



## **IEC 61850 Model Implementation Conformance Statement(MICS) for P&B SuperVision Series Advanced FeederVision AFVD relays**

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## Abbreviated Terms

- **ACSI** Abstract Communication Service Interface
- **ASN.1** Abstract Syntax Notation One
- **API** Application Program Interface
- **CDC** Common Data Class
- **CT** Current Transformer
- **IED** Intelligent Electronic Device
- **LD** Logical Device
- **LN** Logical Node
- **LLN0** Logical Node Zero
- **LPHD** Logical Node Physical Device
- **MMS** Manufacturing Message Specification
- **PHD** Physical Device
- **PICOM** Piece Of Communication
- **SCSM** Specific Communication Service Mapping
- **SoE** Sequence Of Events
- **UML** Unified Modelling Language
- **VMD** Virtual Manufacturing Device
- **VT** Voltage Transformer
- **XML** eXtended Markup Language

**IEC 61850 MODEL IMPLEMENTATION CONFORMANCE STATEMENT (MICS)****1 Introduction**

This specification is the Model Implementation Conformance Statement (MICS) and presents the top-level IEC 61850 data model that has been implemented. The definitions of all used Logical Nodes and their associated Common Data Classes, components and associated enumerated values are also provided for completeness.

**2 Objective**

The objective of this MICS document is to provide comprehensive details of the standard data object model elements supported by the P&B SuperVision Series Advanced FeederVision AFVD relay. The MICS is conformant to the devices associated ICD (Substation Configuration Language) file, according to part 6 of the IEC 61850 standards. The layout of the tables presented within this document are conformant to the part 7 series of the IEC 61850 standard specifications without showing the "Trigger Options" field and the "M/O" field.

**3 Logical device(LD) definitions**

The SuperVision Series Advanced FeederVision AFVD relay implements an IEC 61850 server that can contain one or more Logical Devices. Each Logical Device contains a data model built from instances of specific Logical Nodes(LN) and must consist of at least an instance of the LPHD Logical Node (which is responsible for providing physical device information) and an instance of the LLN0 Logical Node (for addressing common issues across the Logical Device).

There is only one Logical Device included in the IEC 61850 data model for the P&B Advanced FeederVision AFVD relays. All P&B SuperVision Series relays will name the supported Logical Devices consistently to ensure that data model variables with the same purpose will have the same name within each P&B SuperVision Series server.

**3.1 IEC 61850 logical device data model**

The IEC 61850 Logical Device top-level data model consists of instances of Logical Nodes. The data model name for a Logical Node instance is constructed from an optional prefix, the Logical Node name, and an instance ID (e.g. suffix). All of the data models are divided into such five groups as control type, measurement type, protection type, record type and system type, and presented in an alphabetically sorted order, rather than a logical order in each group.

**3.1.1 AFVD1/3**

LD	LN Instance	LN Type	Description
Advanced FeederVision AFVD1/3	(control type)		
*CTRL	CbcCSWI1	CSWI1	Circuit Breaker Control
*CTRL	CbmXCBR1	XCBR1	Breaker Monitoring
*CTRL	LLN0	LLN01	Control Logic Device Information
*CTRL	LPHD1	LPHD2	Physical Device Information
*CTRL	PnlCSWI1	CSWI2	Enable Panel Control
*CTRL	SrfCSWI1	CSWI2	Serial Reset Fault
	(Measurement type)		
*MEAS	EngMMTR1	MMTR1	Energy Statistics
*MEAS	LLN0	LLN01	Measurement Logic Device Information
*MEAS	LPHD1	LPHD2	Physical Device Information
*MEAS	RmsMMXU1	MMXU1	Analogue RMS Measurements
	(Protection type)		
*PROT	AscRSYN1	RSYN1	Synch Check protection
*PROT	CbfRBRF1	RBRF1	Circuit Breaker Failure

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*PROT	EftPTOC1	PTOC1	Earth Fault 1
*PROT	EftPTOC2	PTOC1	Earth Fault 2
*PROT	ErrPITF1	PITF1 <b>(Private)</b>	Internal Failure
*PROT	ExtPEXF1	PEXF1 <b>(Private)</b>	External Fault 1 (Emergency Xform Fault)
*PROT	ExtPEXF2	PEXF1 <b>(Private)</b>	External Fault 2 (MREF External Fault)
*PROT	ExtPEXF3	PEXF1 <b>(Private)</b>	External Fault 3 (Xform Buchholz Fault)
*PROT	ExtPEXF4	PEXF1 <b>(Private)</b>	External Fault 4 (Xform Oil Temp Fault)
*PROT	ExtPEXF5	PEXF1 <b>(Private)</b>	External Fault 5 (Xform Winding Fault)
*PROT	ExtPEXF6	PEXF1 <b>(Private)</b>	External Fault 6 (Xform PRDS Fault)
*PROT	ExtPEXF7	PEXF1 <b>(Private)</b>	External Fault 7 (Control Pwr Fault)
*PROT	ExtPEXF8	PEXF1 <b>(Private)</b>	External Fault 8 (Unused)
*PROT	ExtPEXF9	PEXF1 <b>(Private)</b>	External Fault 9 (Trip Cct Fault)
*PROT	HsePTOC1	PTOC1	High set Earth Fault 1
*PROT	HsePTOC2	PTOC1	High set Earth Fault 2
*PROT	HspPTOC1	PTOC1	High Set(HS) Overcurrent
*PROT	LLN0	LLN01	Protection Logic Device Information
*PROT	LPHD1	LPHD2	Physical Device Information
*PROT	LdiPTOC1	PTOC2	Load Increase
*PROT	LrfPEXF1	PEXF2 <b>(Private)</b>	Local/Remote Fault
*PROT	LspPTOC1	PTOC1	Low Set(LS) Overcurrent
*PROT	LvtPEXF1	PEXF2 <b>(Private)</b>	Line VT Failure
*PROT	PhsPTOC1	PTOC1	Over Current 1
*PROT	PhsPTOC2	PTOC1	Over Current 2
*PROT	PhsPTOV1	PTOV1	Over Voltage
*PROT	PhsPTUV1	PTUV1	Under Voltage
*PROT	SrlPSTO1	PSTO1 <b>(Private)</b>	Serial Timeout
(Record Type)			
*RECD	DisRDRE1	RDRE1	Disturbance Recording
*RECD	LLN0	LLN01	Protection Logic Device Information
*RECD	LPHD1	LPHD2	Physical Device Information
(System Type)			
*SYST	AlmRFLT1	RFLT1 <b>(Private)</b>	Recent Alarms
*SYST	DinGGIO1	GGIO3	Digital Inputs
*SYST	EfcTCTR1	TCTR2	E/F Current Transformer 1
*SYST	EfcTCTR2	TCTR2	E/F Current Transformer 2
*SYST	LLN0	LLN01	Logical Device Information
*SYST	LPHD1	LPHD1	Physical Device Information
*SYST	LedGGIO1	GGIO4	LED Outputs
*SYST	MixGGIO1	GGIO1	Mixed Digital I/Os
*SYST	PhsTCTR1	TCTR1	Phase Current Transformer
*SYST	PhsTVTR1	TVTR1	Voltage Transformer
*SYST	RlyGGIO1	GGIO2	Relay Outputs
*SYST	TrpRFLT1	RFLT1 <b>(Private)</b>	Recent Trips

## 3.1.2 AFVD2

LD	LN Instance	LN Type	Description
Advanced FeederVision AFVD2	(control type)		
*CTRL	CbcCSWI1	CSWI1	Circuit Breaker Control
*CTRL	CbmXCBR1	XCBR1_POS2	Breaker Monitoring
*CTRL	LLN0	LLN01	Control Logic Device Information
*CTRL	LPHD1	LPHD2	Physical Device Information
*CTRL	SrfCSWI1	CSWI2	Serial Reset Fault
	(Measurement type)		
*MEAS	EngMMTR1	MMTR1	Energy Statistics
*MEAS	LLN0	LLN01	Measurement Logic Device Information
*MEAS	LPHD1	LPHD2	Physical Device Information
*MEAS	RmsMMXU1	MMXU1_POS2	Analogue RMS Measurements
	(Protection type)		
*PROT	BsfPEXF1	PEXF3 ( <i>Private</i> )	Breaker In Service Fault
*PROT	CbfRBRF1	RBRF1	Circuit Breaker Failure
*PROT	DbSPTUV1	PTUV2	Dead Bus
*PROT	EftPTOC1	PTOC1	Earth Fault 1
*PROT	EftPTOC2	PTOC1	Earth Fault 2
*PROT	ErrPITF1	PITF1 ( <i>Private</i> )	Internal Failure
*PROT	ExtPEXF1	PEXF1 ( <i>Private</i> )	External Fault 1 (Xform Buchholz 1 Fault)
*PROT	ExtPEXF2	PEXF1 ( <i>Private</i> )	External Fault 2 (Xform Oil Temp 1 Fault)
*PROT	ExtPEXF3	PEXF1 ( <i>Private</i> )	External Fault 3 (Xfrm Wind Temp 1 Fault)
*PROT	ExtPEXF4	PEXF1 ( <i>Private</i> )	External Fault 4 (Xform MOGL 1 Fault)
*PROT	ExtPEXF5	PEXF1 ( <i>Private</i> )	External Fault 5 (Xform Buchholz 2 Fault)
*PROT	ExtPEXF6	PEXF1 ( <i>Private</i> )	External Fault 6 (Xform Oil Temp 2 Fault)
*PROT	ExtPEXF7	PEXF1 ( <i>Private</i> )	External Fault 7 (Xfrm Wind Temp 2 Fault)
*PROT	ExtPEXF8	PEXF1 ( <i>Private</i> )	External Fault 8 (Xform MOGL 2 Fault)
*PROT	ExtPEXF9	PEXF1 ( <i>Private</i> )	External Fault 9 (Trip Cct Fault)
*PROT	ExtPEXF10	PEXF1 ( <i>Private</i> )	External Fault 10 (AC Bus A Fault)
*PROT	ExtPEXF11	PEXF1 ( <i>Private</i> )	External Fault 11 (AC Bus B Fault)
*PROT	HbsPTUV1	PTUV1	Healthy Bus
*PROT	HsePTOC1	PTOC1	High set Earth Fault 1
*PROT	HsePTOC2	PTOC1	High set Earth Fault 2
*PROT	HspPTOC1	PTOC1	High Set(HS) Overcurrent
*PROT	LLN0	LLN01	Protection Logic Device Information
*PROT	LPHD1	LPHD2	Physical Device Information
*PROT	LdiPTOC1	PTOC2	Load Increase
*PROT	LspPTOC1	PTOC1	Low Set(LS) Overcurrent

