



Powering Business Worldwide

EMR-4000

Software-Version: 3.0.d

TD026050EN

Model Implementation Conformance Statement (MICS)

UCA International Users Group Testing Sub Committee

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1. Introduction

This model implementation conformance statement is applicable to the device EMR-4000 , Release 3.0.d (Firmware-Build **29322**).

This MICS document specifies the modelling extensions compared to IEC 61850 edition 1.

Clause 2 contains the list of implemented logical nodes.

Clause 2 contains the list of implemented common data classes.

Clause 3 describes the new and extended logical nodes and the new and extended common data classes.

Clause 4 describes the new and extended enum types.

2. Logical Nodes

2.1. Logical Nodes List

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

L : System Logical Nodes
LLNO (Logical Node device)
LPHD (Physical device)
P : Logical Nodes for protection functions
PDOP (Directional overpower)
PDUP (Directional underpower)
PFRC (Rate of change of frequency)
PIOC (Instantaneous overcurrent)
PMRI (Motor restart inhibition)
PMSS (Motor starting time supervision)
PPAM (Phase angle or out-of-step protection)
PTOC (Time overcurrent)
PTOF (Overfrequency)
PTOV (Overvoltage)
PTTR (Thermal overload protection)
PTUC (Undercurrent)
PTUF (Underfrequency)
PTUV (Undervoltage)
PUPF (Underpower factor)
R : Logical Nodes for protection related functions
RBRF (Breaker failure)
RDRE (Disturbance recorder function)
G : Logical Nodes for generic references
GAPC (Generic automatic process control)
GGIO (Generic process I/O)
M : Logical Nodes for metering and measurement
MMTR (Metering)
MMXU (Measurement)

MSTA (Metering Statistics)
X : Logical Nodes for switchgear
XCBR (Circuit Breaker)
XSWI (Circuit Switch)
C : Logical Nodes for control
CILO (Interlocking)
CSWI (Switch controller)
I : Logical Nodes for interfacing and archiving
IHMI (Human machine interface)
S : Logical Nodes for sensors and monitoring
SCBR (Circuit breaker monitoring)

2.2. Logical Node definitions

LN Type	LN Class	Description
EATON_CILO1	CILO	Interlocking
EATON_CSWI1	CSWI	Switch controller
EATON_GAPC1	GAPC	Generic automatic process control
EATON_GGIO3	GGIO	Generic process I/O
EATON_GGIO4	GGIO	Generic process I/O
EATON_GGIO5	GGIO	Generic process I/O
EATON_IHMI1	IHMI	Human machine interface
EATON_LLNOCON	LLNO	Logical Node device
EATON_LLNOMEA	LLNO	Logical Node device
EATON_LLNOPRO	LLNO	Logical Node device
EATON_LLNOREC	LLNO	Logical Node device
EATON_LLNOSYS	LLNO	Logical Node device
EATON_LPHDCON	LPHD	Physical device
EATON_LPHDMEA	LPHD	Physical device
EATON_LPHDPRO	LPHD	Physical device
EATON_LPHDREC	LPHD	Physical device
EATON_LPHDSYS	LPHD	Physical device
EATON_MMTR1	MMTR	Metering
EATON_MMXU3	MMXU	Measurement
EATON_MMXU6	MMXU	Measurement

LN Type	LN Class	Description
EATON_MMXU7	MMXU	Measurement
EATON_MSTA1	MSTA	Metering Statistics
EATON_MSTA2	MSTA	Metering Statistics
EATON_MSTA3	MSTA	Metering Statistics
EATON_PDOP1	PDOP	Directional overpower
EATON_PDUP1	PDUP	Directional underpower
EATON_PFRC1	PFRC	Rate of change of frequency
EATON_PIOC1	PIOC	Instantaneous overcurrent
EATON_PMRI1	PMRI	Motor restart inhibition
EATON_PMSS1	PMSS	Motor starting time supervision
EATON_PPAM1	PPAM	Phase angle or out-of-step protection
EATON_PTOC1	PTOC	Time overcurrent
EATON_PTOC3	PTOC	Time overcurrent
EATON_PTOC4	PTOC	Time overcurrent
EATON_PTOF1	PTOF	Overfrequency
EATON_PTOV1	PTOV	Overvoltage
EATON_PTOV2	PTOV	Overvoltage
EATON_PTOV3	PTOV	Overvoltage
EATON_PTTR2	PTTR	Thermal overload protection
EATON_PTTR4	PTTR	Thermal overload protection
EATON_PTUC1	PTUC	Undercurrent
EATON_PTUF1	PTUF	Underfrequency
EATON_PTUV1	PTUV	Undervoltage
EATON_PTUV2	PTUV	Undervoltage
EATON_PTUV3	PTUV	Undervoltage
EATON_PUPF1	PUPF	Underpower factor
EATON_RBRF1	RBRF	Breaker failure
EATON_RDRE1	RDRE	Disturbance recorder function
EATON_SCBR1	SCBR	Circuit breaker monitoring
EATON_XCBR2	XCBR	Circuit Breaker
EATON_XSWI1	XSWI	Circuit Switch

2.2.1. EATON_CILO1

CILO class

Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
CILO	EATON_CILO1	Interlocking		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
EnaOpn	EATON_SPS1	Enable Open	M	
EnaCls	EATON_SPS1	Enable Close	M	

2.2.2. EATON_CSWI1

CSWI class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
CSWI	EATON_CSWI1	Switch Controller		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Loc	EATON_SPS1	Local operation	O	
Controls				
Pos	EATON_DPC2	Switch position	M	

2.2.3. EATON_GAPC1

GAPC class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
GAPC	EATON_GAPC1	Generic automatic process control		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behaviour	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Loc	EATON_SPS1	Local operation	O	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.4. EATON_GGIO3

GGIO class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
GGIO		Generic process I/O		

Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status information				
Ind1	EATON_SPS1	General indication (binary input)	0	
Ind2	EATON_SPS1	General indication (binary input)	0	
Ind3	EATON_SPS1	General indication (binary input)	0	
Ind4	EATON_SPS1	General indication (binary input)	0	
Ind5	EATON_SPS1	General indication (binary input)	0	
Ind6	EATON_SPS1	General indication (binary input)	0	
Ind7	EATON_SPS1	General indication (binary input)	0	
Ind8	EATON_SPS1	General indication (binary input)	0	
Ind9	EATON_SPS1	General indication (binary input)	0	
Ind10	EATON_SPS1	General indication (binary input)	0	
Ind11	EATON_SPS1	General indication (binary input)	0	
Ind12	EATON_SPS1	General indication (binary input)	0	
Ind13	EATON_SPS1	General indication (binary input)	0	
Ind14	EATON_SPS1	General indication (binary input)	0	
Ind15	EATON_SPS1	General indication (binary input)	0	
Ind16	EATON_SPS1	General indication (binary input)	0	
Ind17	EATON_SPS1	General indication (binary input)	0	
Ind18	EATON_SPS1	General indication (binary input)	0	
Ind19	EATON_SPS1	General indication (binary input)	0	
Ind20	EATON_SPS1	General indication (binary input)	0	
Ind21	EATON_SPS1	General indication (binary input)	0	
Ind22	EATON_SPS1	General indication (binary input)	0	
Ind23	EATON_SPS1	General indication (binary input)	0	
Ind24	EATON_SPS1	General indication (binary input)	0	
Ind25	EATON_SPS1	General indication (binary input)	0	
Ind26	EATON_SPS1	General indication (binary input)	0	
Ind27	EATON_SPS1	General indication (binary input)	0	
Ind28	EATON_SPS1	General indication (binary input)	0	
Ind29	EATON_SPS1	General indication (binary input)	0	
Ind30	EATON_SPS1	General indication (binary input)	0	
Ind31	EATON_SPS1	General indication (binary input)	0	
Ind32	EATON_SPS1	General indication (binary input)	0	

2.2.5. EATON_GGIO4

GGIO class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
GGIO		Generic process I/O		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	

Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status information				
Ind1	EATON_SPS1	General indication (binary input)	O	
Ind2	EATON_SPS1	General indication (binary input)	O	
Ind3	EATON_SPS1	General indication (binary input)	O	
Ind4	EATON_SPS1	General indication (binary input)	O	
Ind5	EATON_SPS1	General indication (binary input)	O	
Ind6	EATON_SPS1	General indication (binary input)	O	
Ind7	EATON_SPS1	General indication (binary input)	O	
Ind8	EATON_SPS1	General indication (binary input)	O	
Ind9	EATON_SPS1	General indication (binary input)	O	
Ind10	EATON_SPS1	General indication (binary input)	O	
Ind11	EATON_SPS1	General indication (binary input)	O	
Ind12	EATON_SPS1	General indication (binary input)	O	
Ind13	EATON_SPS1	General indication (binary input)	O	
Ind14	EATON_SPS1	General indication (binary input)	O	
Ind15	EATON_SPS1	General indication (binary input)	O	
Ind16	EATON_SPS1	General indication (binary input)	O	
Ind17	EATON_SPS1	General indication (binary input)	O	
Ind18	EATON_SPS1	General indication (binary input)	O	
Ind19	EATON_SPS1	General indication (binary input)	O	
Ind20	EATON_SPS1	General indication (binary input)	O	
Ind21	EATON_SPS1	General indication (binary input)	O	
Ind22	EATON_SPS1	General indication (binary input)	O	
Ind23	EATON_SPS1	General indication (binary input)	O	
Ind24	EATON_SPS1	General indication (binary input)	O	
Ind25	EATON_SPS1	General indication (binary input)	O	
Ind26	EATON_SPS1	General indication (binary input)	O	
Ind27	EATON_SPS1	General indication (binary input)	O	
Ind28	EATON_SPS1	General indication (binary input)	O	
Ind29	EATON_SPS1	General indication (binary input)	O	
Ind30	EATON_SPS1	General indication (binary input)	O	
Ind31	EATON_SPS1	General indication (binary input)	O	
Ind32	EATON_SPS1	General indication (binary input)	O	

