29	SPS	Common IPSLogic Virtual Output 29	O	
CIPSVirOut30	SPS	Common IPSLogic Virtual Output 30	O	
CIPSVirOut31	SPS	Common IPSLogic Virtual Output 31	O	
CIPSVirOut32	SPS	Common IPSLogic Virtual Output 32	O	
TrpFail3Ph	SPS	Trip Failure 3 Phase	O	
TrpFailPhA	SPS	Trip Failure Phase A	O	
TrpFailPhB	SPS	Trip Failure Phase B	O	
TrpFailPhC	SPS	Trip Failure Phase C	O	
ClsFail3Ph	SPS	Close Failure 3 Phase	O	
ClsFailPhA	SPS	Close Failure Phase A	O	
ClsFailPhB	SPS	Close Failure Phase B	O	
ClsFailPhC	SPS	Close Failure Phase C	O	
RecBlk3Ph	SPS	Reclose Block 3 Phase	O	
RecBlkPhA	SPS	Reclose Block Phase A	O	
RecBlkPhB	SPS	Reclose Block Phase B	O	
RecBlkPhC	SPS	Reclose Block Phase C	O	
UnBalCrvSel1	INC	Unbalanced Curve Selection 1	O	
UnBalCrvSel2	INC	Unbalanced Curve Selection 2	O	
Settings				
IPSInp1	SPG	IPS logic inputs 1	E	
IPSInp2	SPG	IPS logic inputs 2	E	
IPSInp3	SPG	IPS logic inputs 3	E	
IPSInp4	SPG	IPS logic inputs 4	E	
IPSInp5	SPG	IPS logic inputs 5	E	
IPSInp6	SPG	IPS logic inputs 6	E	
IPSInp7	SPG	IPS logic inputs 7	E	
IPSInp8	SPG	IPS logic inputs 8	E	
IPSInp9	SPG	IPS logic inputs 9	E	
IPSInp10	SPG	IPS logic inputs 10	E	
IPSInp11	SPG	IPS logic inputs 11	E	
IPSInp12	SPG	IPS logic inputs 12	E	
IPSInp13	SPG	IPS logic inputs 13	E	
IPSInp14	SPG	IPS logic inputs 14	E	

3.1.6 Logical Nodes for Common Logical Node: L Group (Cont.)

Common Logic Node (LLN0 Class) LNode Type ID = “LLNO 7679 1”				
LLN0 Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
IPSInp15	SPG	IPS logic inputs 15	E	
IPSInp16	SPG	IPS logic inputs 16	E	
IPSInp17	SPG	IPS logic inputs 17	E	
IPSInp18	SPG	IPS logic inputs 18	E	
IPSInp19	SPG	IPS logic inputs 19	E	
IPSInp20	SPG	IPS logic inputs 20	E	
IPSInp21	SPG	IPS logic inputs 21	E	
IPSInp22	SPG	IPS logic inputs 22	E	
IPSInp23	SPG	IPS logic inputs 23	E	
IPSInp24	SPG	IPS logic inputs 24	E	
IPSInp25	SPG	IPS logic inputs 25	E	
IPSInp26	SPG	IPS logic inputs 26	E	
IPSInp27	SPG	IPS logic inputs 27	E	
IPSInp28	SPG	IPS logic inputs 28	E	
IPSInp29	SPG	IPS logic inputs 29	E	
IPSInp30	SPG	IPS logic inputs 30	E	
IPSInp31	SPG	IPS logic inputs 31	E	
IPSInp32	SPG	IPS logic inputs 32	E	
IPSInp33	SPG	IPS logic inputs 33	E	
IPSInp34	SPG	IPS logic inputs 34	E	
IPSInp35	SPG	IPS logic inputs 35	E	
IPSInp36	SPG	IPS logic inputs 36	E	
IPSInp37	SPG	IPS logic inputs 37	E	
IPSInp38	SPG	IPS logic inputs 38	E	
IPSInp39	SPG	IPS logic inputs 39	E	
IPSInp40	SPG	IPS logic inputs 40	E	
IPSInp41	SPG	IPS logic inputs 41	E	
IPSInp42	SPG	IPS logic inputs 42	E	
IPSInp43	SPG	IPS logic inputs 43	E	
IPSInp44	SPG	IPS logic inputs 44	E	
IPSInp45	SPG	IPS logic inputs 45	E	
IPSInp46	SPG	IPS logic inputs 46	E	
IPSInp47	SPG	IPS logic inputs 47	E	
IPSInp48	SPG	IPS logic inputs 48	E	

3.1.6 Logical Nodes for Common Logical Node: L Group (Cont.)

Common Logic Node (LLN0 Class) LNode Type ID = “LLNO 7679 1”				
LLN0 Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
IPSInp49	SPG	IPS logic inputs 49	E	
IPSInp50	SPG	IPS logic inputs 50	E	
IPSInp51	SPG	IPS logic inputs 51	E	
IPSInp52	SPG	IPS logic inputs 52	E	
IPSInp53	SPG	IPS logic inputs 53	E	
IPSInp54	SPG	IPS logic inputs 54	E	
IPSInp55	SPG	IPS logic inputs 55	E	
IPSInp56	SPG	IPS logic inputs 56	E	
IPSInp57	SPG	IPS logic inputs 57	E	
IPSInp58	SPG	IPS logic inputs 58	E	
IPSInp59	SPG	IPS logic inputs 59	E	
IPSInp60	SPG	IPS logic inputs 60	E	
IPSInp61	SPG	IPS logic inputs 61	E	
IPSInp62	SPG	IPS logic inputs 62	E	
IPSInp63	SPG	IPS logic inputs 63	E	
IPSInp64	SPG	IPS logic inputs 64	E	
GoOfsByt1	ING		E	
GoOfsByt2	ING		E	
GoOfsByt4	ING		E	

3.1.6 Logical Nodes for Common Logical Node: L Group (Cont.)

Common Logic Node (LLN0 Class) LNode Type ID = “LLNO 7679_3”				
LLN0 Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
LLN0	Object name	Common Logic Node		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	INS	Behavior	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
FltTyp1STT	ENS	Fault Type 1stT	M	

3.1.6 Logical Nodes for Common Logical Node: L Group (Cont.)

Common Logic Node (LLN0 Class) LNode Type ID = “LLNO 7679_4”				
LLN0 Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
LLN0	Object name	Common Logic Node		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	INS	Behavior	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Loc	SPS	Lock	O	
ACPwrFail	SPS	Ac Power Failure	O	
CtlCabDscon	SPS	Control Cable Disconnection	O	
CtlCabDsconA	SPS	Control Cable Disconnection A	O	
CtlCabDsconB	SPS	Control Cable Disconnection B	O	
CtlCabDsconC	SPS	Control Cable Disconnection C	O	
CtlStOk	SPS	Control Status Ok	O	
ELLosPort2	SPS	Ethernet Loss Port 2	O	
ELLosPort3	SPS	Ethernet Loss Port 3	O	
LEDR1St	SPS	LED Red 1 Status	O	
LEDR2St	SPS	LED Red 2 Status	O	
LEDR3St	SPS	LED Red 3 Status	O	
LEDR4St	SPS	LED Red 4 Status	O	
LEDR5St	SPS	LED Red 5 Status	O	
LEDR6St	SPS	LED Red 6 Status	O	
LEDR7St	SPS	LED Red 7 Status	O	
LEDR8St	SPS	LED Red 8 Status	O	
LEDR9St	SPS	LED Red 9 Status	O	
LEDR10St	SPS	LED Red 10 Status	O	
LEDR11St	SPS	LED Red 11 Status	O	
LEDR12St	SPS	LED Red 12 Status	O	
LEDR13St	SPS	LED Red 13 Status	O	
LEDR14St	SPS	LED Red 14 Status	O	
LEDR15St	SPS	LED Red 15 Status	O	
LEDR16St	SPS	LED Red 16 Status	O	
LEDR17St	SPS	LED Red 17 Status	O	

3.1.6 Logical Nodes for Common Logical Node: L Group (Cont.)

Common Logic Node (LLN0 Class) LNode Type ID = “LLNO 7679_4”				
LLN0 Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
LEDR18St	SPS	LED Red 18 Status	O	
LEDR19St	SPS	LED Red 19 Status	O	
LEDR20St	SPS	LED Red 20 Status	O	
LEDR21St	SPS	LED Red 21 Status	O	
LEDR22St	SPS	LED Red 22 Status	O	
LEDR23St	SPS	LED Red 23 Status	O	
LEDGrn1St	SPS	LED Green 1 Status	O	
LEDGrn2St	SPS	LED Green 2 Status	O	
LEDGrn3St	SPS	LED Green 3 Status	O	
LEDGrn4St	SPS	LED Green 4 Status	O	
LEDGrn5St	SPS	LED Green 5 Status	O	
LEDGrn6St	SPS	LED Green 6 Status	O	
LEDGrn7St	SPS	LED Green 7 Status	O	
LEDGrn8St	SPS	LED Green 8 Status	O	
LEDGrn9St	SPS	LED Green 9 Status	O	
LEDGrn10St	SPS	LED Green 10 Status	O	
LEDGrn11St	SPS	LED Green 11 Status	O	
LEDGrn12St	SPS	LED Green 12 Status	O	
LEDGrn13St	SPS	LED Green 13 Status	O	
LEDGrn14St	SPS	LED Green 14 Status	O	
LEDGrn15St	SPS	LED Green 15 Status	O	
LEDGrn16St	SPS	LED Green 16 Status	O	
LEDGrn17St	SPS	LED Green 17 Status	O	
LEDGrn18St	SPS	LED Green 18 Status	O	
LEDGrn19St	SPS	LED Green 19 Status	O	
LEDGrn20St	SPS	LED Green 20 Status	O	
LEDGrn21St	SPS	LED Green 21 Status	O	
LEDGrn22St	SPS	LED Green 22 Status	O	
LEDGrn23St	SPS	LED Green 23 Status	O	
LEDAmb1St	SPS	LED Amber 1 Status	O	
LEDAmb2St	SPS	LED Amber 2 Status	O	
LEDAmb3St	SPS	LED Amber 3 Status	O	
LEDAmb4St	SPS	LED Amber 4 Status	O	
LEDAmb5St	SPS	LED Amber 5 Status	O	