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*PROT	PhsPTOC1	PTOC1	Over Current 1
*PROT	PhsPTOC2	PTOC1	Over Current 2
*PROT	SrlPSTO1	PSTO1 <b>(Private)</b>	Serial Timeout
	(Record Type)		
*RECD	DisRDRE1	RDRE1	Disturbance Recording
*RECD	LLN0	LLN01	Protection Logic Device Information
*RECD	LPHD1	LPHD2	Physical Device Information
	(System Type)		
*SYST	AlmRFLT1	RFLT1_POS2 <b>(Private)</b>	Recent Alarms
*SYST	DinGGIO1	GGIO3_POS2	Digital Inputs
*SYST	EfcTCTR1	TCTR2	E/F Current Transformer 1
*SYST	EfcTCTR2	TCTR2	E/F Current Transformer 2
*SYST	LLN0	LLN01	Logical Device Information
*SYST	LPHD1	LPHD1	Physical Device Information
*SYST	LedGGIO1	GGIO4_POS2	LED Outputs
*SYST	MixGGIO1	GGIO1_POS2	Mixed Digital I/Os
*SYST	PhsTCTR1	TCTR1	Phase Current Transformer
*SYST	PhsTVTR1	TVTR1	Voltage Transformer
*SYST	RlyGGIO1	GGIO2_POS2	Relay Outputs
*SYST	TrpRFLT1	RFLT1_POS2 <b>(Private)</b>	Recent Trips

### 3.1.3 AFVD4

LD	LN Instance	LN Type	Description
Advanced FeederVision AFVD4	(control type)		
*CTRL	CbcCSWI1	CSWI1_POS4	Circuit Breaker Control
*CTRL	CbmXCBR1	XCBR1	Breaker Monitoring
*CTRL	LLN0	LLN01	Control Logic Device Information
*CTRL	LPHD1	LPHD2	Physical Device Information
*CTRL	PnlCSWI1	CSWI2	Enable Panel Control
*CTRL	SrfCSWI1	CSWI2	Serial Reset Fault
	(Measurement type)		
*MEAS	LLN0	LLN01	Measurement Logic Device Information
*MEAS	LPHD1	LPHD2	Physical Device Information
*MEAS	RmsMMXU1	MMXU1_POS4	Analogue RMS Measurements
	(Protection type)		
*PROT	AcfPEXF1	PEXF3 <b>(Private)</b>	Auto-Changeover(AC) Fail
*PROT	AmfPEXF1	PEXF2 <b>(Private)</b>	Auto/Manual Fault
*PROT	AscRSYN1	RSYN1_POS4	Synch Check protection
*PROT	BchPEXF1	PEXF2 <b>(Private)</b>	BC Healthy
*PROT	BvtPEXF1	PEXF2 <b>(Private)</b>	BUS A VT Fuse Failure
*PROT	BvtPEXF2	PEXF2 <b>(Private)</b>	BUS B VT Fuse Failure
*PROT	CbfRBRF1	RBRF1	BC Breaker Failure
*PROT	DbvPTUV1	PTUV2	Dead Bus
*PROT	ErrPITF1	PITF1 <b>(Private)</b>	Internal Failure
*PROT	HbsPTUV1	PTUV1	Healthy Bus
*PROT	IcfRBRF1	RBRF1	IC1 Breaker Failure

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*PROT	IcfRBRF2	RBRF1	IC2 Breaker Failure
*PROT	LLN0	LLN01	Protection Logic Device Information
*PROT	LPHD1	LPHD2	Physical Device Information
*PROT	LrfPEXF1	PEXF2 <b>(Private)</b>	Local/Remote Fault
*PROT	SrlPSTO1	PSTO1 <b>(Private)</b>	Serial Timeout
	(Record Type)		
*RECD	DisRDRE1	RDRE1	Disturbance Recording
*RECD	LLN0	LLN01	Protection Logic Device Information
*RECD	LPHD1	LPHD2	Physical Device Information
	(System Type)		
*SYST	AlmRFLT1	RFLT1_POS4 <b>(Private)</b>	Recent Alarms
*SYST	DinGGIO1	GGIO3_POS4	Digital Inputs
*SYST	LLN0	LLN01	Logical Device Information
*SYST	LPHD1	LPHD1	Physical Device Information
*SYST	LedGGIO1	GGIO4_POS4	LED Outputs
*SYST	MixGGIO1	GGIO1_POS4	Mixed Digital I/Os
*SYST	PhsTVTR1	TVTR1	Voltage Transformer
*SYST	RlyGGIO1	GGIO2_POS4	Relay Outputs
*SYST	TrpRFLT1	RFLT1_POS4 <b>(Private)</b>	Recent Trips

### 3.1.4 AFVD5

LD	LN Instance	LN Type	Description
Advanced FeederVision AFVD5	(control type)		
*CTRL	CbmXCBR1	XCBR1	Breaker Monitoring
*CTRL	LLN0	LLN01	Control Logic Device Information
*CTRL	LPHD1	LPHD2	Physical Device Information
*CTRL	SrfCSWI1	CSWI2	Serial Reset Fault
	(Measurement type)		
*MEAS	LLN0	LLN01	Measurement Logic Device Information
*MEAS	LPHD1	LPHD2	Physical Device Information
*MEAS	RmsMMXU1	MMXU1_POS5	Analogue RMS Measurements
	(Protection type)		
*PROT	AcfPEXF1	PEXF3 <b>(Private)</b>	Auto-Changeover(AC) Fail
*PROT	AmfPEXF1	PEXF2 <b>(Private)</b>	Auto/Manual Fault
*PROT	DbxPTUV1	PTUV2	Dead Bus
*PROT	ErrPITF1	PITF1 <b>(Private)</b>	Internal Failure
*PROT	ExtPEXF1	PEXF1 <b>(Private)</b>	External Fault 1 (240AC Fail)
*PROT	ExtPEXF2	PEXF1 <b>(Private)</b>	External Fault 2 (Bus VT Fail)
*PROT	ExtPEXF3	PEXF1 <b>(Private)</b>	External Fault 3 (Buchholz/(Buchholz T1) Fault)
*PROT	ExtPEXF4	PEXF1 <b>(Private)</b>	External Fault 4 (Oil Temp/(Oil Temp T1) Fault)
*PROT	ExtPEXF5	PEXF1 <b>(Private)</b>	External Fault 5 (Wind Temp/(Buchholz T2) Fault)

*PROT	ExtPEXF6	PEXF1 ( <i>Private</i> )	External Fault 6 (MOGL Alarm/(Oil Temp T2) Fault)
*PROT	ExtPEXF7	PEXF1 ( <i>Private</i> )	External Fault 7 (220V DC UV Fault)
*PROT	ExtPEXF8	PEXF1 ( <i>Private</i> )	External Fault 8
*PROT	ExtPEXF9	PEXF1 ( <i>Private</i> )	External Fault 9
*PROT	ExtPEXF10	PEXF1 ( <i>Private</i> )	External Fault 10
*PROT	ExtPEXF11	PEXF1 ( <i>Private</i> )	External Fault 11
*PROT	IcfRBRF1	RBRF1	IC1 Breaker Failure
*PROT	IcfRBRF2	RBRF1	IC2 Breaker Failure
*PROT	SrIPSTO1	PSTO1( <i>Private</i> )	Serial Timeout
(Record Type)			
*RECD	DisRDRE1	RDRE1	Disturbance Recording
*RECD	LLN0	LLN01	Protection Logic Device Information
*RECD	LPHD1	LPHD2	Physical Device Information
(System Type)			
*SYST	AlmRFLT1	RFLT1_POS5 ( <i>Private</i> )	Recent Alarms
*SYST	DinGGIO1	GGIO3_POS5	Digital Inputs
*SYST	LLN0	LLN01	Logical Device Information
*SYST	LPHD1	LPHD1	Physical Device Information
*SYST	LedGGIO1	GGIO4_POS5	LED Outputs
*SYST	MixGGIO1	GGIO1_POS5	Mixed Digital I/Os
*SYST	PhsTVTR1	TVTR1	Voltage Transformer
*SYST	RlyGGIO1	GGIO2_POS5	Relay Outputs
*SYST	TrpRFLT1	RFLT1_POS5 ( <i>Private</i> )	Recent Trips

### 3.2 Logical node definitions

The definition tables for each of the Logical Nodes in the top-level data model are presented as below.

#### 3.2.1 Logical Node: CSWI1

**Description:** Switch controller for circuit-breaker

**LN Class:** CSWI

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Loc	SPS_1_Loc	Local operation mode	Local mode status
Pos	DPC_1_Pos	Dual point switch control and status	Circuit-Breaker control
OpOpn	ACT_1_OpOpn	Operation "Open Switch"	
OpCls	ACT_1_OpOpn	Operation "Close Switch"	
PnlClsAvl	SPS_1_ClsAvl	Panel Close Available	
TncClsAvl	SPS_1_ClsAvl	TNC Close Available	
RemClsAvl	SPS_1_ClsAvl	Remote Close Available	
SrlClsAvl	SPS_1_ClsAvl	Serial Close Available	

#### 3.2.2 Logical Node: CSWI1\_POS4

**Description:** Switch controller for circuit-breaker(AFVD4)



**LN Class: CSWI**

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Loc	SPS_1_Loc	Local operation mode	Local mode status
Pos	DPC_1_Pos	Dual point switch control and status	Contactor/Circuit-Breaker control
OpOpn	ACT_1_OpOpn	Operation "Open Switch"	
OpCls	ACT_1_OpOpn	Operation "Close Switch"	
PnlClsAvl	SPS_1_ClsAvl	Panel Close Available	
TncClsAvl	SPS_1_ClsAvl	TNC Close Available	
RemClsAvl	SPS_1_ClsAvl	Remote Close Available	
SrlClsAvl	SPS_1_ClsAvl	Serial Close Available	
ParTmms	ING_1_ParTmms	Parallel Time	Setting
Ht1DITmms	ING_1_ParTmms	HT1 Delay	Setting
Ht2DITmms	ING_1_ParTmms	HT2 Delay	Setting

**3.2.3 Logical Node: CSWI2****Description:** Switch controller for serial reset fault**LN Class:** CSWI

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Loc	SPS_1_Loc	Local operation mode	Local mode status
Pos	DPC_1_Pos	Dual point switch control and status	for serial reset fault or panel control enabling