2.2.6. EATON_GGIO5

GGIO class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
GGIO		Generic process I/O		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behaviour	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status information				
SPCSO1	EATON_SPC2	Single point controllable status output	O	

SPCS02	EATON_SPC2	Single point controllable status output	0	
SPCS03	EATON_SPC2	Single point controllable status output	0	
SPCS04	EATON_SPC2	Single point controllable status output	0	
SPCS05	EATON_SPC2	Single point controllable status output	0	
SPCS06	EATON_SPC2	Single point controllable status output	0	
SPCS07	EATON_SPC2	Single point controllable status output	0	
SPCS08	EATON_SPC2	Single point controllable status output	0	
SPCS09	EATON_SPC2	Single point controllable status output	0	
SPCS010	EATON_SPC2	Single point controllable status output	0	
SPCS011	EATON_SPC2	Single point controllable status output	0	
SPCS012	EATON_SPC2	Single point controllable status output	0	
SPCS013	EATON_SPC2	Single point controllable status output	0	
SPCS014	EATON_SPC2	Single point controllable status output	0	
SPCS015	EATON_SPC2	Single point controllable status output	0	
SPCS016	EATON_SPC2	Single point controllable status output	0	
SPCS017	EATON_SPC2	Single point controllable status output	0	
SPCS018	EATON_SPC2	Single point controllable status output	0	
SPCS019	EATON_SPC2	Single point controllable status output	0	
SPCS020	EATON_SPC2	Single point controllable status output	0	
SPCS021	EATON_SPC2	Single point controllable status output	0	
SPCS022	EATON_SPC2	Single point controllable status output	0	
SPCS023	EATON_SPC2	Single point controllable status output	0	
SPCS024	EATON_SPC2	Single point controllable status output	0	
SPCS025	EATON_SPC2	Single point controllable status output	0	
SPCS026	EATON_SPC2	Single point controllable status output	0	
SPCS027	EATON_SPC2	Single point controllable status output	0	
SPCS028	EATON_SPC2	Single point controllable status output	0	
SPCS029	EATON_SPC2	Single point controllable status output	0	
SPCS030	EATON_SPC2	Single point controllable status output	0	
SPCS031	EATON_SPC2	Single point controllable status output	0	
SPCS032	EATON_SPC2	Single point controllable status output	0	

2.2.7. EATON_IHMI1

IHMI class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
IHMI	EATON_IHMI1	Human machine interface		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	

2.2.8. EATON_LLNOCON

LLNO class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
LLNO	EATON_LLNOCON	Logical Node device		

Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL2	Name plate	M	

2.2.9. EATON_LLNOMEA

LLNO class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
LLNO	EATON_LLNOMEA	Logical Node device		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL2	Name plate	M	

2.2.10. EATON_LLNOPRO

LLNO class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
LLNO	EATON_LLNOPRO	Logical Node device		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL2	Name plate	M	

2.2.11. EATON_LLNOREC

LLNO class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
LLNO	EATON_LLNOREC	Logical Node device		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL2	Name plate	M	

2.2.12. EATON_LLNOSYS

LLNO class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
LLNO	EATON_LLNOSYS	Logical Node device		

Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL2	Name plate	M	

2.2.13. EATON_LPHDCON

LPHD class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
LPHD	EATON_LPHDCON	Physical device information		
Data				
Common Logical Node Information				
PhyNam	EATON_DPL1	Physical device name plate	M	
PhyHealth	EATON_INS3	Physical Device Health	M	
Proxy	EATON_SPS1	Indicates if this LN is a proxy	M	

2.2.14. EATON_LPHDMEA

LPHD class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
LPHD	EATON_LPHDMEA	Physical device information		
Data				
Common Logical Node Information				
PhyNam	EATON_DPL1	Physical device name plate	M	
PhyHealth	EATON_INS3	Physical Device Health	M	
Proxy	EATON_SPS1	Indicates if this LN is a proxy	M	

2.2.15. EATON_LPHDPRO

LPHD class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
LPHD	EATON_LPHDPRO	Physical device information		
Data				
Common Logical Node Information				
PhyNam	EATON_DPL1	Physical device name plate	M	
PhyHealth	EATON_INS3	Physical Device Health	M	
Proxy	EATON_SPS1	Indicates if this LN is a proxy	M	

2.2.16. EATON_LPHDREC

LPHD class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
LPHD	EATON_LPHDREC	Physical device information		
Data				
Common Logical Node Information				
PhyNam	EATON_DPL1	Physical device name plate	M	

PhyHealth	EATON_INS3	Physical Device Health	M	
Proxy	EATON_SPS1	Indicates if this LN is a proxy	M	

2.2.17. EATON_LPHDSYS

LPHD class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
LPHD	EATON_LPHDSYS	Physical device information		
Data				
Common Logical Node Information				
PhyNam	EATON_DPL1	Physical device name plate	M	
PhyHealth	EATON_INS3	Physical Device Health	M	
Proxy	EATON_SPS1	Indicates if this LN is a proxy	M	

2.2.18. EATON_MMTR1

MSTA class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
MMTR1	EATON_MMTR1	Metering		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behaviour	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Metered values				
TotVAh	EATON_BCR1	Absolute Apparent Power Hours	O	
TotWh	EATON_BCR1	Absolute Active Power Hours	O	
TotVArh	EATON_BCR1	Absolute Reactive Power Hours	O	
SupWh	EATON_BCR1	Consumed Active Energy	O	
SupVArh	EATON_BCR1	Consumed Reactive Energy	O	
DmdWh	EATON_BCR1	Fed Active Energy	O	
DmdVArh	EATON_BCR1	Fed Reactive Energy	O	

2.2.19. EATON_MMXU3

MMXU class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
MMXU	EATON_MMXU3	Measurement		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Measured values				
TotW	EATON_MV1	Total Active Power (Total P)	O	
TotVAr	EATON_MV1	Total Reactive Power (Total Q)	O	

TotVA	EATON_MV1	Total Apparent Power (Total S)	O	
TotPF	EATON_MV1	Total Power factor (Total PF)	O	

2.2.20. EATON_MMXU6

MMXU class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
MMXU	EATON_MMXU5	Measurement		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behaviour	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Measured values				
PPV	EATON_DEL2	Phase to phase voltages (UL12, UL23, UL31)	O	
PhV	EATON_WYE2	Phase to ground voltages (UL1, UL2, UL3)	O	
Hz	EATON_MV1	Frequency	O	

2.2.21. EATON_MMXU7

MMXU class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
MMXU	EATON_MMXU5	Measurement		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behaviour	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Measured values				
A	EATON_WYE2	Phase currents (IL1, IL2, IL3)	O	

2.2.22. EATON_MSTA1

MSTA class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
MSTA	EATON_MSTA1	Metering Statistics		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Metered values				
AvAPhA	EATON_MV1	Average current IL1	E	
AvAPhB	EATON_MV1	Average current IL2	E	

AvAPhC	EATON_MV1	Average current IL3	E	
MaxAPhA	EATON_MV1	Maximum current IL1	E	
MaxAPhB	EATON_MV1	Maximum current IL2	E	
MaxAPhC	EATON_MV1	Maximum current IL3	E	
MinAPhA	EATON_MV1	Minimum current IL1	E	
MinAPhB	EATON_MV1	Minimum current IL2	E	
MinAPhC	EATON_MV1	Minimum current IL3	E	

2.2.23. EATON_MSTA2

MSTA class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
MSTA	EATON_MSTA2	Metering Statistics		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Metered values				
AvVPhAB	EATON_MV1	Average voltage UL12	E	
AvVPhBC	EATON_MV1	Average voltage UL23	E	
AvVPhCA	EATON_MV1	Average voltage UL31	E	
MaxVPhAB	EATON_MV1	Maximum voltage UL12	E	
MaxVPhBC	EATON_MV1	Maximum voltage UL23	E	
MaxVPhCA	EATON_MV1	Maximum voltage UL31	E	
MinVPhAB	EATON_MV1	Minimum voltage UL12	E	
MinVPhBC	EATON_MV1	Minimum voltage UL23	E	
MinVPhCA	EATON_MV1	Minimum voltage UL31	E	
AvVPhA	EATON_MV1	Average voltage UL1	E	
AvVPhB	EATON_MV1	Average voltage UL2	E	
AvVPhC	EATON_MV1	Average voltage UL3	E	
MaxVP hA	EATON_MV1	Maximum voltage UL1	E	
MaxVPhB	EATON_MV1	Maximum voltage UL2	E	
MaxVPhC	EATON_MV1	Maximum voltage UL3	E	
MinVPhA	EATON_MV1	Minimum voltage UL1	E	
MinVPhB	EATON_MV1	Minimum voltage UL2	E	
MinVPhB	EATON_MV1	Minimum voltage UL3	E	