3.1.6 Logical Nodes for Common Logical Node: L Group (Cont.)

Common Logic Node (LLN0 Class) LNode Type ID = “LLNO 7679_4”				
LLN0 Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
LEDAmb6St	SPS	LED Amber 6 Status	O	
LEDAmb7St	SPS	LED Amber 7 Status	O	
LEDAmb8St	SPS	LED Amber 8 Status	O	
LEDAmb9St	SPS	LED Amber 9 Status	O	
LEDAmb10St	SPS	LED Amber 10 Status	O	
LEDAmb11St	SPS	LED Amber 11 Status	O	
LEDAmb12St	SPS	LED Amber 12 Status	O	
LEDAmb13St	SPS	LED Amber 13 Status	O	
LEDAmb14St	SPS	LED Amber 14 Status	O	
LEDAmb15St	SPS	LED Amber 15 Status	O	
LEDAmb16St	SPS	LED Amber 16 Status	O	
LEDAmb17St	SPS	LED Amber 17 Status	O	
LEDAmb18St	SPS	LED Amber 18 Status	O	
LEDAmb19St	SPS	LED Amber 19 Status	O	
LEDAmb20St	SPS	LED Amber 20 Status	O	
LEDAmb21St	SPS	LED Amber 21 Status	O	
LEDAmb22St	SPS	LED Amber 22 Status	O	
LEDAmb23St	SPS	LED Amber 23 Status	O	

3.1.7 Logical Nodes for Metering & Measurement: M Group (Cont.)

Measurement (MMXU)				
MMXU Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
MMXU	Object name	Measurement		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
NamPlt	LPL	Name plate	M	
EEHealth	INS	Health	O	
Measured Values				
TotW	MV	Total Active Power (Total P)	O	
TotVAr	MV	Total Reactive Power (Total Q)	O	
TotVA	MV	Total Apparent Power (Total S)	O	
TotPF	MV	Average Power factor (Total PF)	O	
Hz	MV	Frequency	O	
HzZ	MV	Frequency on Z Side	O	
HzRate	MV	Rate of Change of Frequency	O	
HzRateZ	MV	Rate of Change of Frequency on Z Side	O	
PhV	WYE	Phase to ground voltages (VL1ER, …)	O	
PhVZ	WYE	Phase to ground voltages (VL1ER, …) Z Side	O	
A	WYE	Phase currents (IL1, IL2, IL3)	O	
W	WYE	Real Power(Phase A, B, C)	O	
VAr	WYE	Reactive Power (Phase A, B, C)	O	
VA	WYE	Apparent Power (Phase A, B, C)	O	
PF	WYE	Power Factor (Phase A, B, C)	O	
PriPhV	WYE	Primary Phase to ground voltages (VL1ER, …)	O	
PriPhVZ	WYE	Primary Phase to ground voltages (VL1ER, …) Z Side	O	
PriA	WYE	Primary Phase currents (IL1, IL2, IL3)	O	
PriW	WYE	Primary Real Power(Phase A, B, C)	O	
PriVAr	WYE	Primary Reactive Power (Phase A, B, C)	O	
PriVA	WYE	Primary Apparent Power (Phase A, B, C)	O	
PriTotW	MV	Primary Total Active Power (Total P)	O	
PriTotVAr	MV	Primary Total Reactive Power (Total Q)	O	
PriTotVA	MV	Primary Total Apparent Power (Total S)	O	
PriPPVy	DEL	Primary Phase to Phase Voltage (Y)	O	

3.1.7 Logical Nodes for Metering & Measurement: M Group (Cont.)

Measurement (MMXU)				
MMXU Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PriPPVz	DEL	Primary Phase to Phase Voltage (Z)	O	
Z1Real	MV	Positive Sequence Impedance Real	O	
Z1React	MV	Positive Sequence Impedance Reactive	O	
PressMeter	MV	Pressure Metering	O	
BMACCUMPhA	MV	Breaker Accumulator Status Phase A	O	
BMACCUMPhB	MV	Breaker Accumulator Status Phase B	O	
BMACCUMPhC	MV	Breaker Accumulator Status Phase C	O	
SectCntPhA	MV	Sectionalizer Counter Phase A	O	
SectCntPhB	MV	Sectionalizer Counter Phase B	O	
SectCntPhC	MV	Sectionalizer Counter Phase C	O	
SectRsTmrPhA	MV	Sectionalizer Reset Timer Phase A	O	
SectRsTmrPhB	MV	Sectionalizer Reset Timer Phase B	O	
SectRsTmrPhC	MV	Sectionalizer Reset Timer Phase C	O	
SectRstTmPhA	MV	Sectionalizer Restraint Timer Phase A	O	
SectRstTmPhB	MV	Sectionalizer Restraint Timer Phase B	O	
SectRstTmPhC	MV	Sectionalizer Restraint Timer Phase C	O	
SectRstTm3I0	MV	Sectionalizer Restraint Timer 3IO	O	
SectInitPhA	MV	Sectionalizer Reset Init Timer Phase A	O	
SectInitPhB	MV	Sectionalizer Reset Init Timer Phase B	O	
SectInitPhC	MV	Sectionalizer Reset Init Timer Phase C	O	
FltPriPhATr1	MV	Fault Primary Phase A 1stT	O	
FltPriPhBTr1	MV	Fault Primary Phase B 1stT	O	
FltPriPhCTr1	MV	Fault Primary Phase C 1stT	O	
FltPriGndTr1	MV	Fault Primary Ground 1stT	O	
FltPriNTr1	MV	Fault Primary Neutral 1stT	O	
FltSecPhATr1	MV	Fault Secondary Phase A 1stT	O	
FltSecPhBTr1	MV	Fault Secondary Phase B 1stT	O	
FltSecPhCTr1	MV	Fault Secondary Phase C 1stT	O	
FltSecGndTr1	MV	Fault Secondary Ground 1stT	O	
FltSecNTr1	MV	Fault Secondary Neutral 1stT	O	
FltSecCurPhA	MV	Fault Secondary Current Phase A	O	
FltSecCurPhB	MV	Fault Secondary Current Phase B	O	
FltSecCurPhC	MV	Fault Secondary Current Phase C	O	
FltSecCurGnd	MV	Fault Secondary Current Ground	O	

3.1.7 Logical Nodes for Metering & Measurement: M Group

Measurement (MMXU)				
MMXU Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
FltSecCurN	MV	Fault Secondary Current Neutral	O	
FltPriCurPhA	MV	Fault Primary Current Phase A	O	
FltPriCurPhB	MV	Fault Primary Current Phase B	O	
FltPriCurPhC	MV	Fault Primary Current Phase C	O	
FltPriCurGnd	MV	Fault Primary Current Ground	O	
FltPriCurMax	MV	Fault Maximum Primary Current	O	
DelGndAFund	MV	HIF Delta Ig Fundamental	O	
DelGndATHar	MV	HIF Delta Ig Harmonics	O	
GndACur	MV	HIF Harmonics Ig1 Real	O	
GndATHar	MV	HIF Harmonics Ig2 Real	O	

Harmonics and Interharmonics (MHAI Class)				
MHAI Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
MHAI	Object name	Harmonics and Interharmonics		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
NamPlt	LPL	Name plate	M	
Health	ENS	Health	O	
Measured Values				
HA	HWYE	Sequence of harmonics or Interharmonics current (Phase A, Phase B, Phase C)	O	
HPhV	HWYE	Sequence of harmonics or Interharmonics Phase to ground Voltage (Phase A, Phase B, Phase C)	O	
ThdA	WYE	Current total harmonic or Interharmonics Distortion (Phase A, Phase B, Phase C)	O	
ThdPhV	WYE	Voltage total harmonic or Interharmonics Distortion (different methods) for phase to ground (Phase A, Phase B, Phase C)	O	
TddA	WYE	Current total demand Distortion (Phase A, Phase B, Phase C)	O	
IgAng1	MV	HIF Angle Ig 1	O	
IgAng2	MV	HIF Angle Ig 2	O	

3.1.7 Logical Nodes for Metering & Measurement: M Group (Cont.)

Metering (MMTR Class)				
MMTR Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
MMTR	Object name	Metering		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	Status-only
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Measured Values				
SupWhPhALd	BCR	Leading Watt Hours Phase A	O	
SupWhPhALg	BCR	Lagging Watt Hours Phase A	O	
SupWhPhBLd	BCR	Leading Watt Hours Phase B	O	
SupWhPhBLg	BCR	Lagging Watt Hours Phase B	O	
SupWhPhCLd	BCR	Leading Watt Hours Phase C	O	
SupWhPhCLg	BCR	Lagging Watt Hours Phase C	O	
SupVArhPhALd	BCR	Leading VAr Hours Phase A	O	
SupVArhPhALg	BCR	Lagging VAr Hours Phase A	O	
SupVArhPhBLd	BCR	Leading VAr Hours Phase B	O	
SupVArhPhBLg	BCR	Lagging VAr Hours Phase B	O	
SupVArhPhCLd	BCR	Leading VAr Hours Phase C	O	
SupVArhPhCLg	BCR	Lagging VAr Hours Phase C	O	

3.1.7 Logical Nodes for Metering & Measurement: M Group (Cont.)

Sequence Metering (MSQI Class)				
MMTR Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
MSQI	Object name	Sequence Metering		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	Status-only
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Metering Values				
SeqA	SEQ	Positive Sequence Current	O	
SeqV	SEQ	Positive Sequence Voltage	O	
SeqVZ	SEQ	Positive Sequence Voltage Z side	O	
PriSeqA	SEQ	Primary Positive Sequence Current	O	
PriSeqV	SEQ	Primary Positive Sequence Voltage	O	
PriSeqVZ	SEQ	Primary Positive Sequence Voltage Z side	O	
I2I1Seq	MV	I2/I1 Sequence Component	O	
PriI2I1Seq	MV	Primary I2/I1 Sequence Component	O	
Seq3I0	MV	Sequence Component 3I0	O	
PriSeq3I0	MV	Primary Sequence Component 3I0	O	