**3.2.4 Logical Node: GGIO1****Description:** Generic Process I/O**LN Class:** GGIO

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
AnIn	MV_1_AnIn	Analogue Input	
SPCSO	SPC_1_SPCSO	Single point controllable status output	Optional
DPCSO	DPC_1_DPCSO	Double point controllable status output	Optional
ISCSO	INC_2_ISCSO	Integer status controllable status output	Status of relay output 1-8
IntIn01	INS_3_IntIn	Integer status input	Status of Digital Input(1-8)
IntIn02	INS_3_IntIn	Integer status input	Status of Digital

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			Input(9-16)
IntIn03	INS_3_IntIn	Integer status input	Status of Digital Input(17-24)
Alm	SPS_1_Alm	General single alarm	Optional
Ind	SPS_1_Alm	General single indication(binary input)	Optional
LgcSt	INS_3_LgcSt	Integer status ( <i>private</i> )	Logical status
IntOut01	INS_1_IntOut	Integer status output ( <i>private</i> )	Trip Status (bit 0 –bit 15)
IntOut02	INS_1_IntOut	Integer status output ( <i>private</i> )	Trip Status (bit 16 –bit 31)
IntOut03	INS_1_IntOut	Integer status output ( <i>private</i> )	Alarm Status (bit 0 -bit 15)
IntOut04	INS_1_IntOut	Integer status output ( <i>private</i> )	Alarm Status (bit 16-bit 31)
IntOut05	INS_1_IntOut	Integer status output ( <i>private</i> )	Inhibit Status (bit 0 -bit 15)
IntOut06	INS_1_IntOut	Integer status output ( <i>private</i> )	Inhibit Status (bit 16 -bit 31)
LocRem	INS_1_LocRem	Integer status output ( <i>private</i> )	Local/remote Status
AutoMan	INS_1_AutoMan	Integer status output ( <i>private</i> )	Auto/Manual Status
Tss	INS_1_Tss	Integer status output ( <i>private</i> )	TSS Status
OperSt	INS_1_OperSt	Integer status output ( <i>private</i> )	Breaker Operating Status
FltSt	INS_1_FltSt	Integer status output ( <i>private</i> )	Fault Status
TstSvc	INS_1_TstSvc	Integer status output ( <i>private</i> )	Test/Service Status

### 3.2.5 Logical Node: GGIO1\_POS2

Description: Generic Process I/O

LN Class: GGIO

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
AnIn	MV_1_AnIn	Analogue Input	
SPCSO	SPC_1_SPCSO	Single point controllable status output	Optional
DPCSO	DPC_1_DPCSO	Double point controllable status output	Optional
ISCSO	INC_2_ISCSO	Integer status controllable status output	Status of relay output 1-8
IntIn01	INS_3_IntIn	Integer status input	Status of Digital Input(1-8)
IntIn02	INS_3_IntIn	Integer status input	Status of Digital Input(9-16)
IntIn03	INS_3_IntIn	Integer status input	Status of Digital Input(17-24)
Alm	SPS_1_Alm	General single alarm	Optional
Ind	SPS_1_Alm	General single indication(binary input)	Optional
LgcSt	INS_3_LgcSt	Integer status ( <i>private</i> )	Logical status
IntOut01	INS_1_IntOut	Integer status output ( <i>private</i> )	Trip Status (bit 0 –bit 15)
IntOut02	INS_1_IntOut	Integer status output ( <i>private</i> )	Trip Status (bit 16 –bit 31)
IntOut03	INS_1_IntOut	Integer status output ( <i>private</i> )	Alarm Status (bit 0 -bit 15)

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IntOut04	INS_1_IntOut	Integer status output ( <i>private</i> )	Alarm Status (bit 16-bit 31)
IntOut05	INS_1_IntOut	Integer status output ( <i>private</i> )	Inhibit Status (bit 0 -bit 15)
IntOut06	INS_1_IntOut	Integer status output ( <i>private</i> )	Inhibit Status (bit 16 -bit 31)
OperSt	INS_1_OperSt	Integer status output ( <i>private</i> )	Breaker Operating Status
FltSt	INS_1_FltSt	Integer status output ( <i>private</i> )	Fault Status
TstSvc	INS_1_TstSvc	Integer status output ( <i>private</i> )	Test/Service Status

### 3.2.6 Logical Node: GGIO1\_POS4

**Description:** Generic Process I/O  
**LN Class:** GGIO

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
AnIn	MV_1_AnIn	Analogue Input	
SPCSO	SPC_1_SPCSO	Single point controllable status output	Optional
DPCSO	DPC_1_DPCSO	Double point controllable status output	Optional
ISCSO	INC_2_ISCSO	Integer status controllable status output	Status of relay output 1-8
IntIn01	INS_3_IntIn	Integer status input	Status of Digital Input(1-8)
IntIn02	INS_3_IntIn	Integer status input	Status of Digital Input(9-16)
IntIn03	INS_3_IntIn	Integer status input	Status of Digital Input(17-24)
Alm	SPS_1_Alm	General single alarm	Optional
Ind	SPS_1_Alm	General single indication(binary input)	Optional
LgcSt	INS_3_LgcSt	Integer status ( <i>private</i> )	Logical status
IntOut01	INS_1_IntOut	Integer status output ( <i>private</i> )	Trip Status (bit 0 –bit 15)
IntOut02	INS_1_IntOut	Integer status output ( <i>private</i> )	Trip Status (bit 16 –bit 31)
IntOut03	INS_1_IntOut	Integer status output ( <i>private</i> )	Alarm Status (bit 0 -bit 15)
IntOut04	INS_1_IntOut	Integer status output ( <i>private</i> )	Alarm Status (bit 16-bit 31)
IntOut05	INS_1_IntOut	Integer status output ( <i>private</i> )	Inhibit Status (bit 0 -bit 15)
IntOut06	INS_1_IntOut	Integer status output ( <i>private</i> )	Inhibit Status (bit 16 -bit 31)
LocRem	INS_1_LocRem	Integer status output ( <i>private</i> )	Local/remote Status
AutoMan	INS_1_AutoMan	Integer status output ( <i>private</i> )	Auto/Manual Status
Tss	INS_1_Tss	Integer status output ( <i>private</i> )	TSS Status
OperSt	INS_1_OperSt	Integer status output ( <i>private</i> )	Breaker Operating Status
FltSt	INS_1_FltSt	Integer status output ( <i>private</i> )	Fault Status
TstSvc	INS_1_TstSvc	Integer status output ( <i>private</i> )	Test/Service Status
BusSt1	INS_1_BusSt	Integer status output ( <i>private</i> )	Bus A Status
BusSt2	INS_1_BusSt	Integer status output ( <i>private</i> )	Bus B Status

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IcmSt1	INS_1_IcmSt	Integer status output ( <b>private</b> )	Incomer 1(IC1) Status
IcmSt2	INS_1_IcmSt	Integer status output ( <b>private</b> )	Incomer 2(IC2) Status
HtsSt1	INS_1_HtsSt	Integer status output ( <b>private</b> )	HT1 Status
HtsSt2	INS_1_HtsSt	Integer status output ( <b>private</b> )	HT2 Status

### 3.2.7 Logical Node: GGIO1\_POS5

**Description:** Generic Process I/O

**LN Class:** GGIO

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
AnIn	MV_1_AnIn	Analogue Input	
SPCSO	SPC_1_SPCSO	Single point controllable status output	Optional
DPCSO	DPC_1_DPCSO	Double point controllable status output	Optional
ISCSO	INC_2_ISCSO	Integer status controllable status output	Status of relay output 1-8
IntIn01	INS_3_IntIn	Integer status input	Status of Digital Input(1-8)
IntIn02	INS_3_IntIn	Integer status input	Status of Digital Input(9-16)
IntIn03	INS_3_IntIn	Integer status input	Status of Digital Input(17-24)
Alm	SPS_1_Alm	General single alarm	Optional
Ind	SPS_1_Alm	General single indication(binary input)	Optional
LgcSt	INS_3_LgcSt	Integer status ( <b>private</b> )	Logical status
IntOut01	INS_1_IntOut	Integer status output ( <b>private</b> )	Trip Status (bit 0 –bit 15)
IntOut02	INS_1_IntOut	Integer status output ( <b>private</b> )	Trip Status (bit 16 –bit 31)
IntOut03	INS_1_IntOut	Integer status output ( <b>private</b> )	Alarm Status (bit 0 -bit 15)
IntOut04	INS_1_IntOut	Integer status output ( <b>private</b> )	Alarm Status (bit 16-bit 31)
IntOut05	INS_1_IntOut	Integer status output ( <b>private</b> )	Inhibit Status (bit 0 -bit 15)
IntOut06	INS_1_IntOut	Integer status output ( <b>private</b> )	Inhibit Status (bit 16 -bit 31)
AutoMan	INS_1_AutoMan	Integer status output ( <b>private</b> )	Auto/Manual Status
Tss	INS_1_Tss	Integer status output ( <b>private</b> )	TSS Status
OperSt	INS_1_OperSt	Integer status output ( <b>private</b> )	Breaker Operating Status
FltSt	INS_1_FltSt	Integer status output ( <b>private</b> )	Fault Status
BusSt1	INS_1_BusSt	Integer status output ( <b>private</b> )	Bus A Status
BusSt2	INS_1_BusSt	Integer status output ( <b>private</b> )	Bus B Status
IcmSt1	INS_1_IcmSt	Integer status output ( <b>private</b> )	Incomer 1(IC1) Status
IcmSt2	INS_1_IcmSt	Integer status output ( <b>private</b> )	Incomer 2(IC2) Status

### 3.2.8 Logical Node: GGIO2

**Description:** Generic Process I/O

**LN Class:** GGIO

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
DoSet1	CURVE_1_DOFunc	Enumerated type for relay output setting (private)	Relay output 1 setting
DoSet2	CURVE_1_DOFunc	Enumerated type for relay output setting (private)	Relay output 2 setting
DoSet3	CURVE_1_DOFunc	Enumerated type for relay output setting (private)	Relay output 3 setting
DoSet4	CURVE_1_DOFunc	Enumerated type for relay output setting (private)	Relay output 4 setting
DoSet5	CURVE_1_DOFunc	Enumerated type for relay output setting (private)	Relay output 5 setting
DoSet6	CURVE_1_DOFunc	Enumerated type for relay output setting (private)	Relay output 6 setting
DoSet7	CURVE_1_DOFunc	Enumerated type for relay output setting (private)	Relay output 7 setting
DoSet8	CURVE_1_DOFunc	Enumerated type for relay output setting (private)	Relay output 8 setting
Rly3Cfg	CURVE_1_Rly3Cfg	Enumerated type for relay output setting (private)	Relay 3 Configuration
Bout1	SPS_1_Binp	General single indication(binary output) (private)	Relay output 1 status
Bout2	SPS_1_Binp	General single indication(binary output) (private)	Relay output 2 status
Bout3	SPS_1_Binp	General single indication(binary output) (private)	Relay output 3 status
Bout4	SPS_1_Binp	General single indication(binary output) (private)	Relay output 4 status
Bout5	SPS_1_Binp	General single indication(binary output) (private)	Relay output 5 status
Bout6	SPS_1_Binp	General single indication(binary output) (private)	Relay output 6 status
Bout7	SPS_1_Binp	General single indication(binary output) (private)	Relay output 7 status
Bout8	SPS_1_Binp	General single indication(binary output) (private)	Relay output 8 status