2.2.24. EATON_MSTA3

MSTA class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
MSTA	EATON_MSTA3	Metering Statistics		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	

NamPIt	EATON_LPL1	Name plate	M	
Metered values				
AvVA	EATON_MV1	Average apparent power	O	
MaxVA	EATON_MV1	Maximum apparent power	O	
MinVA	EATON_MV1	Minimum apparent power	O	
AvW	EATON_MV1	Average real power	O	
MaxW	EATON_MV1	Maximum real power	O	
MinW	EATON_MV1	Minimum real power	O	
AvVAr	EATON_MV1	Average reactive power	O	
MaxVAr	EATON_MV1	Maximum reactive power	O	
MinVAr	EATON_MV1	Minimum reactive power	O	

2.2.25. EATON_PDOP1

PDOP class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PDOP	EATON_PDOP1	Directional overpower		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPIt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.26. EATON_PDUP1

PDUP class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PDUP	EATON_PDUP1	Directional underpower		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPIt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.27. EATON_PFRC1

PFRC class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PFRC	EATON_PFRC1	Rate of change of frequency		
Data				

Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.28. EATON_PIOC1

PIOC class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PIOC	EATON_PIOC1	Instantaneous overcurrent		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.29. EATON_PMRI1

PMRI class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PMRI	EATON_PMRI1	Motor restart inhibition		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Op	EATON_ACT1	Operate	O	

2.2.30. EATON_PMSS1

PMSS class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PMSS	EATON_PMSS1	Motor starting time supervision		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	

NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Op	EATON_ACT1	Operate	O	
MotCyc	EATON_INS6	Motor Cycle	E	

2.2.31. EATON_PPAM1

PPAM class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PPAM	EATON_PPAM1	Phase angle measuring		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.32. EATON_PTOC1

PTOC class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PTOC	EATON_PTOC1	Time overcurrent		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.33. EATON_PTOC3

PTOC class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PTOC	EATON_PTOC3	Time overcurrent		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	

Op	EATON_ACT1	Operate	M	
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2.2.34. EATON_PTOC4

PTOC class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PTOC	EATON_PTOC4	Time overcurrent		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPit	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.35. EATON_PTOF1

PTOF class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PTOF	EATON_PTOF1	Overfrequency		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPit	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.36. EATON_PTOV1

PTOV class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PTOV	EATON_PTOV1	Overvoltage		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPit	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.37. EATON_PTOV2

PTOV class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PTOV	EATON_PTOV2	Overvoltage		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.38. EATON_PTOV3

PTOV class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PTOV	EATON_PTOV3	Overvoltage		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.39. EATON_PTTR2

PTTR class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PTTR	EATON_PTTR2	Thermal overload		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Op	EATON_ACT1	Operate	M	

2.2.40. EATON_PTTR4

PTTR class				
Attribute	Attribute	Explanation	M/O/E	Remarks

Name	Type			
PTTR	EATON_PTTR4	Thermal overload		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behaviour	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Op	EATON_ACT1	Operate	M	

2.2.41. EATON_PTUC1

PTUC class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PTUC	EATON_PTUC1	Undercurrent		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.42. EATON_PTUF1

PTUF class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PTUF	EATON_PTUF1	Underfrequency		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.43. EATON_PTUV1

PTUV class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PTUV	EATON_PTUV1	Undervoltage		
Data				
Common Logical Node Information				

Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.44. EATON_PTUV2

PTUV class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PTUV	EATON_PTUV2	Undervoltage		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.45. EATON_PTUV3

PTUV class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PTUV	EATON_PTUV3	Undervoltage		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behaviour	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.46. EATON_PUPF1

PUPF class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
PUPF	EATON_PUPF1	Underpower factor		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	

NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
Op	EATON_ACT1	Operate	M	

2.2.47. EATON_RBRF1

RBRF class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
RBRF	EATON_RBRF1	Breaker failure		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
Str	EATON_ACD1	Start	M	
OpEx	EATON_ACT1	Breaker failure trip	M	

2.2.48. EATON_RDRE1

RDRE class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
RDRE	EATON_RDRE1	Disturbance recorder function		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Status Information				
RcdMade	EATON_SPS1	Recording made	M	
FltNum	EATON_INS2	Fault Number	M	
GriFltNum	EATON_INS2	Grid Fault Number	O	
RcdStr	EATON_SPS1	Recording startet	O	

2.2.49. EATON_SCBR1

RBRF class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
SCBR	EATON_SCBR1	Circuit breaker monitoring		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behaviour	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	

Status Information				
TrCctAlm	EATON_ACD1	Alarm signal	E	

2.2.50. EATON_XCBER2

XCBER class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
XCBER	EATON_XCBER2	Circuit Breaker		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Loc	EATON_SPS1	Local operation	M	
OpCnt	EATON_INS2	Operation counter	M	
Status Information				
CBOpCap	EATON_INS5	Circuit breaker operating capability	M	
Controls				
Pos	EATON_DPC1	Switch position	M	
BlkOpn	EATON_SPC1	Block opening	M	
BlkCls	EATON_SPC1	Block closing	M	

2.2.51. EATON_XSWI1

XSWI class				
Attribute Name	Attribute Type	Explanation	M/O/E	Remarks
XSWI	EATON_XSWI1	Circuit switch		
Data				
Common Logical Node Information				
Mod	EATON_INC1	Mode	M	Status-only
Beh	EATON_INS1	Behavior	M	
Health	EATON_INS3	Health	M	
NamPlt	EATON_LPL1	Name plate	M	
Loc	EATON_SPS1	Local operation	M	
OpCnt	EATON_INS2	Operation counter	M	
Status Information				
SwTyp	EATON_INS5	Switch type	M	
SwOpCap	EATON_INS5	Switch operating capability	M	
Controls				
Pos	EATON_DPC1	Switch position	M	
BlkOpn	EATON_SPC1	Block opening	M	
BlkCls	EATON_SPC1	Block closing	M	

3. Common Data Class

3.1. Common Data Class definitions

The following table contains the list of Common Data Class implemented in the device:

CDC Type	CDC Class	Description
EATON_ACD1	ACD	Directional Protection activation information
EATON_ACT1	ACT	Protection Activation Information
EATON_analogValue1	analogValue	Analogue value
EATON_BCR1	BCR	Binary Counter Reading
EATON_Cancel1	Cancel	Cancel operating
EATON_CMV2	CMV	Complex measured value
EATON_DEL2	DEL	Delta
EATON_DPC1	DPC	Controllable Double Point
EATON_DPC2	DPC	Controllable Double Point
EATON_DPL1	DPL	Device name plate
EATON_INC1	INC	Controllable Integer Status
EATON_INS1	INS	Integer Status
EATON_INS2	INS	Integer Status
EATON_INS3	INS	Integer Status
EATON_INS5	INS	Integer Status
EATON_INS6	INS	Integer Status
EATON_LPL1	LPL	Logical node name plate
EATON_LPL2	LPL	Logical node name plate
EATON_MV1	MV	Measured Value
EATON_Oper1	Oper	Start/Select operating
EATON_origin1	origin	Originator
EATON_SPC1	SPC	Controllable Single Point
EATON_SPC2	SPC	Controllable Single Point
EATON_SPS1	SPS	Single Point Status
EATON_units1	units	Unit definition
EATON_vector1	vector	Vector definition
EATON_WYE2	WYE	Phase to ground related measured values of a three phase system

3.1.1. EATON_ACD1

ACD class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
General	BOOLEAN	ST	dchg		M	
dirGeneral	Enum	ST	dchg	ACDdir	M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	

3.1.2. EATON_ACT1

ACT class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
General	BOOLEAN	ST	dchg		M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	

3.1.3. EATON_BCR1

ACT class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
actVal	INT32	ST	dchg		M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	
pulsQty	FLOAT32	CF			M	
units	Struct	CF			O	

3.1.4. EATON_CMV2

CMV class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
cVal	Struct	MX		EATON_vector1	M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	
instCVal	Struct	MX		EATON_vector1	O	
units	Struct	CF		EATON_units1	O	
db	INT32U	CF			O	
dbAng	INT32U	CF			E	

3.1.5. EATON_DEL2

DEL class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
phsAB	EATON_CMV2					
phsBC	EATON_CMV2					
phsCA	EATON_CMV2					

3.1.6. EATON_DPC1

DPC class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
stVal	Dbpos	ST	dchg	Dbpos	M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	
ctlModel	Enum	CF		ctlmodel	M	

3.1.7. EATON_DPC2

DPC class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
origin	Struct	ST		EATON_origin1	O	
ctlNum	INT8U	ST			O	
stVal	Dbpos	ST	dchg	Dbpos	M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	
stSeld	BOOLEAN	ST	dchg		O	
ctlModel	Enum	CF		ctlmodel	M	
sboTimeout	INT32U	CF			O	
sboClass	Enum	CF		sboClass	O	
cdcNs	VisString255	EX			O	
Oper	Struct	CO		EATON_Oper1		
SBOw	Struct	CO		EATON_Oper1		
Cancel	Struct	CO		EATON_Cancel1		

3.1.8. EATON_DPL1

DPL class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
vendor	VisString255	DC			M	