3.1.8 Logical Nodes for Undervoltage, Overvoltage, Power & Overcurrent Node: P Group

Undervoltage (PTUV Class) (PTUV_1 for F27) Instance = 1, 2, 3 & 4				
PTUV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTUV	Object name	Undervoltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	INS	Behavior	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	O	
Op	ACT	Operate	O	
StrPhB	ACD	Start phase B	O	
OpPhB	ACT	Operate phase B	O	
StrPhC	ACD	Start phase C	O	
OpPhC	ACT	Operate phase C	O	

Undervoltage (PTUV Class) (PTUV_0 for F27A, F27B, F27C) Instance = 1, 2, 3 & 4				
PTUV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTUV	Object name	Under voltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	INS	Behavior	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	start	O	
Op	ACT	operate	O	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Undervoltage (PTUV Class) (PTUV_1 for F27T) Instance = 5, 6, 7 & 8				
PTUV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTUV	Object name	Under voltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	INS	Behavior	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	start	M	
Op	ACT	operate	M	

Phase to Phase Undervoltage F27PP (PTUV Class) (PTUV1_1 for F27PP) Instance = 1				
PTUV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTUV	Object name	Under voltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	INS	Behavior	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	M	
Op	ACT	Operate	M	
StrPhB	ACD	Start phase B	E	
OpPhB	ACT	Operate phase B	E	
StrPhC	ACD	Start phase C	E	
OpPhC	ACT	Operate phase C	E	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Phase to Phase Undervoltage F27PP (PTUV Class) (PTUV1_0 for F27PPA, F27PPB, F27PPC, F27VZ) Instance = 1				
PTUV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTUV	Object name	Under voltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	INS	Behavior	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	start	M	
Op	ACT	operate	M	

Phase to Phase Overvoltage F59PP (PTUV Class) (PTUV1_1 for F59PP) Instance = 1				
PTUV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTUV	Object name	Over voltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	INS	Behavior	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	M	
Op	ACT	Operate	M	
StrPhB	ACD	Start Phase B	E	
OpPhB	ACT	Operate Phase B	E	
StrPhC	ACD	Start Phase C	E	
OpPhC	ACT	Operate Phase C	E	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Phase to Phase Overvoltage F59PP (PTUV Class) (PTUV1_0 for F59PPA, F59PPB, F59PPC) Instance = 1				
PTUV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTUV	Object name	Over voltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	INS	Behavior	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	M	
Op	ACT	Operate	O	

Directional Overpower (PDOP Class) (PDOP_0 for F32) Instance = 1, 2, 3 & 4				
PDOP Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PDOP	Object name	Directional Power		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	start	M	
Op	ACT	operate	M	
StrPhB	ACD	Start phase B	E	
OpPhB	ACT	Operate phase B	E	
StrPhC	ACD	Start phase C	E	
OpPhC	ACT	Operate phase c	E	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Directional Overpower (PDOP Class) (PDOP_0 for F32A, F32B & F32C) Instance = 1, 2, 3 & 4				
PDOP Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PDOP	Object name	Directional Power		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	start	M	
Op	ACT	operate	M	
StrPhB	ACD	Start phase B	E	
OpPhB	ACT	Operate phase B	E	
StrPhC	ACD	Start phase C	E	
OpPhC	ACT	Operate phase c	E	

Overcurrent (PTOC Class) (PTOC_0 for F46DT) Instance = 1, 2, 3, 4 & 5				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	Over current		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Overcurrent (PTOC1_0 for F51GS) Instance = 1, 2, 3, 4 & 5				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	Over current		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	

Overcurrent (PTOC1_0 for F51G) Instance = 1, 2, 3, 4 & 5				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	Over current		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Time Overcurrent (PTOC2_1 for F51P) Instance = 1, 2, 3, 4 & 5				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	Over current		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	
StrPhB	ACD	Start Phase B	E	
OpPhB	ACT	Operate Phase B	E	
StrPhC	ACD	Start Phase C	E	
OpPhC	ACT	Operate Phase C	E	

Time Overcurrent (PTOC2_0 for F51PA, F51PB, F51PC) Instance = 1, 2, 3, 4 & 5				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	Over current		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Overcurrent (PTOC3_0 for F67GS & F67G) Instance = 1, 2, 3, 4 & 5				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	Over current		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	

Overcurrent (PTOC3_0 for F67N, F67Q) Instance = 1, 2, 3, 4 & 5				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	Over current		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Overcurrent (PTOC3_1 for F67P) Instance = 1, 2, 3, 4 & 5				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	Over current		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	
StrPhB	ACD	Start phase B	E	
OpPhB	ACT	Operate phase B	E	
StrPhC	ACD	Start phase C	E	
OpPhC	ACT	Operate phase c	E	

Overcurrent (PTOC3_0 for F67PA, F67PB, F67PC) Instance = 1, 2, 3, 4 & 5				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	Over current		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Time Overcurrent (PTOC1_0 for F51N) Instance = 1, 2, 3, 4 & 5				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	Over current		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	

Total Harmonic/Total Demand Distortion (THDTDD_1 for THD) Instance = 1, 2 LN: THD/TDD				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	TotalHarmonic/TotalDemandDistortion		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	
StrPhB	ACD	Start Phase B	E	
OpPhB	ACT	Operate Phase B	E	
StrPhC	ACD	Start Phase C	E	
OpPhC	ACT	Operate Phase C	E	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Total Harmonic/Total Demand Distortion (THDTDD_0 for THDA, THDB & THDC) Instance = 1, 2 LN: THD/TDD				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	TotalHarmonic/TotalDemandDistortion		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	

Overcurrent (PTOCClass) (PTOC1_0 for F46IT) Instance = 1, 2, 3, 4 & 5				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	Over current		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	M	
Op	ACT	Operate	M	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Overvoltage (PTOV Class) (PTOV1_0 for F47) Instance = 1				
PTOV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOV	Object name	Over voltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	INS	Behavior	M	
Health	INS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	M	
Op	ACT	Operate	M	

Overvoltage (PTOV Class) (PTOV1_1 for F59) Instance = 1, 2, 3 & 4				
PTOV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOV	Object name	Over voltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	O	
StrPhB	ACD	Start Phase B	E	
OpPhB	ACT	Operate Phase B	E	
StrPhC	ACD	Start Phase C	E	
OpPhC	ACT	Operate Phase C	E	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Overvoltage (PTOV Class) (PTOV_0 for F59A, F59B, F59C) Instance = 1, 2, 3 & 4				
PTOV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOV	Object name	Over voltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	O	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Overvoltage (PTOV Class) (PTOV1_0 for F59N) Instance = 1 & 2				
PTOV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOV	Object name	Over voltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	O	

Overvoltage (PTOV Class) (PTOV_0 for F59VZ) Instance = 1				
PTOV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOV	Object name	Over voltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	O	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Overvoltage (PTOV Class) (PTOV_1 for F59I) Instance = 1				
PTOV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOV	Object name	Over voltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	O	
StrPhB	ACD	Start Phase B	E	
OpPhB	ACT	Operate Phase B	E	
StrPhC	ACD	Start Phase C	E	
OpPhC	ACT	Operate Phase C	E	

Overvoltage (PTOV Class) (PTOV_0 for F59IA, F59IB, F59IC) Instance = 1				
PTOV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOV	Object name	Over voltage		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	O	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Fuse Loss Detection (PTOV/PFLD Class) (PFLD_0 for F60FL) Instance = 1				
PTOV Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PFLD	Object name	Fuse Loss Detection		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	O	

Overcurrent (PIOC Class) (PIOC1_0, PIOC_0 for F50GS, F50N) Instance = 1, 2, 3, 4 & 5				
PIOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PIOC	Object name	Overcurrent		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	M	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Overcurrent (PIOC Class) (PIOC1_1 for F50P) Instance = 1, 2, 3, 4 & 5				
PIOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PIOC	Object name	Overcurrent		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	M	
StrPhB	ACD	Start phase B	E	
OpPhB	ACT	Operate phase B	E	
StrPhC	ACD	Start phase C	E	
OpPhC	ACT	Operate phase C	E	

Overcurrent (PIOC Class) (PIOC_0 for F50G) Instance = 1, 2, 3, 4 & 5				
PIOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PIOC	Object name	Overcurrent		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	M	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Hot Line Tag PIOC (HLTPIOC_0 for HT50G) Instance = 1				
PHLT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PHLT	Object name	Hot Line Tag		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	O	
Op	ACT	Operate	M	
HCLStPhABC	SPS	High Current Lockout Status Phase ABC	E	
HCLStPhA	SPS	High Current Lockout Status Phase A	E	
HCLStPhB	SPS	High Current Lockout Status Phase B	E	
HCLStPhC	SPS	High Current Lockout Status Phase C	E	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Hot Line Tag PTOC (HLTPTOC_0 for HT51G) Instance = 1				
PHLT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PHLT	Object name	Hot Line Tag		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	O	
Op	ACT	Operate	M	
Settings				
HCLStPhABC	SPS	High Current Lockout Status Phase ABC	E	
HCLStPhA	SPS	High Current Lockout Status Phase A	E	
HCLStPhB	SPS	High Current Lockout Status Phase B	E	
HCLStPhC	SPS	High Current Lockout Status Phase C	E	

Cold Load Pickup PTOC (CLPPTOC_0 for CP51G) Instance = 1				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PCLP	Object name	Cold Load Pickup		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Str	ACD	Start	O	
Op	ACT	Operate	M	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Cold Load Pickup PIOC (CLPPIOC_0 for CP50G) Instance = 1				
PIOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PIOC	Object name	Cold Load Pickup		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	

HLTPIOC (HLTPIOC_0 for HT50N) Inclass: PIOC				
PIOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PHLT	Object name	Hot Line Tag		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	O	
Op	ACT	Operate	M	
Settings				
HCLStPhABC	SPS	High Current Lockout Status Phase ABC	E	
HCLStPhA	SPS	High Current Lockout Status Phase A	E	
HCLStPhB	SPS	High Current Lockout Status Phase B	E	
HCLStPhC	SPS	High Current Lockout Status Phase C	E	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