**3.2.9 Logical Node: GGIO2\_POS2****Description: Generic Process I/O****LN Class: GGIO**

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
DoSet1	CURVE_2_DOFunc	Enumerated type for relay output setting (private)	Relay output 1 setting
DoSet2	CURVE_2_DOFunc	Enumerated type for relay output setting (private)	Relay output 2 setting
DoSet3	CURVE_2_DOFunc	Enumerated type for relay output setting	Relay output 3 setting

		<b>(private)</b>	
DoSet4	CURVE_2_DOFunc	Enumerated type for relay output setting <b>(private)</b>	Relay output 4 setting
DoSet5	CURVE_2_DOFunc	Enumerated type for relay output setting <b>(private)</b>	Relay output 5 setting
DoSet6	CURVE_2_DOFunc	Enumerated type for relay output setting <b>(private)</b>	Relay output 6 setting
DoSet7	CURVE_2_DOFunc	Enumerated type for relay output setting <b>(private)</b>	Relay output 7 setting
DoSet8	CURVE_2_DOFunc	Enumerated type for relay output setting <b>(private)</b>	Relay output 8 setting
Bout1	SPS_1_Binp	General single indication(binary output) <b>(private)</b>	Relay output 1 status
Bout2	SPS_1_Binp	General single indication(binary output) <b>(private)</b>	Relay output 2 status
Bout3	SPS_1_Binp	General single indication(binary output) <b>(private)</b>	Relay output 3 status
Bout4	SPS_1_Binp	General single indication(binary output) <b>(private)</b>	Relay output 4 status
Bout5	SPS_1_Binp	General single indication(binary output) <b>(private)</b>	Relay output 5 status
Bout6	SPS_1_Binp	General single indication(binary output) <b>(private)</b>	Relay output 6 status
Bout7	SPS_1_Binp	General single indication(binary output) <b>(private)</b>	Relay output 7 status
Bout8	SPS_1_Binp	General single indication(binary output) <b>(private)</b>	Relay output 8 status

**3.2.10 Logical Node: GGIO2\_POS4****Description: Generic Process I/O****LN Class: GGIO**

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
DoSet1	CURVE_4_DOFunc	Enumerated type for relay output setting <b>(private)</b>	Relay output 1 setting
DoSet2	CURVE_4_DOFunc	Enumerated type for relay output setting <b>(private)</b>	Relay output 2 setting
DoSet3	CURVE_4_DOFunc	Enumerated type for relay output setting <b>(private)</b>	Relay output 3 setting
DoSet4	CURVE_4_DOFunc	Enumerated type for relay output setting <b>(private)</b>	Relay output 4 setting
DoSet5	CURVE_4_DOFunc	Enumerated type for relay output setting <b>(private)</b>	Relay output 5 setting
DoSet6	CURVE_4_DOFunc	Enumerated type for relay output setting <b>(private)</b>	Relay output 6 setting
DoSet7	CURVE_4_DOFunc	Enumerated type for relay output setting <b>(private)</b>	Relay output 7 setting
DoSet8	CURVE_4_DOFunc	Enumerated type for relay output setting <b>(private)</b>	Relay output 8 setting
Rly5Cfg	CURVE_1_Rly5Cfg	Enumerated type for relay output setting <b>(private)</b>	Relay 5 Configuration

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Rly8Cfg	CURVE_1_Rly8Cfg	Enumerated type for relay output setting (private)	Relay 8 Configuration
Bout1	SPS_1_Binp	General single indication(binary output) (private)	Relay output 1 status
Bout2	SPS_1_Binp	General single indication(binary output) (private)	Relay output 2 status
Bout3	SPS_1_Binp	General single indication(binary output) (private)	Relay output 3 status
Bout4	SPS_1_Binp	General single indication(binary output) (private)	Relay output 4 status
Bout5	SPS_1_Binp	General single indication(binary output) (private)	Relay output 5 status
Bout6	SPS_1_Binp	General single indication(binary output) (private)	Relay output 6 status
Bout7	SPS_1_Binp	General single indication(binary output) (private)	Relay output 7 status
Bout8	SPS_1_Binp	General single indication(binary output) (private)	Relay output 8 status

### 3.2.11 Logical Node: GGIO2\_POS5

Description: Generic Process I/O

LN Class: GGIO

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
DoSet1	CURVE_5_DOFunc	Enumerated type for relay output setting (private)	Relay output 1 setting
DoSet2	CURVE_5_DOFunc	Enumerated type for relay output setting (private)	Relay output 2 setting
DoSet3	CURVE_5_DOFunc	Enumerated type for relay output setting (private)	Relay output 3 setting
DoSet4	CURVE_5_DOFunc	Enumerated type for relay output setting (private)	Relay output 4 setting
DoSet5	CURVE_5_DOFunc	Enumerated type for relay output setting (private)	Relay output 5 setting
DoSet6	CURVE_5_DOFunc	Enumerated type for relay output setting (private)	Relay output 6 setting
DoSet7	CURVE_5_DOFunc	Enumerated type for relay output setting (private)	Relay output 7 setting
DoSet8	CURVE_5_DOFunc	Enumerated type for relay output setting (private)	Relay output 8 setting
Bout1	SPS_1_Binp	General single indication(binary output) (private)	Relay output 1 status
Bout2	SPS_1_Binp	General single indication(binary output) (private)	Relay output 2 status
Bout3	SPS_1_Binp	General single indication(binary output) (private)	Relay output 3 status
Bout4	SPS_1_Binp	General single indication(binary output) (private)	Relay output 4 status
Bout5	SPS_1_Binp	General single indication(binary output) (private)	Relay output 5 status
Bout6	SPS_1_Binp	General single indication(binary output)	Relay output 6 status

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		(private)	
Bout7	SPS_1_Binp	General single indication(binary output) (private)	Relay output 7 status
Bout8	SPS_1_Binp	General single indication(binary output) (private)	Relay output 8 status

### 3.2.12 Logical Node: GGIO3

Description: Generic Process I/O

LN Class: GGIO

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
DiSet01	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 1 Setting
DiSet02	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 2 Setting
DiSet03	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 3 Setting
DiSet04	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 4 Setting
DiSet05	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 5 Setting
DiSet06	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 6 Setting
DiSet07	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 7 Setting
DiSet08	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 8 Setting
DiSet09	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 9 Setting
DiSet10	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 10 Setting
DiSet11	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 11 Setting
DiSet12	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 12 Setting
DiSet13	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 13 Setting
DiSet14	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 14 Setting
DiSet15	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 15 Setting
DiSet16	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 16 Setting
DiSet17	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 17 Setting
DiSet18	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 18 Setting
DiSet19	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 19 Setting
DiSet20	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 20 Setting



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DiSet21	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 21 Setting
DiSet22	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 22 Setting
DiSet23	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 23 Setting
DiSet24	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 24 Setting
Binp01	SPS_1_Binp	General single indication(binary input) (private)	Digital input 1 status
Binp02	SPS_1_Binp	General single indication(binary input) (private)	Digital input 2 status
Binp03	SPS_1_Binp	General single indication(binary input) (private)	Digital input 3 status
Binp04	SPS_1_Binp	General single indication(binary input) (private)	Digital input 4 status
Binp05	SPS_1_Binp	General single indication(binary input) (private)	Digital input 5 status
Binp06	SPS_1_Binp	General single indication(binary input) (private)	Digital input 6 status
Binp07	SPS_1_Binp	General single indication(binary input) (private)	Digital input 7 status
Binp08	SPS_1_Binp	General single indication(binary input) (private)	Digital input 8 status
Binp09	SPS_1_Binp	General single indication(binary input) (private)	Digital input 9 status
Binp10	SPS_1_Binp	General single indication(binary input) (private)	Digital input 10 status
Binp11	SPS_1_Binp	General single indication(binary input) (private)	Digital input 11 status
Binp12	SPS_1_Binp	General single indication(binary input) (private)	Digital input 12 status
Binp13	SPS_1_Binp	General single indication(binary input) (private)	Digital input 13 status
Binp14	SPS_1_Binp	General single indication(binary input) (private)	Digital input 14 status
Binp15	SPS_1_Binp	General single indication(binary input) (private)	Digital input 15 status
Binp16	SPS_1_Binp	General single indication(binary input) (private)	Digital input 16 status
Binp17	SPS_1_Binp	General single indication(binary input) (private)	Digital input 17 status
Binp18	SPS_1_Binp	General single indication(binary input) (private)	Digital input 18 status
Binp19	SPS_1_Binp	General single indication(binary input) (private)	Digital input 19 status
Binp20	SPS_1_Binp	General single indication(binary input) (private)	Digital input 20 status
Binp21	SPS_1_Binp	General single indication(binary input) (private)	Digital input 21 status
Binp22	SPS_1_Binp	General single indication(binary input) (private)	Digital input 22 status
Binp23	SPS_1_Binp	General single indication(binary input) (private)	Digital input 23 status
Binp24	SPS_1_Binp	General single indication(binary input) (private)	Digital input 24 status

**3.2.13 Logical Node: GGIO3\_POS2****Description: Generic Process I/O****LN Class: GGIO**

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
DiSet01	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 1 Setting
DiSet02	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 2 Setting
DiSet03	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 3 Setting
DiSet04	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 4 Setting
DiSet05	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 5 Setting
DiSet06	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 6 Setting
DiSet07	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 7 Setting
DiSet08	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 8 Setting
DiSet09	CURVE_1_DIFunc	Enumerated type for digital input setting (private)	Digital Input 9 Setting
DiSet10	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 10 Setting
DiSet11	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 11 Setting
DiSet12	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 12 Setting
DiSet13	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 13 Setting
DiSet14	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 14 Setting
DiSet15	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 15 Setting
DiSet16	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 16 Setting
DiSet17	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 17 Setting
DiSet18	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 18 Setting
DiSet19	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 19 Setting
DiSet20	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 20 Setting
DiSet21	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 21 Setting
DiSet22	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 22 Setting
DiSet23	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 23 Setting
DiSet24	CURVE_2_DIFunc	Enumerated type for digital input setting (private)	Digital Input 24 Setting