3.1.9. EATON_INC1

INC class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
stVal	Enum	ST	dchg	Mode	M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	
ctlModel	Enum	CF		ctlModel	M	

3.1.10. EATON_INS1

INS class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks

stVal	Enum	ST	dchg	Behavior	M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	

3.1.11. EATON_INS2

INS class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
stVal	INT32	ST	dchg		M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	

3.1.12. EATON_INS3

INS class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
stVal	Enum	ST	dchg	AutoRecSt	M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	

3.1.13. EATON_INS5

INS class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
stVal	Enum	ST	dchg	CBOpCap	M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	

3.1.14. EATON_INS6

INS class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
stVal	Enum	ST	dchg	MotorCycle	M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	

3.1.15. EATON_LPL1

LPL class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
vendor	visString255	DC			M	
swRev	visString255	DC			M	
d	visString255	DC			M	

3.1.16. EATON_LPL2

LPL class						
Attribute	Attribute	FC	TrgOp	Value/Value range	M/O/E	Remarks

Name	Type					
vendor	visString255	DC				M
swRev	visString255	DC				M
d	visString255	DC				M
ldNs	visString255	EX				

3.1.17. EATON_MV1

MV class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
mag	Struct	MX		EATON_analogValue1	M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	
units	Struct	CF		EATON_units1	O	
db	INT32U	CF			O	
d	visString255	DC			O	
dataNs	visString255	DC			O	

3.1.18. EATON_SPC1

SPC class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
stVal	BOOLEAN	ST	dchg		M	
q	Quality	ST	dchg		M	
t	Timestamp	ST			M	
ctlModel	Enum	CF		ctlModel	M	

3.1.19. EATON_SPC2

SPC class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
Oper	Struct	CO		EATON_Oper1	O	
stVal	BOOLEAN	ST	dchg		M	
q	Quality	ST	dchg		M	
t	Timestamp	ST			M	
ctlModel	Enum	CF		ctlModel	M	

3.1.20. EATON_SPS1

SPS class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
stVal	BOOLEAN	ST	dchg		M	
q	Quality	ST	qchg		M	
t	Timestamp	ST			M	

3.1.21. EATON_WYE2

WYE class						
-----------	--	--	--	--	--	--

Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
pshAB	EATON_CMV2					
pshBC	EATON_CMV2					
pshCA	EATON_CMV2					
neut	EATON_CMV2					

3.2. Common Data Attributes type definitions

3.2.1. EATON_analogValue1

analogValue class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
f	FLOAT32	MX			M	

3.2.2. EATON_Cancel1

Cancel class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
ctlval	BOOLEAN	CO			M	
origin	Struct	ST		EATON_origin1	O	
ctlNum	INT8U	ST			O	
T	Timestamp	CO			O	
Test	BOOLEAN	CO			O	

3.2.3. EATON_Oper1

Oper class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
ctlval	BOOLEAN	CO			M	
origin	Struct	ST		EATON_origin1	O	
ctlNum	INT8U	ST			O	
T	Timestamp	CO			O	
Test	BOOLEAN	CO			O	
Check	Check	CO			O	

3.2.4. EATON_origin1

origin class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
orCat	Enum	ST		orCategory	M	
orIdent	Octet64	ST			M	

3.2.5. EATON_units1

unit class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
SIUnit	Enum			SIUnit	M	

multiplier	Enum			multiplier	O	
------------	------	--	--	------------	---	--

3.2.6. EATON_vector1

vector class						
Attribute Name	Attribute Type	FC	TrgOp	Value/Value range	M/O/E	Remarks
mag	Struct			EATON_analogValue1	M	
ang	Struct			EATON_analogValue1	O	

3.3. Enumerated type definitions

3.3.1. Beh

Ordinal	Semantic
1	on
2	blocked
3	test
4	test/blocked
5	off

3.3.2. CBOpCap

Ordinal	Semantic
1	None
2	Open
3	Close-Open
4	Open-Close-Open
5	Close-Open-Close-Open

3.3.3. ctlModel

Ordinal	Semantic
1	status-only
2	direct-with-normal-security
3	sbo-with-normal-security
4	direct-with-enhanced-security
5	sbo-with-enhanced-security

3.3.4. Dbpos

Ordinal	Semantic
1	intermediate
2	off
3	on
4	bad

3.3.5. dir

Ordinal	Semantic
1	unknown
2	forward
3	backward

4	both
---	------

3.3.6. Health

Ordinal	Semantic
1	Ok
2	Warning
3	Alarm

3.3.7. Mod

Ordinal	Semantic
1	on
2	blocked
3	test
4	test/block
5	off

3.3.8. MotorCycle

Ordinal	Semantic
0	Trip/Off
1	Stop
2	Start
3	Run

3.3.9. multiplier

Ordinal	Semantic
-24	y
-21	z
-18	a
-15	f
-12	p
-9	n
-6	μ
-3	m
-2	c
-1	d
0	
1	da
2	h
3	k
6	M
9	G
12	T
15	P
18	E
21	Z
24	Y

3.3.10. orCategory

Ordinal	Semantic
0	not-supported
1	bay-control
2	station-control
3	remote-control
4	automatic-bay
5	automatic-station
6	automatic-remote
7	maintenance
8	process

3.3.11. sboClass

Ordinal	Semantic
0	operate-once
1	operate-many

3.3.12. SIUnit

Ordinal	Semantic
1	none
2	m
3	kg
4	s
5	A
6	K
7	mol
8	cd
9	deg
10	rad
11	sr
21	Gy
22	q
23	° C
24	Sv
25	F
26	C
27	S
28	H
29	V
30	ohm
31	J
32	N
33	Hz
34	lx
35	Lm
36	Wb
37	T

38	W
39	Pa
41	m ²
42	m ³
43	m/s
44	m/s ²
45	m ³ /s
46	m/m ³
47	M
48	kg/m ³
49	m ² /s
50	W/m K
51	J/K
52	ppm
53	1/s
54	rad/s
61	VA
62	Watts
63	VAr
64	phi
65	cos(phi)
66	Vs
67	V ²
68	As
69	A ²
70	A ² t
71	VAh
72	Wh
73	VArh
74	V/Hz

4. Appendix – Register Maps

LDevice::CTRL

Logical Node	Data Object	Module.Name
CILO1*(EATON_CILO1)		
	Mod	
	Beh	
	Health	
	NamPlt	
	EnaOpn	Bkr . Interl OPEN
	EnaCls	Bkr . Interl CLOSE
CSWI1*(EATON_CSWI1)		
	Mod	
	Beh	
	Health	
	NamPlt	
	Loc	
	Pos	Bkr . State
LLN0(EATON_LLNOCON)		
	Mod	
	Beh	
	Health	
	NamPlt	
LPHD1(EATON_LPHDCON)		
	PhyNam	
	PhyHealth	
	Proxy	
TCSSCBR1(EATON_SCBR1)		
	Mod	TCM . Active
	Beh	
	Health	
	NamPlt	
	TrCctAlm	TCM . Pickup

LDevice::CTRL

XCBR1*(EATON_XCBR2)		
	Mod	
	Beh	
	Health	
	NamPlt	
	Loc	
	OpCnt	
	Pos	Bkr . State
	BlkOpn	
	BlkCls	
	CBOpCap	
XSWI1*(EATON_XSWI1)		
	Mod	
	Beh	
	Health	
	NamPlt	
	Loc	
	OpCnt	
	Pos	Bkr . State
	BlkOpn	
	BlkCls	
	SwTyp	
	SwOpCap	

LDevice::DR

Logical Node	Data Object	Module.Name
LLN0(EATON_LLNOREC)		
	Mod	
	Beh	
	Health	
	NamPlt	
LPHD1(EATON_LPHDREC)		
	PhyNam	
	PhyHealth	

LDevice::CTRL

	Proxy	
RDRE1(EATON_RDRE1)		
	Mod	
	Beh	
	Health	
	NamPlt	
	RcdMade	Waveform rec . Recording
	FltNum	
	GriFltNum	
	RcdStr	Waveform rec . Recording

LDevice::EXT

Logical Node	Data Object	Module.Name
COUTGGIO1(EATON_GGIO4)		
	Mod	
	Beh	
	Health	
	NamPlt	
	Ind1	IEC61850 . VirtOut1-I
	Ind2	IEC61850 . VirtOut2-I
	Ind3	IEC61850 . VirtOut3-I
	Ind4	IEC61850 . VirtOut4-I
	Ind5	IEC61850 . VirtOut5-I
	Ind6	IEC61850 . VirtOut6-I
	Ind7	IEC61850 . VirtOut7-I
	Ind8	IEC61850 . VirtOut8-I
	Ind9	IEC61850 . VirtOut9-I
	Ind10	IEC61850 . VirtOut10-I
	Ind11	IEC61850 . VirtOut11-I
	Ind12	IEC61850 . VirtOut12-I
	Ind13	IEC61850 . VirtOut13-I
	Ind14	IEC61850 . VirtOut14-I
	Ind15	IEC61850 . VirtOut15-I
	Ind16	IEC61850 . VirtOut16-I
	Ind17	IEC61850 . VirtOut17-I