HLTPIOC (HLTPIOC_0 for HT50GS) Inclass: PHLT				
PHLT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PHLT	Object name	Hot Line Tag		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	O	
Op	ACT	Operate	M	
Settings				
HCLStPhABC	SPS	High Current Lockout Status Phase ABC	E	
HCLStPhA	SPS	High Current Lockout Status Phase A	E	
HCLStPhB	SPS	High Current Lockout Status Phase B	E	
HCLStPhC	SPS	High Current Lockout Status Phase C	E	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

HLTPTOC (HLTPTOC_1 for HT51GS) Inclass: PHLT				
PHLT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PHLT	Object name	Hot Line Tag		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	O	
Op	ACT	Operate	M	
StrPhB	ACD	Start phase B	E	
OpPhB	ACT	Operate phase B	E	
StrPhC	ACD	Start phase C	E	
OpPhC	ACT	Operate phase C	E	
Settings				
HCLStPhABC	SPS	High Current Lockout Status Phase ABC	E	
HCLStPhA	SPS	High Current Lockout Status Phase A	E	
HCLStPhB	SPS	High Current Lockout Status Phase B	E	
HCLStPhC	SPS	High Current Lockout Status Phase C	E	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

HLTPIOC (HLTPIOC_1 for HT50P) Inclass: PHLT Instance = 1				
PHLT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PHLT	Object name	Hot Line Tag		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	O	
Op	ACT	Operate	M	
StrPhB	ACD	Start phase B	E	
OpPhB	ACT	Operate phase B	E	
StrPhC	ACD	Start phase C	E	
OpPhC	ACT	Operate phase C	E	
Settings				
HCLStPhABC	SPS	High Current Lockout Status Phase ABC	E	
HCLStPhA	SPS	High Current Lockout Status Phase A	E	
HCLStPhB	SPS	High Current Lockout Status Phase B	E	
HCLStPhC	SPS	High Current Lockout Status Phase C	E	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

HLTPTOC (HLTPTOC_1 for HT51P) Inclass: PHLT Instance = 1				
PHLT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PHLT	Object name	Hot Line Tag		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	O	
Op	ACT	Operate	M	
StrPhB	ACD	Start phase B	E	
OpPhB	ACT	Operate phase B	E	
StrPhC	ACD	Start phase C	E	
OpPhC	ACT	Operate phase C	E	
Settings				
HCLStPhABC	SPS	High Current Lockout Status Phase ABC	E	
HCLStPhA	SPS	High Current Lockout Status Phase A	E	
HCLStPhB	SPS	High Current Lockout Status Phase B	E	
HCLStPhC	SPS	High Current Lockout Status Phase C	E	

CLPPIOC (CLPPIOC_1 for HT50P) Inclass: PCLP				
PCLP Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PCLP	Object name	Cold Load Pickup		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

CLPPIOC (CLPPIOC_1 for CP51P) Inclass: PCLP				
PCLP Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PCLP	Object name	Cold Load Pickup		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	

CLPPTOC (LCPPTOC_1 for CP51GS) Inclass: PCLP				
PCLP Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PCLP	Object name	Cold Load Pickup		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	

OverCurrent (PIOC1_0 for F50PA, F50PB, F50C) Inclass: PIOC Instance = 1, 2, 3, 4 & 5				
PIOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PIOC	Object name	OverCurrent		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	M	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Frequency (PTOF_0 for F81) Instance = 1, 2, 3, 4, 5, 6, 7 & 8				
PTOF Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOF	Object name	Frequency		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	

Rate of Change of Frequency (PTOF1_0 for F81R) Instance = 1, 2, 3, 4, 5, 6, 7 & 8				
PTOF Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOF	Object name	Rate of Change of Frequency		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Loss of Field (PDIS Class) Name: PDIS (PDIS_0 for F40) Instance = 1 & 2				
PDIS Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PDIS	Object name	Loss of Field		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	O	

Name: PDIS_1 Inclass PDIS Prefix F40VC Instance = 1 & 2				
PDIS Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PDIS	Object name	Loss of Field		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	O	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Name: PTOC_1 Inclass PTOC Prefix FLCP Instance = 1 & 2				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	Load Current Present		
Common Logical Node Information				
1p6	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	O	

Name: PLOS_1 Inclass PLOS Prefix FLOS Instance = 1 & 2				
PLOS Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PLOS	Object name	Loss of Sensing		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	O	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Name: PTOC_1 Inclass PTOC Prefix FHCA Instance = 1 & 2				
PTOC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	High Current Alarm		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	O	

Name: PTOC_1 Inclass PTOC Prefix F46BC Instance = 1				
PLOS Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PTOC	Object name	Broken Conductor Detection		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	O	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Name: PSDE1 Inclass PSDE Prefix FSGI Instance = 1				
PSDE Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
PSDE	Object name	Sensitive Ground Indicator		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	O	
HCurStrA1	SPS	Harmonics Current Pickup A1	O	
HCurStrB1	SPS	Harmonics Current Pickup B1	O	
HCurStrC1	SPS	Harmonics Current Pickup C1	O	
HCurStrA2	SPS	Harmonics Current Pickup A2	O	
HCurStrB2	SPS	Harmonics Current Pickup B2	O	
HCurStrC2	SPS	Harmonics Current Pickup C2	O	
HCurStrA3	SPS	Harmonics Current Pickup A3	O	
HCurStrB3	SPS	Harmonics Current Pickup B3	O	
HCurStrC3	SPS	Harmonics Current Pickup C3	O	
HCurStrIg1	SPS	Harmonics Current Pickup Ig1	O	
HCurStrIg2	SPS	Harmonics Current Pickup Ig2	O	
HCurStrIgH	SPS	Harmonics Current Pickup Delta Ig H	O	
HCurStrIgF	SPS	Harmonics Current Pickup Delta Ig F	O	
HCurOpA1	SPS	Harmonics Current Operate A1	O	
HCurOpB1	SPS	Harmonics Current Operate B1	O	
HCurOpC1	SPS	Harmonics Current Operate C1	O	
HCurOpA2	SPS	Harmonics Current Operate A2	O	
HCurOpB2	SPS	Harmonics Current Operate B2	O	
HCurOpC2	SPS	Harmonics Current Operate C2	O	
HCurOpA3	SPS	Harmonics Current Operate A3	O	
HCurOpB3	SPS	Harmonics Current Operate B3	O	
HCurOpC3	SPS	Harmonics Current Operate C3	O	
HCurOpIg1	SPS	Harmonics Current Operate Ig1	O	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Name: PSDE1 Inclass PSDE Prefix FSGI Instance = 1				
PSDE Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
HCurOpIg2	SPS	Harmonics Current Operate Ig2	O	
HCurOpIgH	SPS	Harmonics Current Operate Delta Ig H	O	
HCurOpIgF	SPS	Harmonics Current Operate Delta Ig F	O	
HVStrA1	SPS	Harmonics Voltage Pickup A1	O	
HVStrB1	SPS	Harmonics Voltage Pickup B1	O	
HVStrC1	SPS	Harmonics Voltage Pickup C1	O	
HVStrA2	SPS	Harmonics Voltage Pickup A2	O	
HVStrB2	SPS	Harmonics Voltage Pickup B2	O	
HVStrC2	SPS	Harmonics Voltage Pickup C2	O	
HVStrA3	SPS	Harmonics Voltage Pickup A3	O	
HVStrB3	SPS	Harmonics Voltage Pickup B3	O	
HVStrC3	SPS	Harmonics Voltage Pickup C3	O	
HVStrVg1	SPS	Harmonics Voltage Pickup Ig1	O	
HVStrVg2	SPS	Harmonics Voltage Pickup Ig2	O	
HVStrDirIg1	SPS	Harmonics Voltage Pickup Delta Ig 1	O	
HVStrDirIg2	SPS	Harmonics Voltage Pickup Delta Ig 2	O	
HVOpA1	SPS	Harmonics Voltage Operate A1	O	
HVOpB1	SPS	Harmonics Voltage Operate B1	O	
HVOpC1	SPS	Harmonics Voltage Operate C1	O	
HVOpA2	SPS	Harmonics Voltage Operate A2	O	
HVOpB2	SPS	Harmonics Voltage Operate B2	O	
HVOpC2	SPS	Harmonics Voltage Operate C2	O	
HVOpA3	SPS	Harmonics Voltage Operate A3	O	
HVOpB3	SPS	Harmonics Voltage Operate B3	O	
HVOpC3	SPS	Harmonics Voltage Operate C3	O	
HVOpVg1	SPS	Harmonics Voltage Operate Ig1	O	
HVOpVg2	SPS	Harmonics Voltage Operate Ig2	O	
HVOpDirIg1	SPS	Harmonics Voltage Operate Delta Ig 1	O	
HVOpDrIg2	SPS	Harmonics Voltage Operate Delta Ig 2	O	
AndGteEnaSt	SPS	AND Gate Enable Status	O	
BlkInActSt	SPS	Blocking Inputs Active Status	O	
ChgStrSt	SPS	SGI Change Pickup Status	O	