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Binp01	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 1 status
Binp02	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 2 status
Binp03	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 3 status
Binp04	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 4 status
Binp05	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 5 status
Binp06	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 6 status
Binp07	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 7 status
Binp08	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 8 status
Binp09	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 9 status
Binp10	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 10 status
Binp11	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 11 status
Binp12	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 12 status
Binp13	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 13 status
Binp14	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 14 status
Binp15	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 15 status
Binp16	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 16 status
Binp17	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 17 status
Binp18	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 18 status
Binp19	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 19 status
Binp20	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 20 status
Binp21	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 21 status
Binp22	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 22 status
Binp23	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 23 status
Binp24	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 24 status

### 3.2.14 Logical Node: GGIO3\_POS4

**Description:** Generic Process I/O

**LN Class:** GGIO

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	

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Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
DiSet01	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 1 Setting
DiSet02	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 2 Setting
DiSet03	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 3 Setting
DiSet04	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 4 Setting
DiSet05	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 5 Setting
DiSet06	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 6 Setting
DiSet07	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 7 Setting
DiSet08	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 8 Setting
DiSet09	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 9 Setting
DiSet10	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 10 Setting
DiSet11	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 11 Setting
DiSet12	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 12 Setting
DiSet13	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 13 Setting
DiSet14	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 14 Setting
DiSet15	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 15 Setting
DiSet16	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 16 Setting
DiSet17	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 17 Setting
DiSet18	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 18 Setting
DiSet19	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 19 Setting
DiSet20	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 20 Setting
DiSet21	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 21 Setting
DiSet22	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 22 Setting
DiSet23	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 23 Setting
DiSet24	CURVE_4_DIFunc	Enumerated type for digital input setting (private)	Digital Input 24 Setting
Di24Cfg	CURVE_1_Di24Cfg	Enumerated type for digital input setting (private)	Digital Input 24 Configuration
Binp01	SPS_1_Binp	General single indication(binary input) (private)	Digital input 1 status
Binp02	SPS_1_Binp	General single indication(binary input) (private)	Digital input 2 status
Binp03	SPS_1_Binp	General single indication(binary input)	Digital input 3 status

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		<i>(private)</i>	
Binp04	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 4 status
Binp05	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 5 status
Binp06	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 6 status
Binp07	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 7 status
Binp08	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 8 status
Binp09	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 9 status
Binp10	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 10 status
Binp11	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 11 status
Binp12	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 12 status
Binp13	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 13 status
Binp14	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 14 status
Binp15	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 15 status
Binp16	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 16 status
Binp17	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 17 status
Binp18	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 18 status
Binp19	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 19 status
Binp20	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 20 status
Binp21	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 21 status
Binp22	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 22 status
Binp23	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 23 status
Binp24	SPS_1_Binp	General single indication(binary input) <i>(private)</i>	Digital input 24 status

### 3.2.15 Logical Node: GGIO3\_POS5

Description: Generic Process I/O

LN Class: GGIO

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
DiSet01	CURVE_5_DIFunc	Enumerated type for digital input setting <i>(private)</i>	Digital Input 1 Setting

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DiSet02	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 2 Setting
DiSet03	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 3 Setting
DiSet04	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 4 Setting
DiSet05	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 5 Setting
DiSet06	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 6 Setting
DiSet07	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 7 Setting
DiSet08	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 8 Setting
DiSet09	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 9 Setting
DiSet10	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 10 Setting
DiSet11	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 11 Setting
DiSet12	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 12 Setting
DiSet13	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 13 Setting
DiSet14	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 14 Setting
DiSet15	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 15 Setting
DiSet16	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 16 Setting
DiSet17	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 17 Setting
DiSet18	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 18 Setting
DiSet19	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 19 Setting
DiSet20	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 20 Setting
DiSet21	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 21 Setting
DiSet22	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 22 Setting
DiSet23	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 23 Setting
DiSet24	CURVE_5_DIFunc	Enumerated type for digital input setting (private)	Digital Input 24 Setting
Ht1DiTmms	ING_1_ParTmms	Enumerated type for digital input setting (private)	HT1 delay time
Ht1D2Tmms	ING_1_ParTmms	Enumerated type for digital input setting (private)	HT2 delay time
Binp01	SPS_1_Binp	General single indication(binary input) (private)	Digital input 1 status
Binp02	SPS_1_Binp	General single indication(binary input) (private)	Digital input 2 status
Binp03	SPS_1_Binp	General single indication(binary input) (private)	Digital input 3 status
Binp04	SPS_1_Binp	General single indication(binary input)	Digital input 4 status

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		<b>(private)</b>	
Binp05	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 5 status
Binp06	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 6 status
Binp07	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 7 status
Binp08	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 8 status
Binp09	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 9 status
Binp10	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 10 status
Binp11	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 11 status
Binp12	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 12 status
Binp13	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 13 status
Binp14	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 14 status
Binp15	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 15 status
Binp16	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 16 status
Binp17	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 17 status
Binp18	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 18 status
Binp19	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 19 status
Binp20	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 20 status
Binp21	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 21 status
Binp22	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 22 status
Binp23	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 23 status
Binp24	SPS_1_Binp	General single indication(binary input) <b>(private)</b>	Digital input 24 status

### 3.2.16 Logical Node: LLN01

**Description:** Logical node 0 information

**LN Class:** LLN0

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_0_NamPlt	Name Plate	

### 3.2.17 Logical Node: LPHD1

**Description:** Physical device information

**LN Class: LPHD**

Attribute	Attribute Type	Explanation	Comment
PhyNam	DPL_1_PhyNam	Physical device name plate	
PhyHealth	INS_1_PhyHealth	Physical device health	
Proxy	SPS_1_Alm	Indicate if this LN is a proxy	
Loc	SPS_1_Loc	Local operation mode	Local mode status
WrtPrt	SPC_1_WrtPrt	Dual point switch control and status ( <i>private</i> )	Deactivate write protection
IEDTag	ING_1_PasStr	Text String setting	IED Tag String
PasWrd	CURVE_1_DisEna	Enumerated type for user password activation ( <i>private</i> )	Enable/disable User Password
PasStr	ING_1_PasStr	Text string setting	User password string
SysPas	CURVE_1_DisEna	Enumerated type for Engineer Password activation ( <i>private</i> )	Enable/disable Engineer Password
ScnSav	CURVE_1_DisEna	Enumerated type for Screen Saver activation ( <i>private</i> )	Enable/disable Screen Saver
ScnTms	ING_1_ScnTms	Screen saver timeout setting	Setting
InvLed	CURVE_1_NoYes	Enumerated type for Invert-LEDs activation ( <i>private</i> )	Invert the LED colour or not
SwpLed	CURVE_1_NoYes	Enumerated type for Swap-LEDs activation ( <i>private</i> )	Swap the LED position or not
RtnTmm	CURVE_1_RtnTmm	Enumerated type for "Default return time" setting ( <i>private</i> )	Default return time
DinCfg	CURVE_1_DinCfg	Enumerated type for "Digital input config" setting ( <i>private</i> )	Digital input config
RemPol	CURVE_1_RemPol	Enumerated type for "Remote Polarity" setting ( <i>private</i> )	Remote Polarity
IndpdMod	CURVE_1_DisEna	Enumerated type for "Independent Mode" setting ( <i>private</i> )	Independent Mode
EssoChgOv	CURVE_1_DisEna	Enumerated type for "Esso Changeover" setting ( <i>private</i> )	Esso Changeover

**3.2.18 Logical Node: LPHD1\_POS2****Description: Physical device information****LN Class: LPHD**

Attribute	Attribute Type	Explanation	Comment
PhyNam	DPL_1_PhyNam	Physical device name plate	
PhyHealth	INS_1_PhyHealth	Physical device health	
Proxy	SPS_1_Alm	Indicate if this LN is a proxy	
Loc	SPS_1_Loc	Local operation mode	Local mode status
WrtPrt	SPC_1_WrtPrt	Dual point switch control and status ( <i>private</i> )	Deactivate write protection
IEDTag	ING_1_PasStr	Text String setting	IED Tag String
PasWrd	CURVE_1_DisEna	Enumerated type for user password activation ( <i>private</i> )	Enable/disable User Password
PasStr	ING_1_PasStr	Text string setting	User password string
SysPas	CURVE_1_DisEna	Enumerated type for Engineer Password activation ( <i>private</i> )	Enable/disable Engineer Password
ScnSav	CURVE_1_DisEna	Enumerated type for Screen Saver activation ( <i>private</i> )	Enable/disable Screen Saver



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ScnTms	ING_1_ScnTms	Screen saver timeout setting	Setting
InvLed	CURVE_1_NoYes	Enumerated type for Invert-LEDs activation ( <i>private</i> )	Invert the LED colour or not
SwpLed	CURVE_1_NoYes	Enumerated type for Swap-LEDs activation ( <i>private</i> )	Swap the LED position or not
RtnTmm	CURVE_1_RtnTmm	Enumerated type for "Default return time" setting ( <i>private</i> )	Default return time
DinCfg	CURVE_1_DinCfg	Enumerated type for "Digital input config" setting ( <i>private</i> )	Digital input config

### 3.2.19 Logical Node: LPHD1\_POS4

**Description:** Physical device information

**LN Class:** LPHD

Attribute	Attribute Type	Explanation	Comment
PhyNam	DPL_1_PhyNam	Physical device name plate	
PhyHealth	INS_1_PhyHealth	Physical device health	
Proxy	SPS_1_Alm	Indicate if this LN is a proxy	
Loc	SPS_1_Loc	Local operation mode	Local mode status
WrtPrt	SPC_1_WrtPrt	Dual point switch control and status ( <i>private</i> )	Deactivate write protection
IEDTag	ING_1_PasStr	Text String setting	IED Tag String
PasWrd	CURVE_1_DisEna	Enumerated type for user password activation ( <i>private</i> )	Enable/disable User Password
PasStr	ING_1_PasStr	Text string setting	User password string
SysPas	CURVE_1_DisEna	Enumerated type for Engineer Password activation ( <i>private</i> )	Enable/disable Engineer Password
ScnSav	CURVE_1_DisEna	Enumerated type for Screen Saver activation ( <i>private</i> )	Enable/disable Screen Saver
ScnTms	ING_1_ScnTms	Screen saver timeout setting	Setting
InvLed	CURVE_1_NoYes	Enumerated type for Invert-LEDs activation ( <i>private</i> )	Invert the LED colour or not
SwpLed	CURVE_1_NoYes	Enumerated type for Swap-LEDs activation ( <i>private</i> )	Swap the LED position or not
RtnTmm	CURVE_1_RtnTmm	Enumerated type for "Default return time" setting ( <i>private</i> )	Default return time
DinCfg	CURVE_1_DinCfg	Enumerated type for "Digital input config" setting ( <i>private</i> )	Digital input config
RemPol	CURVE_1_RemPol	Enumerated type for "Remote Polarity" setting ( <i>private</i> )	Remote Polarity
TncClsSrc	CURVE_1_TncClsSrc	Enumerated type for "TNC Close From" setting ( <i>private</i> )	TNC Close From
IndpdMod	CURVE_1_DisEna	Enumerated type for "Independent Mode" setting ( <i>private</i> )	Independent Mode