LDevice::CTRL

	Ind18	IEC61850 . VirtOut18-I
	Ind19	IEC61850 . VirtOut19-I
	Ind20	IEC61850 . VirtOut20-I
	Ind21	IEC61850 . VirtOut21-I
	Ind22	IEC61850 . VirtOut22-I
	Ind23	IEC61850 . VirtOut23-I
	Ind24	IEC61850 . VirtOut24-I
	Ind25	IEC61850 . VirtOut25-I
	Ind26	IEC61850 . VirtOut26-I
	Ind27	IEC61850 . VirtOut27-I
	Ind28	IEC61850 . VirtOut28-I
	Ind29	IEC61850 . VirtOut29-I
	Ind30	IEC61850 . VirtOut30-I
	Ind31	IEC61850 . VirtOut31-I
	Ind32	IEC61850 . VirtOut32-I
CTLGGIO1(EATON_GGIO5)		
	Mod	
	Beh	
	Health	
	NamPlt	
	SPCSO1	
	SPCSO2	
	SPCSO3	
	SPCSO4	
	SPCSO5	
	SPCSO6	
	SPCSO7	
	SPCSO8	
	SPCSO9	
	SPCSO10	
	SPCSO11	
	SPCSO12	
	SPCSO13	
	SPCSO14	

LDevice::CTRL

	SPCSO15	
	SPCSO16	
	SPCSO17	
	SPCSO18	
	SPCSO19	
	SPCSO20	
	SPCSO21	
	SPCSO22	
	SPCSO23	
	SPCSO24	
	SPCSO25	
	SPCSO26	
	SPCSO27	
	SPCSO28	
	SPCSO29	
	SPCSO30	
	SPCSO31	
	SPCSO32	
EPGAPC1(EATON_GAPC1)		
	Mod	Exp[1] - Ext Protection . Active Exp[1] - Ext Protection . Blo TripCmd Exp[1] - Ext Protection . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	Exp[1] - Ext Protection . Alarm
	Op	Exp[1] - Ext Protection . Trip
EPGAPC2(EATON_GAPC1)		
	Mod	Exp[2] - Ext Protection . Active Exp[2] - Ext Protection . Blo TripCmd Exp[2] - Ext Protection . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	Exp[2] - Ext Protection . Alarm
	Op	Exp[2] - Ext Protection . Trip

LDevice::CTRL

EPGAPC3(EATON_GAPC1)		
	Mod	Exp[3] - Ext Protection . Active Exp[3] - Ext Protection . Blo TripCmd Exp[3] - Ext Protection . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	Exp[3] - Ext Protection . Alarm
	Op	Exp[3] - Ext Protection . Trip
EPGAPC4(EATON_GAPC1)		
	Mod	Exp[4] - Ext Protection . Active Exp[4] - Ext Protection . Blo TripCmd Exp[4] - Ext Protection . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	Exp[4] - Ext Protection . Alarm
	Op	Exp[4] - Ext Protection . Trip
EPGAPC5(EATON_GAPC1)		
	Mod	Ex87 . Active Ex87 . Blo TripCmd Ex87 . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	Ex87 . Alarm
	Op	Ex87 . Trip
EPGAPC6(EATON_GAPC1)		
	Mod	Remote Trip . Active Remote Trip . Blo TripCmd Remote Trip . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	Remote Trip . Alarm
	Op	Remote Trip . Trip
GOSINGGIO1(EATON_GGIO3)		

LDevice::CTRL

	Mod	
	Beh	
	Health	
	NamPlt	
	Ind1	
	Ind2	
	Ind3	
	Ind4	
	Ind5	
	Ind6	
	Ind7	
	Ind8	
	Ind9	
	Ind10	
	Ind11	
	Ind12	
	Ind13	
	Ind14	
	Ind15	
	Ind16	
	Ind17	
	Ind18	
	Ind19	
	Ind20	
	Ind21	
	Ind22	
	Ind23	
	Ind24	
	Ind25	
	Ind26	
	Ind27	
	Ind28	
	Ind29	
	Ind30	

LDevice::CTRL

	Ind31	
	Ind32	
LLN0(EATON_LLNO5YS)		
	Mod	
	Beh	
	Health	
	NamPlt	
LPHD1(EATON_LPHDSYS)		
	PhyNam	
	PhyHealth	
	Proxy	

LDevice::MEAS

Logical Node	Data Object	Module.Name
CMMXU1(EATON_MMXU7)		
	Mod	
	Beh	
	Health	
	NamPlt	
	A	CT . IA RMS CT . Angle IA CT . IB RMS CT . Angle IB CT . IC RMS CT . Angle IC CT . IX meas RMS CT . Angle IX meas CT . IR calc RMS CT . Angle IR calc
CMSTA1(EATON_MSTA1)		
	Mod	
	Beh	
	Health	
	NamPlt	
	AvAPhsA	CT . IA avg Fund.
	AvAPhsB	CT . IB avg Fund.
	AvAPhsC	CT . IC avg Fund.

LDevice::CTRL

	MaxAPhsA	CT . IA max Fund.
	MaxAPhsB	CT . IB max Fund.
	MaxAPhsC	CT . IC max Fund.
	MinAPhsA	CT . IA min Fund.
	MinAPhsB	CT . IB min Fund.
	MinAPhsC	CT . IC min Fund.
ECMMTR1(EATON_MMTR1)		
	Mod	
	Beh	
	Health	
	NamPlt	
	SupWh	ECr . Wh Fwd
	DmdWh	ECr . Wh Rev
	SupVArh	ECr . VArh Lag
	DmdVArh	ECr . VArh Lead
	TotWh	ECr . Wh Net
	TotVArh	ECr . VArh Net
	TotVAh	ECr . VAh Net
LLN0(EATON_LLN0MEA)		
	Mod	
	Beh	
	Health	
	NamPlt	
LPHD1(EATON_LPHDMEA)		
	PhyNam	
	PhyHealth	
	Proxy	
PMMXU1(EATON_MMXU3)		
	Mod	
	Beh	
	Health	
	NamPlt	
	TotW	ECr . Syst W RMS
	TotVAr	ECr . Syst VAr Fund.

LDevice::CTRL

	TotVA	ECr . Syst VA RMS
	TotPF	ECr . Apt PF
PMSTA1(EATON_MSTA3)		
	Mod	
	Beh	
	Health	
	NamPlt	
	AvVA	ECr . Syst VA avg
	MaxVA	ECr . Syst VA max
	MinVA	ECr . Syst VA min
	AvW	ECr . Syst W avg
	MaxW	ECr . Syst W max
	MinW	ECr . Syst W min
	AvVAr	ECr . Syst VAr avg
	MaxVAr	ECr . Syst VAr max
	MinVAr	ECr . Syst VAr min
VMMXU1(EATON_MMXU6)		
	Mod	
	Beh	
	Health	
	NamPlt	
	PPV	VT . VAB RMS VT . Angle VAB VT . VBC RMS VT . Angle VBC VT . VCA RMS VT . Angle VCA
	PhV	VT . VA RMS VT . Angle VA VT . VB RMS VT . Angle VB VT . VC RMS VT . Angle VC VT . VX meas RMS VT . Angle VX meas VT . VR calc RMS VT . Angle VR calc
	Hz	VT . f
VMSTA1(EATON_MSTA2)		

LDevice::CTRL

	Mod	
	Beh	
	Health	
	NamPlt	
	MaxVPhsAB	VT . VAB max Fund.
	MaxVPhsBC	VT . VBC max Fund.
	MaxVPhsCA	VT . VCA max Fund.
	MinVPhsAB	VT . VAB min Fund.
	MinVPhsBC	VT . VBC min Fund.
	MinVPhsCA	VT . VCA min Fund.
	MaxVPhsA	VT . VA max Fund.
	MaxVPhsB	VT . VB max Fund.
	MaxVPhsC	VT . VC max Fund.
	MinVPhsA	VT . VA min Fund.
	MinVPhsB	VT . VB min Fund.
	MinVPhsC	VT . VC min Fund.

LDevice::PROT

Logical Node	Data Object	Module.Name
GFPTOC1(EATON_PTOC3)		
	Mod	50X[1] - Meas. Inst. OC . Active 50X[1] - Meas. Inst. OC . Blo TripCmd 50X[1] - Meas. Inst. OC . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	50X[1] - Meas. Inst. OC . Pickup
	Op	50X[1] - Meas. Inst. OC . Trip
GFPTOC2(EATON_PTOC3)		
	Mod	50X[2] - Meas. Inst. OC . Active 50X[2] - Meas. Inst. OC . Blo TripCmd 50X[2] - Meas. Inst. OC . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	50X[2] - Meas. Inst. OC . Pickup

LDevice::CTRL

	Op	50X[2] - Meas. Inst. OC . Trip
GFPTOC3(EATON_PTOC3)		
	Mod	51X[1] - Meas. Time OC . Active 51X[1] - Meas. Time OC . Blo TripCmd 51X[1] - Meas. Time OC . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	51X[1] - Meas. Time OC . Pickup
	Op	51X[1] - Meas. Time OC . Trip
GFPTOC4(EATON_PTOC3)		
	Mod	51X[2] - Meas. Time OC . Active 51X[2] - Meas. Time OC . Blo TripCmd 51X[2] - Meas. Time OC . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	51X[2] - Meas. Time OC . Pickup
	Op	51X[2] - Meas. Time OC . Trip
GFPTOC5(EATON_PTOC3)		
	Mod	50R[1] - Residual Inst. OC . Active 50R[1] - Residual Inst. OC . Blo TripCmd 50R[1] - Residual Inst. OC . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	50R[1] - Residual Inst. OC . Pickup
	Op	50R[1] - Residual Inst. OC . Trip
GFPTOC6(EATON_PTOC3)		
	Mod	50R[2] - Residual Inst. OC . Active 50R[2] - Residual Inst. OC . Blo TripCmd 50R[2] - Residual Inst. OC . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	50R[2] - Residual Inst. OC . Pickup
	Op	50R[2] - Residual Inst. OC . Trip