3.1.8 Logical Nodes for Undervoltage Node: P Group (Cont.)

Name: PSDE1 Inclass PSDE Prefix FSGI Instance = 1				
PSDE Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
ChgOpSt	SPS	SGI Change Timeout Status	O	
DelGndAPctHa	SPS	SGI Pickup Delta IG %3rd Harmonic	O	
DelGndAStrst	SPS	SGI Pickup Delta IG Harmonic Status	O	
DelGndAOpSt	SPS	SGI Timeout Delta IG Harmonic Status	O	
F50GSStrSt	SPS	SGI Pickup IG Fundamental Threshold	O	
F50GSOpSt	SPS	SGI Timeout IG Fundamental Threshold	O	
FrzTrgSt	SPS	SGI Frozen Trigger Status	O	
GndATrgStrSt	SPS	SGI IG Trigger Pickup Status	O	
GndATrgOpSt	SPS	SGI IG Trigger Timeout Status	O	
InitStrSt	SPS	SGI Initiate Pickup	O	
InitOpSt	SPS	SGI Initiate Timeout	O	
IPSLRsSt	SPS	SGI IPSLogic Reset Status	O	
IPSLInitSt	SPS	SGI IPSLogic Initiate Status	O	
LatRsTmrExp	SPS	SGI Latch Reset Timer Expired	O	
LatRsTmrStr	SPS	SGI Latch Reset Timer Start	O	
RsCmdSt	SPS	SGI Reset Command Status	O	
RsFrzTmrExp	SPS	SGI Reset Frozen Timer Expired	O	
RsFrzTmrStr	SPS	SGI Reset Frozen Timer Start	O	
RsTmrExpSt	SPS	SGI Reset Timer Expired Status	O	
RsTmrStrSt	SPS	SGI Reset Timer Start Status	O	
SGIEnaSt	SPS	SGI Enabled Status	O	
SGIInitSt	SPS	SGI Initiated Status	O	
SgiTgt	SPS	SGI Target	O	

3.1.9 Logical Nodes for Fault Locator: R Group

Fault Locator Node (RFLO Class)				
RFLO Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
RFLO	Object name	Fault Locator		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	ENS	Name plate	M	
Measured Values				
FltZ	CMV	Fault Impedance	M	
FltDis	MV	Fault Distance in km	M	
Status Information				
FltLoop	ENS	Fault Loop	O	

3.1.9 Logical Nodes for Fault Locator: R Group (Cont.)

Cold Load Pickup (RREC Class) Name: RBRF (RREC1 for CLPR) Instance = 1				
RREC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
RREC	Object name	Cold Load Pickup		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Metering				
OpnToArmTms	MV	Open to Arm Load Timers	O	
OvActTms	MV	Override Active Timers	O	
InitActTms	MV	Initiate Active Timers	O	
BMTPhsTms	MV	BMT Phase Timer	O	
BMTGndTms	MV	BMT Ground Timer	O	
BMTResTms	MV	BMT Residual Timer	O	
MinPhsStr	MV	Phase Minimum trip	O	
MinGndStr	MV	Ground Minimum Trip	O	
MinResStr	MV	Residual Minimum Trip	O	
Status Information				
Op	ACT	Operate	O	
AutoRecSt	ENS	Auto Reclosing Status	O	
CLPBlk	SPS	CLP Block	O	
CLPRs	SPS	CLP Reset	O	
CLPInit	SPS	CLP Initiate	O	
CLPLO79	SPS	CLP 79 Lockout	O	
CLPArmPU	SPS	CLP Armed Pickup	O	
CLPArmTmO	SPS	CLP Armed Timeout	O	
CLPActPU	SPS	CLP Active Pickup	O	
CLPActTmO	SPS	CLP Active Timeout	O	
CLPLoAPhPU	SPS	CLP Load Phase Current Pickup	O	
CLPLoAPhTmO	SPS	CLP Load Phase Current Timeout	O	
CLPLoAGndPU	SPS	CLP Load Ground Current Pickup	O	
CLLoAGndTmO	SPS	CLP Load Ground Current Timeout	O	
CLPOvActPU	SPS	CLP Override Active Pickup	O	

3.1.9 Logical Nodes for Fault Locator: R Group (Cont.)

Cold Load Pickup (RREC Class) Name: RBRF (RREC1 for CLPR) Instance = 1				
RREC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
CLPOvActTmO	SPS	CLP Override Active Timeout	O	
CLPBMTPU	SPS	CLP BMT Pickup	O	
CLPBMTTmO	SPS	CLP BMT Timeout	O	
CLPLoAResPU	SPS	CLP Load Residual Current Pickup	O	
CLPLoAResTmO	SPS	CLP Load Residual Current Timeout	O	
CLPStCmd	INS	CLP Status Command	O	
CLPSt	INS	CLP Status	O	
CLPStDrp	INS	CLP Status Drop	O	
CmdCLPInit	INC	CLP Initiate Command	O	
Settings				
CLPBlkEna	SPG	Block Clod Load Pickup	O	

Cold Load Pickup (RREC Class) Name: RBRF (RREC1 for CLPU) Instance = 1 & 2				
RREC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
RREC	Object name	Cold Load Pickup		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
OpSt	ACT	Timeout	O	
Op	ACT	Operate failure trip	O	
AutRecSt	ENS	Auto Reclosing Status	M	
HCLOEna	INC	HCL Lockout Enable	M	

3.1.9 Logical Nodes for Fault Locator: R Group (Cont.)

Autoreclosing (RREC Class) Name: RREC (RREC_0 for F79, F79A, F79B & F79C) Instance = 1				
RREC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
RREC	Object name	Auto reclosing		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Op	ACT	Operate/Close	M	
AutoRecSt	ENS	Auto Reclosing Status	M	

3.1.9 Logical Nodes for Fault Locator: R Group (Cont.)

Autoreclosing (RREC Class) Name: RREC (RREC_1 for F79U) Instance = 1				
RREC Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
RREC	Object name	Auto reclosing		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	M	
OpSt	ACT	Operate Status	M	
Op	ACT	Operate/Close	M	
AutoRecSt	ENS	Auto Reclosing Status	M	
StrF51	ACD	51 Pickup	M	
OpF51	ACT	51 Operate	M	
StrF50HCT	ACD	50P Pickup	M	
OpF50HCT	ACT	50P Operate	M	
OPF51HCT	ACT	51P Operate	M	
StrF50HCL	ACD	50 HCL Pickup	M	
OpF50HCL	ACT	50 HCL Operate	M	

3.1.9 Logical Nodes for Fault Locator: R Group (Cont.)

Breaker Monitoring (RBRF Class) Name: RBRF (RBRF_1 for FBM) Instance = 1 & 2				
RBRF Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
RBRF	Object name	Breaker Monitoring		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	O	
PctStr	SPS	Percent Pickup	O	
PctChgStr	SPS	Percent Change Pickup	O	
PctStrDrpOut	SPS	Percent Pickup Dropout	O	
PctTmOut	SPS	Percent Timeout	O	
PctTODrpOut	SPS	Percent Timeout Dropout	O	

Sync Check (RSYN Class) Name: RSYN (RSYN_1 for F25S) Instance = 1 & 2				
RSYN Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
RSYN	Object name	Sync check		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Rel	SPS	Pickup Status	M	
RelS	SPS	Timeout Status	M	

3.1.9 Logical Nodes for Fault Locator: R Group (Cont.)

Trip Circuit Monitoring (RSYN Class) (TCCM_0 for TCM) Instance = 1				
RSYN Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
RSYN	Object name	Trip Circuit Monitoring		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Rel	SPS	Pickup Status	M	

Close Circuit Monitoring (RSYN Class) (TCCM1_0 for CCM) Instance = 1				
RSYN Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
RSYN	Object name	Close Circuit Monitoring		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Rel	SPS	Pickup Status	M	

3.1.9 Logical Nodes for Fault Locator: R Group (Cont.)

Breaker Failure (RBRF Class) (RBRF_ 0 for F50BF) Instance = 1				
RBRF Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
RBRF	Object name	Breaker Failure		
Data				
Status Information				
Str	ACD	Start, timer running	O	
OpEx	ACT	Operate failure trip	C	

Breaker Failure (RBRF Class) (RBRF_1 for F50BFU) Instance = 1 & 2				
RBRF Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
RBRF	Object name	Breaker Failure		
Data				
Status Information				
Str	ACD	Start, timer running	O	
OpEx	ACT	Operate failure trip	C	

3.1.10 Logical Nodes for Fault Locator: S Group

Sectionalizer (SECT Class) Name: SECT (SECT_0 for FSCT) Instance = 0				
SECT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
SECT	Object name	Sectionalizer		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	
SectAct	SPS	Sectionalizer Active	E	
SectSCMEna	SPS	Sectionalizer SCM Enable	E	
InitRstStA	SPS	Initiate Restraint Status Ph-A	E	
InitRstStB	SPS	Initiate Restraint Status Ph-B	E	
InitRstStC	SPS	Initiate Restraint Status Ph-C	E	
CurRstStA	SPS	Current Restraint Status Ph-A	E	
CurRstStB	SPS	Current Restraint Status Ph-B	E	
CurRstStC	SPS	Current Restraint Status Ph-C	E	
CurRstNeutSt	SPS	Current Restraint Status Neutral	E	

3.1.10 Logical Nodes for Fault Locator: S Group (Cont.)

Sectionalizer (SECT Class) Name: SECT (SECT_0 for FSCTA, FSCTB, FSCTC) Instance = 1				
SECT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
SECT	Object name	Sectionalizer		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	
SectAct	SPS	Sectionalizer Active	E	
SectSCMEna	SPS	Sectionalizer SCM Enable	E	
InitRstSt	SPS	Initiate Restraint Status	E	
CurRstSt	SPS	Current Restraint Status	E	
CurRstNeutSt	SPS	Current Restraint Status Neutral	E	

3.1.10 Logical Nodes for Fault Locator: S Group (Cont.)

Sectionalizer (SECT Class) Name: SECT (SECT_1 for FSCU) Instance = 1 & 2				
SECT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
SECT	Object name	Sectionalizer		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	M	
Op	ACT	Operate failure trip	M	
StrF27	ACD	Start 27	M	
OpF27	ACT	Operate 27	M	
StrF50	ACD	Start 50	M	
OpF50	ACT	Operate 50	M	
StrF51	ACD	Start 51	M	
OpF51	ACT	Operate 51	M	
StrF59	ACD	Start 59	M	
OpF59	ACT	Operate 59	M	
InitRstSt	SPS	Initiate Restraint Status	M	
CurRstSt	SPS	Current Restraint Status	M	

3.1.11 Logical Nodes for Power Transformer: Z Group

Name: ZPST_0 Inclass ZPST Prefix PST Instance = 1				
ZPST Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
ZPST	Object name	Power Supply Monitor		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	O	