### 3.2.20 Logical Node: LPHD1\_POS5

**Description:** Physical device information

**LN Class:** LPHD

Attribute	Attribute Type	Explanation	Comment
PhyNam	DPL_1_PhyNam	Physical device name plate	

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PhyHealth	INS_1_PhyHealth	Physical device health	
Proxy	SPS_1_Alm	Indicate if this LN is a proxy	
Loc	SPS_1_Loc	Local operation mode	Local mode status
WrtPrt	SPC_1_WrtPrt	Dual point switch control and status (private)	Deactivate write protection
IEDTag	ING_1_PasStr	Text String setting	IED Tag String
PasWrld	CURVE_1_DisEna	Enumerated type for user password activation (private)	Enable/disable User Password
PasStr	ING_1_PasStr	Text string setting	User password string
SysPas	CURVE_1_DisEna	Enumerated type for Engineer Password activation (private)	Enable/disable Engineer Password
ScnSav	CURVE_1_DisEna	Enumerated type for Screen Saver activation (private)	Enable/disable Screen Saver
ScnTms	ING_1_ScnTms	Screen saver timeout setting	Setting
InvLed	CURVE_1_NoYes	Enumerated type for Invert-LEDs activation (private)	Invert the LED colour or not
SwpLed	CURVE_1_NoYes	Enumerated type for Swap-LEDs activation (private)	Swap the LED position or not
RtnTmm	CURVE_1_RtnTmm	Enumerated type for "Default return time" setting (private)	Default return time
DinCfg	CURVE_1_DinCfg	Enumerated type for "Digital input config" setting (private)	Digital input config
RemPol	CURVE_1_RemPol	Enumerated type for "Remote Polarity" setting (private)	Remote Polarity
XfmSch	CURVE_1_XfmSch	Enumerated type for "Xform I/P Scheme" setting (private)	Xform I/P Scheme
FullDplx	CURVE_1_DisEna	Enumerated type for "Full Duplex Transfer" setting (private)	Full Duplex Transfer

### 3.2.21 Logical Node: LPHD2

**Description:** Physical device information

**LN Class:** LPHD

Attribute	Attribute Type	Explanation	Comment
PhyNam	DPL_1_PhyNam	Physical device name plate	
PhyHealth	INS_1_PhyHealth	Physical device health	
Proxy	SPS_1_Alm	Indicate if this LN is a proxy	

### 3.2.22 Logical Node: MMTR1

**Description:** Metering

**LN Class:** MMTR

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
TotVAh	BCR_1_TotVAh	Net apparent energy since last reset	Unit: VAh
TotWh	BCR_1_TotVAh	Net real energy since last reset	Unit: Wh
TotVARh	BCR_1_TotVAh	Net reactive energy since last reset	Unit: VARh
TotWdmd	BCR_1_TotWdmd	Real power peak demand (private)	Unit: watts
Loc	SPS_1_Loc	Local operation mode	Local mode status

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SmpPrd	ASG_1_SmpPrd	kW Sample Period ( <b>private</b> )	Unit: Minutes
RstStats	SPC_1_RdFlgClr	Reset Stats( <b>private</b> )	CtlVal=1 -> reset

### 3.2.23 Logical Node: MMXU1

**Description:** Phase-related measurements

**LN Class:** MMXU

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
TotW	MV_1_TotW	Total real power	Unit: watts
TotVAr	MV_1_TotW	Total reactive power	Unit: VAr
TotVA	MV_1_TotW	Total apparent power	Unit: VA (volt ampere)
TotPF	MV_1_TotW	Average power factor	
Hz	MV_1_TotW	System frequency	Unit: Hz
PPV	DEL_1_PPV	Phase to phase voltages	Unit: volt
PhV	WYE_1_PhV	Phase to ground voltages	Unit: volt
A	WYE_2_A	Phase currents	Unit: ampere
W	WYE_1_PhV	Phase real power	Unit: watts
VAr	WYE_4_VAr	Phase reactive power	Unit: VAr
VA	WYE_1_PhV	Phase apparent power	Unit:VA (volt ampere)
PF	WYE_1_PhV	Phase power factor	
Vsyn	CMV_2_phsAB	Voltage Sync ( <b>private</b> )	Unit:volt
SynAng	MV_1_SynAng	Sync checking Angle( <b>private</b> )	Unit:degrees
VAh	WYE_1_VAh	Phase apparent energy since last reset( <b>private</b> )	
Wh	WYE_1_VAh	Phase real energy since last reset( <b>private</b> )	Unit: Wh
VArh	WYE_1_VAh	Phase reactive energy since last reset( <b>private</b> )	Unit: VArh
Wdmd	WYE_1_VAh	Phase Real power peak demand ( <b>private</b> )	Unit: watts

### 3.2.24 Logical Node: MMXU1\_POS2

**Description:** Phase-related measurements

**LN Class:** MMXU

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
TotW	MV_1_TotW	Total real power	Unit: watts
TotVAr	MV_1_TotW	Total reactive power	Unit: VAr
TotVA	MV_1_TotW	Total apparent power	Unit: VA (volt ampere)
TotPF	MV_1_TotW	Average power factor	
Hz	MV_1_TotW	System frequency	Unit: Hz
PPV	DEL_1_PPV	Phase to phase voltages	Unit: volt
PhV	WYE_1_PhV	Phase to ground voltages	Unit: volt
A	WYE_2_A	Phase currents	Unit: ampere

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W	WYE_1_PhV	Phase real power	Unit: watts
VAr	WYE_4_VAr	Phase reactive power	Unit: VAr
VA	WYE_1_PhV	Phase apparent power	Unit:VA (volt ampere)
PF	WYE_1_PhV	Phase power factor	
VAh	WYE_1_VAh	Phase apparent energy since last reset( <b>private</b> )	
Wh	WYE_1_VAh	Phase real energy since last reset( <b>private</b> )	Unit: Wh
VArh	WYE_1_VAh	Phase reactive energy since last reset( <b>private</b> )	Unit: VArh
Wdmd	WYE_1_VAh	Phase Real power peak demand ( <b>private</b> )	Unit: watts

### 3.2.25 Logical Node: MMXU1\_POS4

**Description:** Phase-related measurements

**LN Class:** MMXU

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Hz	MV_1_TotW	System frequency	Unit: Hz
PPV	DEL_1_PPV	Phase to phase voltages	Unit: volt
PhV	WYE_1_PhV	Phase to ground voltages	Unit: volt
Vsyn	CMV_2_phsAB	Voltage Sync ( <b>private</b> )	Unit:volt
SynAng	MV_1_SynAng	Sync checking Angle( <b>private</b> )	Unit:degrees

### 3.2.26 Logical Node: MMXU1\_POS5

**Description:** Phase-related measurements

**LN Class:** MMXU

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Hz	MV_1_TotW	System frequency	Unit: Hz
PPV	DEL_1_PPV	Phase to phase voltages	Unit: volt
PhV	WYE_1_PhV	Phase to ground voltages	Unit: volt

### 3.2.27 Logical Node: PEXF1

**Description:** External fault protection

**LN Class:** PEXF (*self-defined private class*)

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_2_NamPlt	Name Plate	
Str	ACD_1_Str	Start	Trip Pickup

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Op	ACT_1_OpOpn	Operate	Trip
PlrtVal	CURVE_1_Polarity	Enumerated type for polarity setting ( <i>private</i> )	Polarity setting
OpDITmms	ING_1_OpDITmms	Operate delay time	
PrtOps	ING_2_ProtOps	External Fault Protection setting ( <i>private</i> )	Protection function setting

### 3.2.28 Logical Node: PEXF2

**Description:** External fault protection

**LN Class:** PEXF (*self-defined private class*)

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_2_NamPlt	Name Plate	
Str	ACD_1_Str	Start	Trip Pickup
Op	ACT_1_OpOpn	Operate	Trip
OpDITmms	ING_1_OpDITmms	Operate delay time	
PrtOps	ING_1_ProtOps	External Fault Protection setting ( <i>private</i> )	Protection function setting

### 3.2.29 Logical Node: PEXF3

**Description:** External fault protection

**LN Class:** PEXF (*self-defined private class*)

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_2_NamPlt	Name Plate	
Str	ACD_1_Str	Start	Trip Pickup
Op	ACT_1_OpOpn	Operate	Trip
PrtOps	ING_1_ProtOps	External Fault Protection setting ( <i>private</i> )	Protection function setting

### 3.2.30 Logical Node: PITF1

**Description:** Internal Failure(error) protection

**LN Class:** PITF (*self-defined private class*)

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_2_NamPlt	Name Plate	
Str	ACD_1_Str	Start	Trip Pickup
Op	ACT_1_OpOpn	Operate	Trip
PrtOps	ING_1_ProtOps	Internal Failure Protection setting ( <i>private</i> )	Protection function setting

**3.2.31 Logical Node: PSTO1****Description:** Serial timeout protection**LN Class:** PSTO (*self-defined private class*)

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_2_NamPlt	Name Plate	
Str	ACD_1_Str	Start	Trip Pickup
Op	ACT_1_OpOpn	Operate	Trip
OpDITmms	ING_1_OpDITmms	Operate delay time	Trip Time
PrtOps	ING_1_ProtOps	Serial Timeout Protection setting( <i>private</i> )	Protection function setting

**3.2.32 Logical Node: PTOC1****Description:** Timed overcurrent protection**LN Class:** PTOC

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Str	ACD_1_Str	Start	Trip Pickup
Op	ACT_1_OpOpn	Operate	Trip
TmACrv	CURVE_1_TmACrv	Operating curve type	Characteristics
StrVal	ASG_2_StrVal	Start Value	Trip level
TmMult	ASG_2_StrVal	Time dial multiplier	For time-inverse curve type only
OpDITmms	ING_1_OpDITmms	Operation delay time	For DEFT curve type only
PrtOps	ING_1_ProtOps	Overcurrent Protection setting ( <i>private</i> )	Protection function setting