LDevice::CTRL

GFPTOC7(EATON_PTOC3)		
	Mod	51R[1] - Residual Time OC . Active 51R[1] - Residual Time OC . Blo TripCmd 51R[1] - Residual Time OC . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	51R[1] - Residual Time OC . Pickup
	Op	51R[1] - Residual Time OC . Trip
GFPTOC8(EATON_PTOC3)		
	Mod	51R[2] - Residual Time OC . Active 51R[2] - Residual Time OC . Blo TripCmd 51R[2] - Residual Time OC . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	51R[2] - Residual Time OC . Pickup
	Op	51R[2] - Residual Time OC . Trip
IHMI1(EATON_IHMI1)		
	Mod	
	Beh	
	Health	
	NamPlt	
JAMPIOC1(EATON_PIOC1)		
	Mod	50J[1] - Jam-Stall . Active 50J[1] - Jam-Stall . Blo TripCmd 50J[1] - Jam-Stall . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	50J[1] - Jam-Stall . Pickup
	Op	50J[1] - Jam-Stall . Trip
JAMPIOC2(EATON_PIOC1)		
	Mod	50J[2] - Jam-Stall . Active 50J[2] - Jam-Stall . Blo TripCmd 50J[2] - Jam-Stall . ExBlo TripCmd
	Beh	

LDevice::CTRL

	Health	
	NamPlt	
	Str	50J[2] - Jam-Stall . Pickup
	Op	50J[2] - Jam-Stall . Trip
LLN0(EATON_LLNOPRO)		
	Mod	
	Beh	
	Health	
	NamPlt	
LPHD1(EATON_LPHDPRO)		
	PhyNam	
	PhyHealth	
	Proxy	
PDOP1*(EATON_PDOP1)		
	Mod	32[1] - Real Power . Active 32[1] - Real Power . Blo TripCmd 32[1] - Real Power . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	32[1] - Real Power . Pickup
	Op	32[1] - Real Power . Trip
PDOP2*(EATON_PDOP1)		
	Mod	32[2] - Real Power . Active 32[2] - Real Power . Blo TripCmd 32[2] - Real Power . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	32[2] - Real Power . Pickup
	Op	32[2] - Real Power . Trip
PDOP3*(EATON_PDOP1)		
	Mod	32[3] - Real Power . Active 32[3] - Real Power . Blo TripCmd 32[3] - Real Power . ExBlo TripCmd
	Beh	

LDevice::CTRL

	Health	
	NamPlt	
	Str	32[3] - Real Power . Pickup
	Op	32[3] - Real Power . Trip
PDOP4*(EATON_PDOP1)		
	Mod	32V[1] - Vars . Active 32V[1] - Vars . Blo TripCmd 32V[1] - Vars . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	32V[1] - Vars . Pickup
	Op	32V[1] - Vars . Trip
PDOP5*(EATON_PDOP1)		
	Mod	32V[2] - Vars . Active 32V[2] - Vars . Blo TripCmd 32V[2] - Vars . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	32V[2] - Vars . Pickup
	Op	32V[2] - Vars . Trip
PDOP6*(EATON_PDOP1)		
	Mod	32V[3] - Vars . Active 32V[3] - Vars . Blo TripCmd 32V[3] - Vars . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	32V[3] - Vars . Pickup
	Op	32V[3] - Vars . Trip
PDUP1*(EATON_PDUP1)		
	Mod	32[1] - Real Power . Active 32[1] - Real Power . Blo TripCmd 32[1] - Real Power . ExBlo TripCmd
	Beh	

LDevice::CTRL

	Health	
	NamPlt	
	Str	32[1] - Real Power . Pickup
	Op	32[1] - Real Power . Trip
PDUP2*(EATON_PDUP1)		
	Mod	32[2] - Real Power . Active 32[2] - Real Power . Blo TripCmd 32[2] - Real Power . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	32[2] - Real Power . Pickup
	Op	32[2] - Real Power . Trip
PDUP3*(EATON_PDUP1)		
	Mod	32[3] - Real Power . Active 32[3] - Real Power . Blo TripCmd 32[3] - Real Power . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	32[3] - Real Power . Pickup
	Op	32[3] - Real Power . Trip
PDUP4*(EATON_PDUP1)		
	Mod	32V[1] - Vars . Active 32V[1] - Vars . Blo TripCmd 32V[1] - Vars . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	32V[1] - Vars . Pickup
	Op	32V[1] - Vars . Trip
PDUP5*(EATON_PDUP1)		
	Mod	32V[2] - Vars . Active 32V[2] - Vars . Blo TripCmd 32V[2] - Vars . ExBlo TripCmd
	Beh	

LDevice::CTRL

	Health	
	NamPlt	
	Str	32V[2] - Vars . Pickup
	Op	32V[2] - Vars . Trip
PDUP6*(EATON_PDUP1)		
	Mod	32V[3] - Vars . Active 32V[3] - Vars . Blo TripCmd 32V[3] - Vars . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	32V[3] - Vars . Pickup
	Op	32V[3] - Vars . Trip
PFRC1*(EATON_PFRC1)		
	Mod	81[1] - Frequency . Active 81[1] - Frequency . Blo TripCmd 81[1] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[1] - Frequency . Pickup
	Op	81[1] - Frequency . Trip
PFRC2*(EATON_PFRC1)		
	Mod	81[2] - Frequency . Active 81[2] - Frequency . Blo TripCmd 81[2] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[2] - Frequency . Pickup
	Op	81[2] - Frequency . Trip
PFRC3*(EATON_PFRC1)		
	Mod	81[3] - Frequency . Active 81[3] - Frequency . Blo TripCmd 81[3] - Frequency . ExBlo TripCmd
	Beh	

LDevice::CTRL

	Health	
	NamPlt	
	Str	81[3] - Frequency . Pickup
	Op	81[3] - Frequency . Trip
PFRC4*(EATON_PFC1)		
	Mod	81[4] - Frequency . Active 81[4] - Frequency . Blo TripCmd 81[4] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[4] - Frequency . Pickup
	Op	81[4] - Frequency . Trip
PFRC5*(EATON_PFC1)		
	Mod	81[5] - Frequency . Active 81[5] - Frequency . Blo TripCmd 81[5] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[5] - Frequency . Pickup
	Op	81[5] - Frequency . Trip
PFRC6*(EATON_PFC1)		
	Mod	81[6] - Frequency . Active 81[6] - Frequency . Blo TripCmd 81[6] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[6] - Frequency . Pickup
	Op	81[6] - Frequency . Trip
PMRI1(EATON_PMRI1)		
	Mod	MStart - Motor Start . Active MStart - Motor Start . Blo TripCmd MStart - Motor Start . ExBlo TripCmd
	Beh	

LDevice::CTRL

	Health	
	NamPlt	
	Op	MStart - Motor Start . Blo
PMSS1(EATON_PMSS1)		
	Mod	MStart - Motor Start . Active MStart - Motor Start . Blo TripCmd MStart - Motor Start . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Op	MStart - Motor Start . Trip
	MotCyc	MStart - Motor Start . MotorCyc Enum
PPAM1*(EATON_PPAM1)		
	Mod	81[1] - Frequency . Active 81[1] - Frequency . Blo TripCmd 81[1] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[1] - Frequency . Pickup
	Op	81[1] - Frequency . Trip
PPAM2*(EATON_PPAM1)		
	Mod	81[2] - Frequency . Active 81[2] - Frequency . Blo TripCmd 81[2] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[2] - Frequency . Pickup
	Op	81[2] - Frequency . Trip
PPAM3*(EATON_PPAM1)		
	Mod	81[3] - Frequency . Active 81[3] - Frequency . Blo TripCmd 81[3] - Frequency . ExBlo TripCmd
	Beh	
	Health	

LDevice::CTRL

	NamPlt	
	Str	81[3] - Frequency . Pickup
	Op	81[3] - Frequency . Trip
PPAM4*(EATON_PPAM1)		
	Mod	81[4] - Frequency . Active 81[4] - Frequency . Blo TripCmd 81[4] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[4] - Frequency . Pickup
	Op	81[4] - Frequency . Trip
PPAM5*(EATON_PPAM1)		
	Mod	81[5] - Frequency . Active 81[5] - Frequency . Blo TripCmd 81[5] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[5] - Frequency . Pickup
	Op	81[5] - Frequency . Trip
PPAM6*(EATON_PPAM1)		
	Mod	81[6] - Frequency . Active 81[6] - Frequency . Blo TripCmd 81[6] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[6] - Frequency . Pickup
	Op	81[6] - Frequency . Trip
PTOC1(EATON_PTOC1)		
	Mod	50P[1] - Phase Inst. OC . Active 50P[1] - Phase Inst. OC . Blo TripCmd 50P[1] - Phase Inst. OC . ExBlo TripCmd
	Beh	
	Health	