3.1.11 Logical Nodes for Power Transformer: Z Group (Cont.)

Battery Charger (ZBAT Class) Name: ZBAT (ZBAT_0 for BAT) Instance = 1				
ZBAT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
ZBAT	Object name	Battery charger		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Measured Value				
Vol	MV	Battery Voltage	E	
Status Information				
BatChaTstPrg	SPS	Battery Charge Test Program	O	
BatChaModAsb	SPS	Battery Charge Mode Absorption	O	
BatChaCapSt	SPS	Battery Charge Capacitor Status	O	
BatChaModBlk	SPS	Battery Charge Bulk Mode	O	
BatChaModflt	SPS	Battery Charge Float Mode	O	
BatChaOn	SPS	Battery Charge ON	O	
BatChaInDrSt	SPS	Battery Charge Internal Door Status	O	
BatChaExDrSt	SPS	Battery Charge External Door Status	O	
BatChaLoCapV	SPS	Battery Charge Low Capacitor Voltage	O	
BatHiTmpAlm	SPS	Battery High Temperature Voltage	O	
LoBatAlm	SPS	Low Battery Alarm	O	

3.1.11 Logical Nodes for Power Transformer: Z Group (Cont.)

Close Block (CLBK Class) Name: CLBK (CLBK_0 for FCK) Instance = 1				
ZBAT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
CLBK	Object name	Close Block		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	O	
Op	ACT	Operate	O	
StrPhB	ACD	Start phase B	O	
OpPhB	ACT	Operate phase B	O	
StrPhC	ACD	Start phase C	O	
OpPhC	ACT	Operate phase C	O	

Close Block (CLBK Class) Name: CLBK (CLBK_1 for FCKA, FCKB & FCKC) Instance = 1				
ZBAT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
CLBK	Object name	Close Block		
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start	O	
Op	ACT	Operate	O	

3.1.11 Logical Nodes for Power Transformer: Z Group (Cont.)

IPSLogic (IHMI Class) Name: IHMI (IHMI_1 for FIPS) Instance = 1, 2, 3, 4, 5, 6, 7 & 8				
SECT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
IHMI	Object name	IPSLogic		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	O	

Global Logic (IHMI Class) Name: IHMI (IHMI_1 for FCLG) Instance = 1, 2, 3, 4, 5, 6, 7 & 8				
SECT Class				
Attribute Name	**Attribute Type**	**Explanation**	**M/O/C/E**	**Remarks**
IHMI	Object name	Global Logic		
Data				
Common Logical Node Information				
Mod	INC	Mode	M	
Beh	ENS	Behavior	M	
Health	ENS	Health	M	
NamPlt	LPL	Name plate	M	
Status Information				
Str	ACD	Start, timer running	O	
Op	ACT	Operate failure trip	O	

4.0 Common Data Class Extensions

The following common data classes have been extended with extra data. All extra data has been highlighted in the tables and marked as “E” (Extended).

Comments:

- M: Data is mandatory in the IEC-61850-7-3.
- O: Data is optional in the IEC-61850-7-3 and is used in the device.
- E: Data is an extension to the IEC-61850-7-3.

4.1 New Common Data Classes

New common data classes have the cdcNs attribute in the Name plate. This data contains “cdcNs” attribute.

4.1.1 <INC> <Controllable Integer Status>

Defines the common data class controllable integer status.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
Oper	Struct	CO	dchg/dupd	M	
stVal	INT32	ST	dchg/dupd	M	
q	Quality	ST	qchg	M	
t	TimeStamp	ST		M	
ctlModel	CtlModels	CF		M	
d	VISIBLE STRING255	DC		O	
dU	UNICODE STRING255	DC		O	

4.1.2 <SPC> <Controllable Single Point>

Defines the common data class controllable Single Point.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
Oper	Struct	CO	dchg/dupd	M	
stVal	BOOLEAN	ST	dchg/dupd	M	
q	Quality	ST	qchg	M	
t	TimeStamp	ST		M	
ctlModel	Enum	CF		M	
d	VISIBLE STRING255	DC		O	

4.1.3 <DPC> <Controllable Double Point>

Defines the common data class controllable Single Point.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
Oper	Struct	CO		M	
ctlModel	CtlModels	CF		M	
stVal	Enum	ST	dchg	M	
q	Quality	ST	dchg	M	
t	TimeStamp	ST		M	
d	VisString255	DC		O	

4.1.4 <DPL> <Device Name Plate>

Defines the common data class controllable Single Point.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
Vendor	VisString255	DC		M	
swRev	VisString255	DC		O	
serNum	VisString255	DC		O	
Model	VisString255	DC		O	
Location	VisString255	DC		O	
d	VisString255	DC			

4.1.5 <INS> <Integer Status>

Defines the common data class Integer Status.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
stVal	INT32	ST	dchg/dupd	M	
q	Quality	ST	qchg	M	
t	TimeStamp	ST		M	
d	VisString255	DC		O	

4.1.6 <ENS> <Integer Status>

Defines the common data class Integer Status.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
stVal	INT32	ST	dchg/dupd	M	
q	Quality	ST	qchg	M	
t	TimeStamp	ST		M	
d	VisString255	DC		O	

4.1.7 <SPS> <Single Point Status>

Defines the common data class Single Point Status.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
stVal	BOOLEAN	ST	dchg/dupd	M	
q	Quality	ST	qchg	M	
t	TimeStamp	ST		M	
d	VisString255	DC		O	

4.1.8 <SEQ> <Sequence>

Defines the common data class Single Point Status.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
C1	CMV			M	
C2	CMV			M	
C3	CMV			M	
seqT	Enum	MX		M	
d	VisString255	DC		O	

4.1.9 <HWYE> <Harmonic Values for WYE>

Defines the common data class Measured Value.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
q	Quality	MX	qchg	M	
t	TimeStamp	MX		M	
PhsAHar	Struct	MX		M	
PhsBHar	Struct	MX		O	
PhsCHar	Struct	MX		O	
numHar	INT16U	CF		M	
numCyc	INT16U	CF		M	
evalTm	INT16U	CF		M	
units	Unit	CF		O	
frequency	FLOAT32	CF		M	
d	VisString255	DC		O	

4.1.10 <MV> <Measured Value>

Defines the common data class Measured Value.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
mag	Analogue Value	MX	dchg	M	
instMag	Analogue Value	MX		O	
q	Quality	MX	qchg	M	
t	TimeStamp	MX		M	
units	Unit	CF		O	
sVC	ScaledValueConfig	CF		M	
db	INT32U	CF		O	
d	VISIBLE STRING255	DC		O	
rangeC	RangeConfig	CF		O	

4.1.11 <CMV> <Complex Measured Value>

Defines the common data class Measured Value.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
instCVal	Vector	MX		O	
cVal	Vector	MX		M	
q	Quality	MX	dchg	M	
t	TimeStamp	MX		M	
units	Unit	CF		O	
unitsAng	Struct	CF			
magSVC	ScaledValueConfig	CF		M	
db	INT32U	CF		O	
d	VISIBLE STRING255	DC		O	
rangeC	RangeConfig	CF		O	

4.1.12 <DEL> <Phase to Phase Related Measured Values of a Three Phase System>

Defines the common data class Measured Value.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
phsAB	CMV			M	
phsBC	CMV			M	
phsCA	CMV			M	
d	VisString255	DC		O	

4.1.13 <WYE> <Phase to Ground Related Measured Values of a Three Phase System>

Defines the common data class Measured Value.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
phsA	CMV			M	
phsB	CMV			M	
phsC	CMV			M	
neut	CMV			M	
angRef	Enum	CF		O	
rangeC	Struct	CF			
d	VisString255	DC		O	

4.1.14 <ACD> <Directional Protection Activation Information>

Defines the common data class Measured Value.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
General	BOOLEAN	ST	dchg	M	
DirGeneral	Enum	ST	dchng	M	
q	Quality	ST	qchg	M	
t	Timestamp	ST		M	
d	VisString255	DC		O	

4.1.15 <ACT> <Protection Activation Information>

Defines the common data class Measured Value.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
General	BOOLEAN	ST	dchg	M	
q	Quality	ST	qchg	M	
t	Timestamp	ST		M	
d	VisString255	DC		O	

4.1.16 <Curve> <Setting Curve>

Defines the common data class Measured Value.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
Set Charact	Enum	SP,SE		M	
d	VisString255	DC		O	

4.1.17 <LPL> <Logical Node Name Plate>

Defines the common data class logical node name plate.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
vendor	VISIBLE STRING255	DC	M		
swRev	VISIBLE STRING255	DC	M		
configRev	VISIBLE STRING255	DC	M		
ldNs	VISIBLE STRING255	EX	M		
d	VISIBLE STRING255	DC	M		
dU	UNICODE STRING255	DC	O		

4.1.18 <BCR> <Binary Counter Reading>

Defines the common data class Binary Counter Reading.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
actVal	INT128	ST	dchg	M	
q	Quality	ST	dchg	M	
t	TimeStamp	ST		M	
units	Unit	CF		O	
pulsQty	FLOAT32	CF		M	
d	VISIBLESTRING255	DC		O	

4.1.19 <ASG> <Analogue Setting Group>

Defines the common data class Analog Setting Group.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
setMag	AnalogueValue	SP	M		
units	Unit	CF	O		
sVC	ScaledValueConfig	CF	M		
minVal	AnalogueValue	CF	O		
maxVal	AnalogueValue	CF	O		
stepSize	AnalogueValue	CF	O		
d	VISIBLE STRING255	DC	O		

4.1.20 <ING> <Integer Status Setting>

Defines the common data class Integer Setting.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
setVal	INT32,INT8,INT16	SP,SE		M	
minVal	INT32,INT8,INT16	CF		O	
maxVal	INT32,INT8,INT16	CF		O	
d	VISIBLE STRING255	DC		O	

4.1.21 <ENG> <Integer Setting>

Defines the common data class Integer Setting.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
setVal	Enum	SP,SE		M	
minVal	INT32	CF		O	
maxVal	INT32	CF		O	
d	VISIBLE STRING255	DC		O	

4.1.22 <SPG> <Single Point Setting>

Defines the common data class Single Point Setting.