**3.2.33 Logical Node: PTOC2****Description:** Timed overcurrent protection**LN Class:** PTOC

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Str	ACD_1_Str	Start	Trip Pickup
Op	ACT_1_OpOpn	Operate	Trip
TmACrv	CURVE_1_TmACrv	Operating curve type	Characteristics
StrVal	ASG_2_StrVal	Start Value	Trip level
TmMult	ASG_2_StrVal	Time dial multiplier	For time-inverse curve type only
OpDITmms	ING_1_OpDITmms	Operation delay time	For DEFT curve type only

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PrtOps	ING_1_ProtOps	Overcurrent Protection setting ( <i>private</i> )	Protection function setting
CcrVal	ASG_2_CcrVal	CCR setting	In percentage

### 3.2.34 Logical Node: PTOV1

**Description:** Over voltage protection

**LN Class:** PTOV

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Str	ACD_1_Str	Start	Trip Pickup
Op	ACT_1_OpOpn	Operate	Trip
StrVal	ASG_1_StrVal	Start Value	Trip level
OpDITmms	ING_1_OpDITmms	Operation delay time	Trip time
PrtOps	ING_1_ProtOps	Over voltage Protection setting ( <i>private</i> )	Protection function setting

### 3.2.35 Logical Node: PTUV1

**Description:** Under voltage protection

**LN Class:** PTUV

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Str	ACD_1_Str	Start	Trip Pickup
Op	ACT_1_OpOpn	Operate	Trip
StrVal	ASG_1_StrVal	Start Value	Trip level
OpDITmms	ING_1_OpDITmms	Operation delay time	Trip time
TrpTyp	CURVE_1_TrpTyp	Enumerated type for "U/V trip type" setting ( <i>private</i> )	U/V trip type
PrtOps	ING_1_ProtOps	Over voltage Protection setting ( <i>private</i> )	Protection function setting

### 3.2.36 Logical Node: PTUV2

**Description:** Under voltage protection

**LN Class:** PTUV

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Str	ACD_1_Str	Start	Trip Pickup
Op	ACT_1_OpOpn	Operate	Trip
StrVal	ASG_1_StrVal	Start Value	Trip level
OpDITmms	ING_1_OpDITmms	Operation delay time	Trip time

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PrtOps	ING_1_ProtOps	Over voltage Protection setting ( <i>private</i> )	Protection function setting
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### 3.2.37 Logical Node: RBRF1

**Description:** Contactor/breaker failure protection and monitoring

**LN Class:** RBRF

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Str	ACD_1_Str	Start	Trip Pickup
OpIn	ACT_1_OpOpn	Operate, internal trip	Trip
FailMod	ING_1_FailMod	Breaker Failure Detect Mode	
FailTmms	ING_1_OpDiTmms	Breaker failure time delay	Setting
FailDMod	CURVE_1_FailDmod	Enumerated type for "Failure Detect Mode" ( <i>private</i> )	Failure Detection Mode
PrtOps	ING_1_ProtOps	Breaker failure Protection setting ( <i>private</i> )	Protection function setting

### 3.2.38 Logical Node: RDRE1

**Description:** Disturbance recorder function

**LN Class:** RDRE

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
RcdMade	SPS_1_RcdMade	Recording made (RCD available)	
FltNum	INS_3_FltNum	Recorded File Name	
Loc	SPS_1_Loc	Local operation mode	Local mode status
FltNam	INS_3_FltNam	Recorded File Name ( <i>private</i> )	
RdFlgClr	SPC_1_RdFlgClr	Clear the flag in order to read all disturbance traces again ( <i>private</i> )	
TrgTyp	CURVE_1_TrkTyp	Enumerated type for Trigger Type ( <i>private</i> )	3 choices
PreTpos	CURVE_1_PreTpos	Enumerated type for Trigger Position ( <i>private</i> )	6 choices
RcdRes	CURVE_1_RcdRes	Enumerated type for Record Resolution ( <i>private</i> )	2 choices
MaxTrace	ING_1_ProtOps	Maximum recording traces ( <i>private</i> )	Range: 1-8
DiChNum	ING_1_ProtOps	Digital Input Channel Number ( <i>private</i> )	Range: 1-24
DoChNum	ING_1_ProtOps	Digital Output Channel Number ( <i>private</i> )	Range: 1-8

### 3.2.39 Logical Node: RFLT1

**Description:** Last fault (trip or alarm) recorder function

**LN Class:** RFLT (*self-defined private class*)

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	



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Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_2_NamPlt	Name Plate	
Loc	SPS_1_Loc	Local operation mode	Local mode status
FltPos	INC_1_FltPos	Recent Fault Sequence Number	
FltNo	INS_1_TrpCnt	Fault Number and activated Time-Date	
A	WYE_2_A	Pre fault current values	
PhV	WYE_1_PhV	Pre fault voltage values	
Hz	MV_1_TotW	Pre fault frequency	
Vsyn	CMV_2_phsAB	Pre fault voltage sync	
SynAng	MV_1_SynAng	Pre fault sync. Angle	

### 3.2.40 Logical Node: RFLT1\_POS2

**Description:** Last fault (trip or alarm) recorder function

**LN Class:** RFLT (*self-defined private class*)

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_2_NamPlt	Name Plate	
Loc	SPS_1_Loc	Local operation mode	Local mode status
FltPos	INC_1_FltPos	Recent Fault Sequence Number	
FltNo	INS_1_TrpCnt	Fault Number and activated Time-Date	
A	WYE_2_A	Pre fault current values	
PhV	WYE_1_PhV	Pre fault voltage values	
Hz	MV_1_TotW	Pre fault frequency	

### 3.2.41 Logical Node: RFLT1\_POS4

**Description:** Last fault (trip or alarm) recorder function

**LN Class:** RFLT (*self-defined private class*)

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_2_NamPlt	Name Plate	
Loc	SPS_1_Loc	Local operation mode	Local mode status
FltPos	INC_1_FltPos	Recent Fault Sequence Number	
FltNo	INS_1_TrpCnt	Fault Number and activated Time-Date	
PhV	WYE_1_PhV	Pre fault voltage values	
Hz	MV_1_TotW	Pre fault frequency	
Vsyn	CMV_2_phsAB	Pre fault voltage sync	
SynAng	MV_1_SynAng	Pre fault sync. Angle	

### 3.2.42 Logical Node: RFLT1\_POS5

**Description:** Last fault (trip or alarm) recorder function

**LN Class:** RFLT (*self-defined private class*)

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	

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Health	INS_1_Health	Health	
NamPlt	LPL_2_NamPlt	Name Plate	
Loc	SPS_1_Loc	Local operation mode	Local mode status
FltPos	INC_1_FltPos	Recent Fault Sequence Number	
FltNo	INS_1_TrpCnt	Fault Number and activated Time-Date	
PhV	WYE_1_PhV	Pre fault voltage values	

### 3.2.43 Logical Node: RSYN1

**Description:** Synchronism-check function

**LN Class:** RSYN

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Rel	SPS_1_Proxy	Release	In sync
DifVClc	MV_1_DifVClc	Calculated difference in voltage	Voltage difference(%)
DifAngClc	MV_1_DifVClc	Calculated difference of phase angle	Angle difference (degrees)
DifV	ASG_1_StrVal	Difference voltage	
DifAng	ASG_1_StrVal	Difference phase angle	
SynTmms	ING_1_ScnTms	Time in sync ( <i>private</i> )	
SynOps	CURVE_1_DisEna	Enumerated type for "Dead line close" setting ( <i>private</i> )	Dead line close
PrtOps	ING_1_ProtOps	Synch-check Protection setting ( <i>private</i> )	Protection Function setting

### 3.2.44 Logical Node: RSYN1\_POS4

**Description:** Synchronism-check function

**LN Class:** RSYN

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Rel	SPS_1_Proxy	Release	In sync
DifVClc	MV_1_DifVClc	Calculated difference in voltage	Voltage difference(%)
DifAngClc	MV_1_DifVClc	Calculated difference of phase angle	Angle difference (degrees)
DifV	ASG_1_StrVal	Difference voltage	
DifAng	ASG_1_StrVal	Difference phase angle	
SynTmms	ING_1_ScnTms	Time in sync ( <i>private</i> )	
PrtOps	ING_1_ProtOps	Synch-check Protection setting ( <i>private</i> )	Protection Function setting

### 3.2.45 Logical Node: TCTR1

**Description:** Current transformer (CT) settings

**LN Class:** TCTR

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Amp	SAV_1_Amp	Current (sampled value)	
ARtg	ASG_1_ARtg	Rated current	CT primary setting
PolOps	CURVE_1_OCPOles	Enumerated type for poles selection ( <b>private</b> )	2 o/c poles or 3 o/c poles

**3.2.46 Logical Node: TCTR2****Description: Current transformer (CT) settings****LN Class: TCTR**

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Amp	SAV_1_Amp	Current (sampled value)	
ARtg	ASG_1_ARtg	Rated current	CT primary setting

**3.2.47 Logical Node: TVTR1****Description: Voltage transformer (VT) settings****LN Class: TVTR**

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Vol	SAV_2_Amp	Voltage (sampled value)	
VRtg	ASG_1_ARtg	Rated voltage	VT primary setting
VTsec	ASG_1_VTsec	VT secondary ( <b>private</b> )	VT secondary setting
VtgVal	ASG_1_VTsec	Voltage ( <b>private</b> )	In %(VT Primary)
VtgRef	CURVE_1_VoltRef	Enumerated type for "Voltage reference" selection ( <b>private</b> )	Voltage reference

**3.2.48 Logical Node: XCBR1****Description: Contactor/breaker function****LN Class: XCBR**

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	

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NamPlt	LPL_1_NamPlt	Name Plate	
Loc	SPS_1_Loc	Local operation mode	Local mode status
OpCnt	INS_1_OpCnt	Operation counter	Number of opening, In Stats
Pos	DPC_1_DPCSO	Switch position	Contactor/Breaker position status
BlkOpn	SPC_1_BlkOpn	Block stopping	
BlkCls	SPC_1_BlkOpn	Block starting	
CBOpCap	INS_3_CBOpCap	Breaker operating capability	
TrpCnt	INS_1_TrpCnt	Number of trips ( <b>private</b> )	In Stats
ClsCnt	INS_1_TrpCnt	Number of closing( <b>private</b> )	In Stats
ClsFrm	INS_1_OperSrc	Last Start Source ( <b>private</b> )	In Stats
OpnFrm	INS_1_OperSrc	Last Stop Source ( <b>private</b> )	In Stats
ClsHrsThis	INS_1_TrpCnt	Hours of This Start(hrs) ( <b>private</b> )	In Stats
ClsHrsTot	INS_1_TrpCnt	Total Hours Started(hrs) ( <b>private</b> )	In Stats
RstStats	SPC_1_RdFlgClr	Reset XCBR Stats ( <b>private</b> )	In Stats