LDevice::CTRL

	NamPlt	
	Str	50P[1] - Phase Inst. OC . Pickup
	Op	50P[1] - Phase Inst. OC . Trip
PTOC2(EATON_PTOC1)		
	Mod	50P[2] - Phase Inst. OC . Active 50P[2] - Phase Inst. OC . Blo TripCmd 50P[2] - Phase Inst. OC . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	50P[2] - Phase Inst. OC . Pickup
	Op	50P[2] - Phase Inst. OC . Trip
PTOC3(EATON_PTOC1)		
	Mod	50P[3] - Phase Inst. OC . Active 50P[3] - Phase Inst. OC . Blo TripCmd 50P[3] - Phase Inst. OC . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	50P[3] - Phase Inst. OC . Pickup
	Op	50P[3] - Phase Inst. OC . Trip
PTOC4(EATON_PTOC1)		
	Mod	51P[1] - Phase Time OC . Active 51P[1] - Phase Time OC . Blo TripCmd 51P[1] - Phase Time OC . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	51P[1] - Phase Time OC . Pickup
	Op	51P[1] - Phase Time OC . Trip
PTOC5(EATON_PTOC1)		
	Mod	51P[2] - Phase Time OC . Active 51P[2] - Phase Time OC . Blo TripCmd 51P[2] - Phase Time OC . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	

LDevice::CTRL

	Str	51P[2] - Phase Time OC . Pickup
	Op	51P[2] - Phase Time OC . Trip
PTOC6(EATON_PTOC1)		
	Mod	51P[3] - Phase Time OC . Active 51P[3] - Phase Time OC . Blo TripCmd 51P[3] - Phase Time OC . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	51P[3] - Phase Time OC . Pickup
	Op	51P[3] - Phase Time OC . Trip
PTOF1*(EATON_PTOF1)		
	Mod	81[1] - Frequency . Active 81[1] - Frequency . Blo TripCmd 81[1] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[1] - Frequency . Pickup
	Op	81[1] - Frequency . Trip
PTOF2*(EATON_PTOF1)		
	Mod	81[2] - Frequency . Active 81[2] - Frequency . Blo TripCmd 81[2] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[2] - Frequency . Pickup
	Op	81[2] - Frequency . Trip
PTOF3*(EATON_PTOF1)		
	Mod	81[3] - Frequency . Active 81[3] - Frequency . Blo TripCmd 81[3] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	

LDevice::CTRL

	Str	81[3] - Frequency . Pickup
	Op	81[3] - Frequency . Trip
PTOF4*(EATON_PTOF1)		
	Mod	81[4] - Frequency . Active 81[4] - Frequency . Blo TripCmd 81[4] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[4] - Frequency . Pickup
	Op	81[4] - Frequency . Trip
PTOF5*(EATON_PTOF1)		
	Mod	81[5] - Frequency . Active 81[5] - Frequency . Blo TripCmd 81[5] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[5] - Frequency . Pickup
	Op	81[5] - Frequency . Trip
PTOF6*(EATON_PTOF1)		
	Mod	81[6] - Frequency . Active 81[6] - Frequency . Blo TripCmd 81[6] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[6] - Frequency . Pickup
	Op	81[6] - Frequency . Trip
PTOV1*(EATON_PTOV2)		
	Mod	27M[1] - Undervoltage . Active 27M[1] - Undervoltage . Blo TripCmd 27M[1] - Undervoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	

LDevice::CTRL

	Str	27M[1] - Undervoltage . Pickup
	Op	27M[1] - Undervoltage . Trip
PTOV2*(EATON_PTOV2)		
	Mod	27M[2] - Undervoltage . Active 27M[2] - Undervoltage . Blo TripCmd 27M[2] - Undervoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	27M[2] - Undervoltage . Pickup
	Op	27M[2] - Undervoltage . Trip
PTOV3*(EATON_PTOV2)		
	Mod	59M[1] - Overvoltage . Active 59M[1] - Overvoltage . Blo TripCmd 59M[1] - Overvoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	59M[1] - Overvoltage . Pickup
	Op	59M[1] - Overvoltage . Trip
PTOV4*(EATON_PTOV2)		
	Mod	59M[2] - Overvoltage . Active 59M[2] - Overvoltage . Blo TripCmd 59M[2] - Overvoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	59M[2] - Overvoltage . Pickup
	Op	59M[2] - Overvoltage . Trip
PTUF1*(EATON_PTUF1)		
	Mod	81[1] - Frequency . Active 81[1] - Frequency . Blo TripCmd 81[1] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	

LDevice::CTRL

	Str	81[1] - Frequency . Pickup
	Op	81[1] - Frequency . Trip
PTUF2*(EATON_PTUF1)		
	Mod	81[2] - Frequency . Active 81[2] - Frequency . Blo TripCmd 81[2] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[2] - Frequency . Pickup
	Op	81[2] - Frequency . Trip
PTUF3*(EATON_PTUF1)		
	Mod	81[3] - Frequency . Active 81[3] - Frequency . Blo TripCmd 81[3] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[3] - Frequency . Pickup
	Op	81[3] - Frequency . Trip
PTUF4*(EATON_PTUF1)		
	Mod	81[4] - Frequency . Active 81[4] - Frequency . Blo TripCmd 81[4] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[4] - Frequency . Pickup
	Op	81[4] - Frequency . Trip
PTUF5*(EATON_PTUF1)		
	Mod	81[5] - Frequency . Active 81[5] - Frequency . Blo TripCmd 81[5] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	

LDevice::CTRL

	Str	81[5] - Frequency . Pickup
	Op	81[5] - Frequency . Trip
PTUF6*(EATON_PTUF1)		
	Mod	81[6] - Frequency . Active 81[6] - Frequency . Blo TripCmd 81[6] - Frequency . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	81[6] - Frequency . Pickup
	Op	81[6] - Frequency . Trip
PTUV1*(EATON_PTUV2)		
	Mod	27M[1] - Undervoltage . Active 27M[1] - Undervoltage . Blo TripCmd 27M[1] - Undervoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	27M[1] - Undervoltage . Pickup
	Op	27M[1] - Undervoltage . Trip
PTUV2*(EATON_PTUV2)		
	Mod	27M[2] - Undervoltage . Active 27M[2] - Undervoltage . Blo TripCmd 27M[2] - Undervoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	27M[2] - Undervoltage . Pickup
	Op	27M[2] - Undervoltage . Trip
PTUV3*(EATON_PTUV2)		
	Mod	59M[1] - Overvoltage . Active 59M[1] - Overvoltage . Blo TripCmd 59M[1] - Overvoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	

LDevice::CTRL

	Str	59M[1] - Overvoltage . Pickup
	Op	59M[1] - Overvoltage . Trip
PTUV4*(EATON_PTUV2)		
	Mod	59M[2] - Overvoltage . Active 59M[2] - Overvoltage . Blo TripCmd 59M[2] - Overvoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	59M[2] - Overvoltage . Pickup
	Op	59M[2] - Overvoltage . Trip
PUPF1(EATON_PUPF1)		
	Mod	PF-55D[1] - Displacement PF . Active PF-55D[1] - Displacement PF . Blo TripCmd PF-55D[1] - Displacement PF . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	PF-55D[1] - Displacement PF . Pickup
	Op	PF-55D[1] - Displacement PF . Trip
PUPF2(EATON_PUPF1)		
	Mod	PF-55D[2] - Displacement PF . Active PF-55D[2] - Displacement PF . Blo TripCmd PF-55D[2] - Displacement PF . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	PF-55D[2] - Displacement PF . Pickup
	Op	PF-55D[2] - Displacement PF . Trip
PUPF3(EATON_PUPF1)		
	Mod	PF-55A[1] - Apparent PF . Active PF-55A[1] - Apparent PF . Blo TripCmd PF-55A[1] - Apparent PF . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	PF-55A[1] - Apparent PF . Pickup

LDevice::CTRL

	Op	PF-55A[1] - Apparent PF . Trip
PUPF4(EATON_PUPF1)		
	Mod	PF-55A[2] - Apparent PF . Active PF-55A[2] - Apparent PF . Blo TripCmd PF-55A[2] - Apparent PF . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	PF-55A[2] - Apparent PF . Pickup
	Op	PF-55A[2] - Apparent PF . Trip
RBRF1(EATON_RBRF1)		
	Mod	BF . Active BF . ExBlo BF . ExBlo
	Beh	
	Health	
	NamPlt	
	Str	BF . Pickup
	OpEx	BF . Trip
RTDPTTR1(EATON_PTTR4)		
	Mod	RTD . Active RTD . Blo TripCmd RTD . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Op	RTD . Trip
TMPTR1(EATON_PTTR2)		
	Mod	49 - Thermal Model . Active 49 - Thermal Model . Blo TripCmd 49 - Thermal Model . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	49 - Thermal Model . Pickup
	Op	49 - Thermal Model . Trip
ULPTOC1(EATON_PTOC4)		