Attribute Name	Attribute Type	FC	TrgOps	M/O/E	Remarks
setVal	BOOLEAN	SP	M		
setVl	BOOLEAN	SG/SE	M		
d	VISIBLE STRING255	DC	O		

4.2 Common Data Attribute Classes

The following common data classes have been extended with extra data. All extra data has been highlighted in the tables and marked as “E” (Extended).

4.2.1 <Quality>

Attribute Name	Attribute Type	Value/Range	M/O/E	Remarks
Validity	CODED ENUM	Good | Invalid	M	Supported
Detailqual	PACKED LIST		M	Defaulted
Overflow	Boolean	False	M	Defaulted
Outofrange	BOOLEAN	TRUE|FALSE	M	Supported
Badreference	BOOLEAN	TRUE|FALSE	M	Supported
Oscillatory	BOOLEAN	FALSE	M	Defaulted
Failure	Boolean	True|False	M	Defaulted
Olddata	BOOLEAN	FALSE	M	Defaulted
Inconsistent	BOOLEAN	FALSE	M	Defaulted
Inaccurate	BOOLEAN	FALSE	M	Defaulted
Source	CODED ENUM	Process	M	Supported
Test	Boolean	False	M	Defaulted
Operator Blocked	Boolean	False	M	Defaulted

4.2.2 <INCOperate>

Attribute Name	Attribute Type	Value/Range	M/O/E	Remarks
ctlVal	INT8		M	
origin	Originator		O	
ctlNum	INT8U		O	
T	Timestamp		M	

4.2.3 <INCOperate>

Attribute Name	Attribute Type	Value/Range	M/O/E	Remarks
ctlVal	INT32		M	
origin	Originator		O	
ctlNum	INT8U		O	
T	Timestamp		M	

4.2.4 <SPCOperate>

Attribute Name	Attribute Type	Value/Range	M/O/E	Remarks
ctlVal	BOOLEAN		M	
origin	Originator		O	
ctlNum	INT8U		O	
T	Timestamp		M	

4.2.5 <Origination>

Attribute Name	Attribute Type	Value/Range	M/O/E	Remarks
orCat	Enum		M	
orIdent	Octet64		M	

4.2.6 <Analogue Value>

Attribute Name	Attribute Type	Value/Range	M/O/E	Remarks
f	FLOAT32	floating point value	M	Defaulted

4.2.7 <Analogue Value>

Attribute Name	Attribute Type	Value/Range	M/O/E	Remarks
i	INT32	Integer value	M	Supported

4.2.8 <Unit>

Attribute Name	Attribute Type	Value/Range	M/O/E	Remarks
SIUnit	ENUMERATED		M	
mulitplier	ENUMERATED		O	

4.2.9 <ScaledValueConfig>

Attribute Name	Attribute Type	Value/Range	M/O/E	Remarks
scaleFactor	Float32		M	
offset	Float32		M	

4.2.10 <RangeConfig>

Attribute Name	Attribute Type	Value/Range	M/O/E	Remarks
Min	AnalogueValue		M	
max	AnalogueValue		M	
hhLim	AnalogueValue		E	
hLim	AnalogueValue		E	
llLim	AnalogueValue		E	
lLim	AnalogueValue		E	

4.2.11 <RangeConfig>

Attribute Name	Attribute Type	Value/Range	M/O/E	Remarks
hhLim	AnalogueValue		M	
hLim	AnalogueValue		M	
1Lim	AnalogueValue		M	
11Lim	AnalogueValue		M	
Min	AnalogueValue		M	
max	AnalogueValue		M	

4.2.12 <Vector>

Attribute Name	Attribute Type	Value/Range	M/O/E	Remarks
mag	AnalogueValue		M	Used

4.2.13 <Vector>

Attribute Name	Attribute Type	Value/Range	M/O/E	Remarks
mag	AnalogueValue		M	Used
ang	AnalogueValue		O	Not Used

5.0 Enum Types Extensions

5.1 New Enum types

5.1.1 <FAULTYEnum>

Value	Description	Remarks
0	Unknown	
1	Phase A to ground	Supported
2	Phase B to ground	Supported
3	Phase C to ground	Supported
4	Phase A to Phase B	Supported
5	Phase B to Phase C	Supported
6	Phase C to Phase A	Supported
7	Phase AB to ground	Supported
8	Phase BC to ground	Supported
9	Phase CA to ground	Supported
10	3-Phase Fault	Supported
11	3-Phase to ground fault	Supported

5.1.2 <PoVol>

Value	Description	Remarks
0	Vz1	Supported
1	V1	Supported
2	V2	Supported
3	V0	Supported

5.1.3 <DirEna>

Value	Description	Remarks
0	No-Direction	Supported
1	Directional	Supported

5.1.4 <TripAction>

Value	Description	Remarks
0	Block Trip	Supported
1	Trip	Supported

5.1.5 <WYE_angRef>

Value	Description	Remarks
0	Va	Supported
1	Vb	Supported
2	Vc	Supported
3	Aa	Supported
4	Ab	Supported
5	Ac	Supported
6	Vab	Supported
7	Vbc	Supported
8	Vca	Supported
9	Vother	Not Supported
10	Aother	Not Supported

5.1.6 <ctlModels>

Value	Description	Remarks
0	status-only	Supported
1	direct-with-normal-security	Supported
2	sbo-with-normal-security	Not Supported
3	direct-with-enhanced-security	Not Supported
4	sbo-with-enhanced-security	Not Supported

5.1.7 <dirGeneral>

Value	Description	Remarks
0	unknown	Supported
1	forward	Supported
2	backward	Not Supported
3	both	Not Supported

5.1.8 <Beh>

Value	Description	Remarks
0	on	Supported
1	blocked	Not Supported
2	test	Not Supported
3	test/blocked	Not Supported
4	off	Supported

5.1.9 <Mod>

Value	Description	Remarks
0	on	Supported
1	blocked	Not Supported
2	test	Not Supported
3	test/blocked	Not Supported
4	off	Supported

5.1.10 <Health>

Value	Description	Remarks
1	Ok	Supported
2	Warning	Not Supported
3	Alarm	Supported

5.1.11 <Dbpos>

Value	Description	Remarks
0	Intermediate-state	Supported
1	Off	Supported
2	On	Supported
3	Bad-state	Supported

5.1.12 <orCatEnum>

Value	Description	Remarks
0	not-Supported	Supported
1	bay-control	Not Supported
2	station-control	Not Supported
3	remote-control	Not Supported
4	automatic-bay	Not Supported
5	automatic-station	Not Supported
6	automatic-remote	Not Supported
7	Maintenance	Not Supported
8	process	Not Supported

5.1.13 <AutoRecStEnum>

Value	Description	Remarks
0	Ready	Supported
1	In Progress	Supported
2	Successful	Supported
3	Lockout	Supported

5.1.14 <VtCfg>

Value	Description	Remarks
0	WYE	Supported
1	Line To-Line	Supported
2	LG-To-LL	Supported
3	Phantom WYE A	Supported
4	Phantom WYE B	Supported
5	Phantom WYE C	Supported
6	Phantom Delta AB	Supported
7	Phantom Delta BC	Supported
8	Phantom Delta CA	Supported
9	Open Delta AB	Not Supported
10	Open Delta BC	Not Supported
11	Open Delta CA	Not Supported

5.1.15 <IntConfig3Ph>

Value	Description	Remarks
0	CUSTOM	Supported
1	COOPER G-W(14C/14G)	Supported
2	M-2410	Supported
3	M-2411	Supported
4	M-2413	Supported
5	M-2418	Not Supported
6	HSS 24-PIN(24H)	Not Supported
7	COOPER G-W(19C)	Not Supported
8	G-W VIPER-S(14D)	Not Supported

5.1.16 <IntConfigTS>

Value	Description	Remarks
0	CUSTOM	Supported
1	G-W VRC Viper(32V)	Supported
2	G-W VRC Viper(42V)	Supported
3	Multi Rec Intfc(32B)	Supported
4	Multi Rec Intfc(42B)	Supported
5	ABB OVR3(24B)	Not Supported
7	COOPER 26-PIN (26C)	Not Supported

5.1.17 <TermAsgn>

Value	Description	Remarks
1	123	Supported
2	132	Supported
3	213	Supported
4	231	Supported
5	312	Supported
7	321	Supported

5.1.18 <BAsgn>

Value	Description	Remarks
1	ABC	Supported
2	ACB	Supported
3	BAC	Supported
4	BCA	Supported
5	CAB	Supported
6	CBA	Supported

5.1.19 <BAsgnZ>

Value	Description	Remarks
1	ABC	Supported
2	ACB	Supported
3	BAC	Supported
4	BCA	Supported
5	CAB	Supported
6	CBA	Supported

5.1.20 <CycTrMod>

Value	Description	Remarks
1	Three phase Tripping	Supported
2	One or Three Phase Tripping	Supported
3	Specific	

5.1.21 <PwrSupTyp>

Value	Description	Remarks
0	Low Voltage DC	Supported
1	High Voltage AC	Supported
2	High Voltage DC	Supported

5.1.22 <LelDir>

Value	Description	Remarks
0	True	
1	67P_1	Supported
2	67P_2	Supported
3	67P_3	Supported
4	67P_4	Supported
5	67P_5	Supported

5.1.23 <setCharact2>

Value	Description	Remarks
1	ANSI Extremely Inverse	Not Supported
2	ANSI Very Invers	Not Supported
3	ANSI Normal Inverse	Not Supported
4	ANSI Moderately Inverse	Not Supported
5	ANSI Definite Time	Not Supported
6	Long-Time Extremely Inverse	Not Supported
7	Long-Time Very Inverse	Not Supported
8	Long-Time Inverse	Not Supported
9	IEC Normal Inverse	Not Supported
10	IEC Very Inverse	Supported
11	IEC Inverse	Supported
12	IEC Extremely Inverse	Supported
13	IEC Short-Time Inverse	Not Supported
14	IEC Long-Time Inverse	Not Supported
15	IEC Definite Time	Not Supported
31	Beco Inverse	Not Supported
32	Beco Very Inverse	Not Supported
33	Beco Definite Time	Not Supported
34	Beco Extremely Inverse	Not Supported
35	Inverse Time Curve 1	Not Supported
36	Inverse Time Curve 2	Not Supported
37	Inverse Time Curve 3	Not Supported
38	Inverse Time Curve 4	Not Supported