LDevice::CTRL

	Mod	46[1] - I.Unbalance . Active 46[1] - I.Unbalance . Blo TripCmd 46[1] - I.Unbalance . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	46[1] - I.Unbalance . Pickup
	Op	46[1] - I.Unbalance . Trip
ULPTOC2(EATON_PTOC4)		
	Mod	46[2] - I.Unbalance . Active 46[2] - I.Unbalance . Blo TripCmd 46[2] - I.Unbalance . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	46[2] - I.Unbalance . Pickup
	Op	46[2] - I.Unbalance . Trip
ULPTUC1(EATON_PTUC1)		
	Mod	37[1] - Underload . Active 37[1] - Underload . Blo TripCmd 37[1] - Underload . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	37[1] - Underload . Pickup
	Op	37[1] - Underload . Trip
ULPTUC2(EATON_PTUC1)		
	Mod	37[2] - Underload . Active 37[2] - Underload . Blo TripCmd 37[2] - Underload . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	37[2] - Underload . Pickup
	Op	37[2] - Underload . Trip
ULPTUC3(EATON_PTUC1)		

LDevice::CTRL

	Mod	37[3] - Underload . Active 37[3] - Underload . Blo TripCmd 37[3] - Underload . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	37[3] - Underload . Pickup
	Op	37[3] - Underload . Trip
VAPTOV1*(EATON_PTOV3)		
	Mod	47[1] - V.Unbalance . Active 47[1] - V.Unbalance . Blo TripCmd 47[1] - V.Unbalance . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	47[1] - V.Unbalance . Pickup
	Op	47[1] - V.Unbalance . Trip
VAPTOV2*(EATON_PTOV3)		
	Mod	47[2] - V.Unbalance . Active 47[2] - V.Unbalance . Blo TripCmd 47[2] - V.Unbalance . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	47[2] - V.Unbalance . Pickup
	Op	47[2] - V.Unbalance . Trip
VAPTUV1*(EATON_PTUV3)		
	Mod	47[1] - V.Unbalance . Active 47[1] - V.Unbalance . Blo TripCmd 47[1] - V.Unbalance . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	47[1] - V.Unbalance . Pickup
	Op	47[1] - V.Unbalance . Trip
VAPTUV2*(EATON_PTUV3)		

LDevice::CTRL

	Mod	47[2] - V.Unbalance . Active 47[2] - V.Unbalance . Blo TripCmd 47[2] - V.Unbalance . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	47[2] - V.Unbalance . Pickup
	Op	47[2] - V.Unbalance . Trip
VSPTOV1*(EATON_PTOV1)		
	Mod	27A[1] - Undervoltage . Active 27A[1] - Undervoltage . Blo TripCmd 27A[1] - Undervoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	27A[1] - Undervoltage . Pickup
	Op	27A[1] - Undervoltage . Trip
VSPTOV2*(EATON_PTOV1)		
	Mod	27A[2] - Undervoltage . Active 27A[2] - Undervoltage . Blo TripCmd 27A[2] - Undervoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	27A[2] - Undervoltage . Pickup
	Op	27A[2] - Undervoltage . Trip
VSPTOV3*(EATON_PTOV1)		
	Mod	59A[1] - Overvoltage . Active 59A[1] - Overvoltage . Blo TripCmd 59A[1] - Overvoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	59A[1] - Overvoltage . Pickup
	Op	59A[1] - Overvoltage . Trip
VSPTOV4*(EATON_PTOV1)		

LDevice::CTRL

	Mod	59A[2] - Overvoltage . Active 59A[2] - Overvoltage . Blo TripCmd 59A[2] - Overvoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	59A[2] - Overvoltage . Pickup
	Op	59A[2] - Overvoltage . Trip
VSPTUV1*(EATON_PTUV1)		
	Mod	27A[1] - Undervoltage . Active 27A[1] - Undervoltage . Blo TripCmd 27A[1] - Undervoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	27A[1] - Undervoltage . Pickup
	Op	27A[1] - Undervoltage . Trip
VSPTUV2*(EATON_PTUV1)		
	Mod	27A[2] - Undervoltage . Active 27A[2] - Undervoltage . Blo TripCmd 27A[2] - Undervoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	27A[2] - Undervoltage . Pickup
	Op	27A[2] - Undervoltage . Trip
VSPTUV3*(EATON_PTUV1)		
	Mod	59A[1] - Overvoltage . Active 59A[1] - Overvoltage . Blo TripCmd 59A[1] - Overvoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	59A[1] - Overvoltage . Pickup
	Op	59A[1] - Overvoltage . Trip
VSPTUV4*(EATON_PTUV1)		

LDevice::CTRL

	Mod	59A[2] - Overvoltage . Active 59A[2] - Overvoltage . Blo TripCmd 59A[2] - Overvoltage . ExBlo TripCmd
	Beh	
	Health	
	NamPlt	
	Str	59A[2] - Overvoltage . Pickup
	Op	59A[2] - Overvoltage . Trip

* Logical Node is dependent from settings in the "Device Planing". (See 4.1 Device Planing Dependencies)

4.1. Device Planing Dependencies

Depending on the settings in the Device Planing section Logical Node instances will be available in the generated ICD file. The following list will give you an overview about the different selections for each Module which have an effect on the existence of a Logical Node.

Module.Name	Value
CILO1	
Bkr . SwitchgearType	Controlled SG
	Controlled Make Break SG
CSWI1	
	Controlled SG
	Controlled Make Break SG
XCBR1	
	Monitored Make Break SG
	Controlled Make Break SG
XSWI1	
	Monitored SG
	Controlled SG
PDOP1	
32[1] - Real Power . Mode	Over forward
	Over reverse
PDOP2	
32[2] - Real Power . Mode	Over forward
	Over reverse
PDOP3	

Module.Name	Value
32[3] - Real Power . Mode	Over forward
	Over reverse
PDOP4	
32V[1] - Vars . Mode	Over forward
	Over reverse
PDOP5	
32V[2] - Vars . Mode	Over forward
	Over reverse
PDOP6	
32V[3] - Vars . Mode	Over forward
	Over reverse
PDUP1	
32[1] - Real Power . Mode	Under forward
	Under reverse
PDUP2	
32[2] - Real Power . Mode	Under forward
	Under reverse
PDUP3	
32[3] - Real Power . Mode	Under forward
	Under reverse
PDUP4	
32V[1] - Vars . Mode	Under forward
	Under reverse
PDUP5	
32V[2] - Vars . Mode	Under forward
	Under reverse
PDUP6	
32V[3] - Vars . Mode	Under forward
	Under reverse
PFRC1	
81[1] - Frequency . Mode	81UR- Under & df/dt
	81OR- Over & df/dt
	81UDR- Under & DF/DT
	81ODR- Over & DF/DT
	81R-Rate of Change

Module.Name	Value
PFRC2	
81[2] - Frequency . Mode	81UR- Under & df/dt
	81OR- Over & df/dt
	81UDR- Under & DF/DT
	81ODR- Over & DF/DT
	81R-Rate of Change
PFRC3	
81[3] - Frequency . Mode	81UR- Under & df/dt
	81OR- Over & df/dt
	81UDR- Under & DF/DT
	81ODR- Over & DF/DT
	81R-Rate of Change
PFRC4	
81[4] - Frequency . Mode	81UR- Under & df/dt
	81OR- Over & df/dt
	81UDR- Under & DF/DT
	81ODR- Over & DF/DT
	81R-Rate of Change
PFRC5	
81[5] - Frequency . Mode	81UR- Under & df/dt
	81OR- Over & df/dt
	81UDR- Under & DF/DT
	81ODR- Over & DF/DT
	81R-Rate of Change
PFRC6	
81[6] - Frequency . Mode	81UR- Under & df/dt
	81OR- Over & df/dt
	81UDR- Under & DF/DT
	81ODR- Over & DF/DT
	81R-Rate of Change
PPAM1	
81[1] - Frequency . Mode	78V vector surge
PPAM2	
81[2] - Frequency . Mode	78V vector surge
PPAM3	

Module.Name	Value
81[3] - Frequency . Mode	78V vector surge
PPAM4	
81[4] - Frequency . Mode	78V vector surge
PPAM5	
81[5] - Frequency . Mode	78V vector surge
PPAM6	
81[6] - Frequency . Mode	78V vector surge
PTOF1	
81[1] - Frequency . Mode	81O-Over
PTOF2	
81[2] - Frequency . Mode	81O-Over
PTOF3	
81[3] - Frequency . Mode	81O-Over
PTOF4	
81[4] - Frequency . Mode	81O-Over
PTOF5	
81[5] - Frequency . Mode	81O-Over
PTOF6	
81[6] - Frequency . Mode	81O-Over
PTOV3	
59M[1] - Overvoltage . Mode	Use
PTOV4	
59M[2] - Overvoltage . Mode	Use
PTUF1	
81[1] - Frequency . Mode	81U-Under
PTUF2	
81[2] - Frequency . Mode	81U-Under
PTUF3	
81[3] - Frequency . Mode	81U-Under
PTUF4	
81[4] - Frequency . Mode	81U-Under
PTUF5	
81[5] - Frequency . Mode	81U-Under
PTUF6	
81[6] - Frequency . Mode	81U-Under

Module.Name	Value
PTUV1	
27M[1] - Undervoltage . Mode	Use
PTUV2	
27M[2] - Undervoltage . Mode	Use
VAPTOV1	
47[1] - V.Unbalance . Mode	Use
VAPTOV2	
47[2] - V.Unbalance . Mode	Use
VSPTOV3	
59A[1] - Overvoltage . Mode	Use
VSPTOV4	
59A[2] - Overvoltage . Mode	Use
VSPTUV1	
27A[1] - Undervoltage . Mode	Use
VSPTUV2	
27A[2] - Undervoltage . Mode	Use