5.1.24 <setCharact>

Value	Description	Remarks
1	ANSI Extremely Inverse	Not Supported
2	ANSI Very Inverse	Not Supported
3	ANSI Normal Inverse	Not Supported
4	ANSI Moderately Inverse	Not Supported
5	ANSI Definite Time	Not Supported
6	Long-Time Extremely Inverse	Not Supported
7	Long-Time Very Inverse	Not Supported
8	Long-Time Inverse	Not Supported
9	IEC Normal Inverse	Not Supported
10	IEC Very Inverse	Supported
11	IEC Inverse	Supported
12	IEC Extremely Inverse	Supported
13	IEC Short-Time Inverse	Not Supported
14	IEC Long-Time Inverse	Not Supported
15	IEC Definite Time	Not Supported
16	101(A)	Supported
17	102(1)	Supported
18	103(17)	Supported
19	104(N)	Supported
20	105(R)	Supported
21	106(4)	Supported
22	107(L)	Supported
23	111(8*)	Supported
24	112(15)	Supported
25	113(8)	Supported
26	114(5)	Supported
27	115(P)	Supported
28	116(D)	Supported
29	117(B)	Supported
30	118(M)	Supported
31	119(14)	Supported
32	120(Y)	Supported
33	121(G)	Supported
34	122(H)	Supported
35	131(9)	Supported
36	132(E)	Supported

5.1.24 <setCharact> (Cont.)

Value	Description	Remarks
37	133(C)	Supported
38	134(Z)	Supported
39	135(2)	Supported
40	136(6)	Supported
41	137(V)	Supported
42	138(W)	Supported
43	139(16)	Supported
44	140(3)	Supported
45	141(11)	Supported
46	142(13)	Supported
47	151(18)	Supported
48	152(7)	Supported
49	161(T)	Supported
50	162(KP)	Supported
51	163(F)	Supported
52	164(J)	Supported
53	165(KG)	Supported
54	200	Supported
55	201	Supported
56	202	Supported
57	Definite Time	Supported
58	Custom Curve 1	Supported
59	Custom Curve 2	Supported
60	Custom Curve 3	Supported
61	Custom Curve 4	Supported
62	BFCP	Supported
63	BSCP	Supported
64	BFCG	Supported
65	BSCG	Supported

5.1.25 <DirMod>

Value	Description	Remarks
1	NonDirectional	Supported
2	Forward	Supported
3	Inverse	Supported

5.1.26 <SIUnit>

Value	Description	Remarks
1	None	
2	Meter(m)	
3	Kilogram(kg)	
4	Second(s)	
5	Ampere(A)	
6	Kelvin(K)	
7	Mole(mol)	
8	Candela(cd)	
9	Degrees(deg)	
10	Radian(rad)	
11	Steradian(sr)	
21	Gray(J/Kg)(Gy)	
22	q	
23	degrees Celsius(°C)	
24	Sievert(J/kg) (Sv)	
25	farad(C/V) (F)	
26	coulomb(AS) (C)	
27	siemens(A/V) (S)	
28	henry(Wb/A) (H)	
29	volt(W/A) (V)	
30	ohm(VA) (ohm)	
31	joule(N m) (J)	
32	Newton(kg m/s²) (N)	
33	hertz(1/s) (Hz)	
34	lux(lm/m²) (LX)	
35	lumen(cd sr)(Lm)	
36	weber(V s)(Wb)	
37	tesla(Wb/m²) (T)	
38	Watt(J/s) (W)	
39	pascal(N/ m²) (Pa)	
41	square meter(m²)	
42	cubic meter(m³)	
43	meters per second(m/s)	
44	meters per second²(m/s²)	
45	cubic meters per second(m³/s)	

5.1.26 <SIUnit> (Cont.)

Value	Description	Remarks
46	meters/cubic meter(m/m³)	
47	M	
48	kilogram/cubic meter(kg/ m³)	
49	meter square/second(m²/s)	
50	Watt/meter Kelvin (W/m K)	
51	joule/Kelvin (J/K)	
52	parts per million (ppm)	
53	rotations per second (1/s)	
54	radian per second (rad/s)	
61	volt Ampere (VA)	
62	Watts (I²R)	
63	Volt ampere reactive(VISinØ) (Var)	
64	theta	
65	Cos(theta)	
66	Vs	
67	V²	
68	amp second(As)	
69	amp square(A²)	
70	amp square (A²t)	
71	volt ampere hours(VAh)	
72	watt hours(Wh)	
73	volt ampere reactive hours(VArh)	
74	volts per hertz(V/Hz)	
75	Vh	

5.1.27 <multiplierEnum>

Value	Description	Remarks
-24	Yocto	
-21	Zepto	
-18	Atto	
-15	Femto	
-12	Pico	
-9	Nano	
-6	Micro	
-3	Milli	
-2	Centi	
-1	Deci	
0	zeroNoValue	
1	Deca	
2	Hecto	
3	Kilo	
6	Mega	
9	Giga	
12	Tera	
15	Petra	
18	Exa	
21	Zetta	
24	Yotta	

5.1.28 <seqT_0>

Value	Description	Remarks
0	pos-neg-zero	
1	dir-quad-zero	

5.1.29 <DmdCustom>

Value	Description	Remarks
0	15 min	Supported
1	30 min	Supported
2	60 min	Supported

5.1.30 <CTVTPHASE>

Value	Description	Remarks
0	0 deg	
1	30 deg	
2	60 deg	
3	90 deg	
4	120 deg	
5	150 deg	
6	180 deg	
7	210 deg	
8	240 deg	
9	270 deg	
10	300 deg	
11	330 deg	

6.0 Control Block Extension Types

6.1 New Control Block Types

6.1.1 <brcbMX,brcbST> <Buffered Report Control Block>

Buffer report control block for measurement and status.

Attribute Name	Attribute Type	FC	TrgOp	Remarks
BRCBName	Object Name	–	–	Supported
BRCBRef	Object Reference	–	–	Supported
RptID	VISIBLE STRING65	BR	–	Supported
RptEna	BOOLEAN	BR		Supported
DatSet	Object Reference	BR		Supported
ConfRev	INT32U	BR		Supported
OptFlds	PACKED LIST			Supported
sequence-number	BOOLEAN			Supported
report-time-stamp	BOOLEAN			Supported
reason-for-inclusion	BOOLEAN			Supported
buffer-overflow	BOOLEAN			Supported
entryID	BOOLEAN			Supported
conf-revision	BOOLEAN			Supported
BufTm	INT32U	BR	dchg, dupd, qchg	Supported,Time in seconds,
SqNum	INT16U	BR	–	Supported
TrgOp	TriggerConditions	BR	dchg, dupd, qchg	Supported. 0.. MAX; 0 implies no integrity report.
IntgPd	INT32U	BR		Supported
GI	BOOLEAN	BR		Supported only in SCLVersion 3.0
PurgeBuf	BOOLEAN	BR		Supported
EntryID	EntryID	BR		Supported
TimeofEntry	EntryTime	BR		Supported

6.1.2 <urcbMX,urcbST> <Unbuffered Report Control Block>

Unbuffered report control block for measurement and status.

Attribute Name	Attribute Type	FC	TrgOp	Remarks
URCBName	Object Name	-	-	Supported
URCBRef	Object Reference	-	-	Supported
RptID	VISIBLE STRING65	RP	-	Supported
RptEna	BOOLEAN	RP		Supported
Resv	BOOLEAN	RP		Supported
DatSet	Object Reference	RP		Supported
ConfRev	INT32U	RP		Supported
OptFlds	PACKED LIST			Supported
sequence-number	BOOLEAN			Supported
report-time-stamp	BOOLEAN			Supported
reason-for-inclusion	BOOLEAN			Supported
buffer-overflow	BOOLEAN			Supported
entryID	BOOLEAN			Supported
conf-revision	BOOLEAN			Supported
BufTm	INT32U	RP	dchg, dupd, qchg	Supported, Time in seconds
SqNum	INT16U	RP	-	Supported
TrgOp	TriggerConditions	RP	Dchg, Dupd, qchg	Supported ,0.. MAX; 0 implies no integrity report.
IntgPd	INT32U	RP		Supported
GI	BOOLEAN	RP		Supported only in SCLVersion 3.0
PurgeBuf	BOOLEAN	RP		Supported
EntryID	EntryID	RP		Supported
TimeofEntry	EntryTime	RP		Supported

6.1.3 <SGCB> <Setting Group Control Block>

Setting group control block.

Attribute Name	Attribute Type	FC	TrgOp	Remarks
SGCBName	Object Name	-	-	Supported
SGCBRef	Object Reference	-	-	Supported
NumOfSG	VISIBLE STRING65	SP	-	Supported, n = 4 profiles
ActSG	BOOLEAN	SP		Supported
EditSG	BOOLEAN	SP		Supported
CnfEdit	Object Reference	SP		Supported
LActTm	INT32U	SP		Supported

6.1.4 <GOCB> <Goose Control Block>

Goose control block applicable for all the master, follower, heartbeat, generic publisher, generic subscribe goose blocks.

Attribute Name	Attribute Type	FC	TrgOp	Remarks
GoCBName	Object Name	GO	-	Supported
GoCBRef	Object Reference	GO	-	Supported
GoEna	BOOLEAN	GO	dchg, dupd, qchg	Supported
AppID	VISIBLE STRING65	GO		Supported
DatSet	Object Reference	GO	dchg, dupd, qchg	Supported
ConfRev	INT32U	GO	dchg, dupd, qchg	Supported
NdsCom	BOOLEAN	GO	dchg, dupd, qchg	Supported

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