### 3.2.49 Logical Node: XCBR1\_POS2

**Description:** Contactor/breaker function

**LN Class:** XCBR

Attribute	Attribute Type	Explanation	Comment
Mod	INC_1_Mod	Mod	
Beh	INS_1_Beh	Behavior	
Health	INS_1_Health	Health	
NamPlt	LPL_1_NamPlt	Name Plate	
Loc	SPS_1_Loc	Local operation mode	Local mode status
OpCnt	INS_1_OpCnt	Operation counter	Number of opening, In Stats
Pos	DPC_1_DPCSO	Switch position	Contactor/Breaker position status
BlkOpn	SPC_1_BlkOpn	Block stopping	
BlkCls	SPC_1_BlkOpn	Block starting	
CBOpCap	INS_3_CBOpCap	Breaker operating capability	
TrpCnt	INS_1_TrpCnt	Number of trips ( <b>private</b> )	In Stats
ClsCnt	INS_1_TrpCnt	Number of closing( <b>private</b> )	In Stats
ClsHrsThis	INS_1_TrpCnt	Hours of This Start(hrs) ( <b>private</b> )	In Stats
ClsHrsTot	INS_1_TrpCnt	Total Hours Started(hrs) ( <b>private</b> )	In Stats
RstStats	SPC_1_RdFlgClr	Reset XCBR Stats ( <b>private</b> )	In Stats

### 3.3 Typical Logical node attributes

The typical logical node attributes used in Advanced FeederVision AFVD are presented in an alphabetically sorted order as below.

#### 3.3.1 AFVD1/3

No.	Attribute Name	Description	Data Type
1	*CTRL/CbcCSWI1\$ST\$Loc\$stVal	Local operation mode	Bool
2	*CTRL/CbcCSWI1\$ST\$Pos\$stVal	Breaker status	Bstring2
3	*CTRL/CbcCSWI1\$ST\$Pos\$t	Time stamp for checking breaker status	Utctime
4	*CTRL/CbcCSWI1\$ST\$OpOpn\$general	Breaker opened status	Bool
5	*CTRL/CbcCSWI1\$ST\$OpCls\$general	Breaker closed status	Bool

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6	*CTRL/CbcCSWI1\$ST\$PnlClsAvl\$stVal	Panel close available	Bool
7	*CTRL/CbcCSWI1\$ST\$TncClsAvl\$stVal	TNC close available	Bool
8	*CTRL/CbcCSWI1\$ST\$RemClsAvl\$stVal	Remote close available	Bool
9	*CTRL/CbcCSWI1\$ST\$SrlClsAvl\$stVal	Serial close available	Bool
10	*CTRL/CbcCSWI1\$CO\$Pos\$Oper\$ctlVal	Operate the breaker (control)	Bool
11	*CTRL/CbmXCBR1\$ST\$Loc\$stVal	Local operation mode	Bool
12	*CTRL/CbmXCBR1\$ST\$OpCnt\$stVal	Number of opening	Long
13	*CTRL/CbmXCBR1\$ST\$Pos\$stVal	Breaker Status	Bstring2
14	*CTRL/CbmXCBR1\$ST\$BlkOpn\$stVal	Block opening	Bool
15	*CTRL/CbmXCBR1\$ST\$BlkCls\$stVal	Block closing	Bool
16	*CTRL/CbmXCBR1\$ST\$TrpCnt\$stVal	Number of trips	Long
17	*CTRL/CbmXCBR1\$ST\$ClsCnt\$stVal	Number of closes	Long
18	*CTRL/CbmXCBR1\$ST\$ClsFrm\$stVal	Last Close Source	Long
19	*CTRL/CbmXCBR1\$ST\$ClsFrm\$t	Time stamp for last close	Utime
20	*CTRL/CbmXCBR1\$ST\$OpnFrm\$stVal	Last Open Source	Long
21	*CTRL/CbmXCBR1\$ST\$OpnFrm\$t	Time stamp for last open	Utime
22	*CTRL/CbmXCBR1\$ST\$ClsHrsThis\$stVal	Hours This Close(hrs)	Long
23	*CTRL/CbmXCBR1\$ST\$ClsHrsTot\$stVal	Total Hours Closed(hrs)	Long
24	*CTRL/CbmXCBR1\$CO\$RstStats\$Oper\$ctlVal	Reset XCBR Stats (control)	Bool
25	*CTRL/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
26	*CTRL/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
27	*CTRL/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
28	*CTRL/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
29	*CTRL/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD1/3	Vstring255
30	*CTRL/PnlCSWI1\$ST\$Loc\$stVal	Local operation mode	Bool
31	*CTRL/PnlCSWI1\$ST\$Pos\$stVal	Panel close enabling status	Bstring2
32	*CTRL/PnlCSWI1\$CO\$Pos\$Oper\$ctlVal	Enable panel close(control)	Bool
33	*CTRL/SrfCSWI1\$ST\$Loc\$stVal	Local operation mode	Bool
34	*CTRL/SrfCSWI1\$ST\$Pos\$stVal	Serial reset status	Bstring2
35	*CTRL/SrfCSWI1\$CO\$Pos\$Oper\$ctlVal	Serial reset fault command(control)	Bool
36	*MEAS/EngMMTR1\$ST\$TotVAh\$actVal	Total apparent energy value	Long
37	*MEAS/EngMMTR1\$ST\$TotVAh\$t	Time stamp for total apparent energy	Utime
38	*MEAS/EngMMTR1\$ST\$TotWh\$actVal	Total real energy value	Long
39	*MEAS/EngMMTR1\$ST\$TotWh\$t	Time stamp for total real energy	Utime
40	*MEAS/EngMMTR1\$ST\$TotVArh\$actVal	Total reactive energy value	Long
41	*MEAS/EngMMTR1\$ST\$TotVArh\$t	Time stamp for total reactive energy value	Utime
42	*MEAS/EngMMTR1\$ST\$TotWdmd\$actVal	kW peak demand value	Long
43	*MEAS/EngMMTR1\$ST\$TotWdmd\$t	Time stamp for kW peak demand	Utime
44	*MEAS/EngMMTR1\$ST\$Loc\$stVal	Local operation mode	Bool
45	*MEAS/EngMMTR1\$ST\$RstStats\$stVal	Stats reset status	Bool
46	*MEAS/EngMMTR1\$CO\$RstStats\$Oper\$ctlVal	Reset Stats (control)	Bool
47	*MEAS/EngMMTR1\$SP\$SmpPrd\$setMag\$i	kW sample period (in minutes)	Long
48	*MEAS/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
49	*MEAS/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
50	*MEAS/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
51	*MEAS/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
52	*MEAS/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD1/3	Vstring255
53	*MEAS/RmsMMXU1\$MX\$TotW\$mag\$i	Total real power (decimal format)	Long
54	*MEAS/RmsMMXU1\$MX\$TotW\$mag\$f	Total real power (float format)	Float
55	*MEAS/RmsMMXU1\$MX\$TotVar\$mag\$i	Total reactive power (decimal format)	Long
56	*MEAS/RmsMMXU1\$MX\$TotVar\$mag\$f	Total reactive power (float format)	Float
57	*MEAS/RmsMMXU1\$MX\$TotVA\$mag\$i	Total apparent power (decimal format)	Long
58	*MEAS/RmsMMXU1\$MX\$TotVA\$mag\$f	Total apparent power (float format)	Float

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59	*MEAS/RmsMMXU1\$MX\$TotPF\$mag\$i	Total Power Factor(decimal format)	Long
60	*MEAS/RmsMMXU1\$MX\$TotPF\$mag\$f	Total Power Factor(float format)	Float
61	*MEAS/RmsMMXU1\$MX\$Hz\$mag\$i	System Frequency(decimal format)	Long
62	*MEAS/RmsMMXU1\$MX\$Hz\$mag\$f	System Frequency(float format)	Float
63	*MEAS/RmsMMXU1\$MX\$PPV\$phsAB\$cVal\$mag\$i	Phase A to B Voltage V12(decimal format)	Long
64	*MEAS/RmsMMXU1\$MX\$PPV\$phsAB\$cVal\$mag\$f	Phase A to B Voltage V12(float format)	Float
65	*MEAS/RmsMMXU1\$MX\$PPV\$phsBC\$cVal\$mag\$i	Phase B to C Voltage V23(decimal format)	Long
66	*MEAS/RmsMMXU1\$MX\$PPV\$phsBC\$cVal\$mag\$f	Phase B to C Voltage V23(float format)	Float
67	*MEAS/RmsMMXU1\$MX\$PPV\$phsCA\$cVal\$mag\$i	Phase C to A Voltage V31(decimal format)	Long
68	*MEAS/RmsMMXU1\$MX\$PPV\$phsCA\$cVal\$mag\$f	Phase C to A Voltage V31(float format)	Float
69	*MEAS/RmsMMXU1\$MX\$PhV\$phsA\$cVal\$mag\$i	Voltage V1 (red phase) (decimal format)	Long
70	*MEAS/RmsMMXU1\$MX\$PhV\$phsA\$cVal\$mag\$f	Voltage V1 (red phase) (float format)	Float
71	*MEAS/RmsMMXU1\$MX\$PhV\$phsB\$cVal\$mag\$i	Voltage V2 (yellow phase) (decimal format)	Long
72	*MEAS/RmsMMXU1\$MX\$PhV\$phsB\$cVal\$mag\$f	Voltage V2 (yellow phase) (float format)	Float
73	*MEAS/RmsMMXU1\$MX\$PhV\$phsC\$cVal\$mag\$i	Voltage V3 (blue phase) (decimal format)	Long
74	*MEAS/RmsMMXU1\$MX\$PhV\$phsC\$cVal\$mag\$f	Voltage V3 (blue phase) (float format)	Float
75	*MEAS/RmsMMXU1\$MX\$A\$phsA\$cVal\$mag\$i	Current I1 (red phase) (decimal format)	Long
76	*MEAS/RmsMMXU1\$MX\$A\$phsA\$cVal\$mag\$f	Current I1 (red phase) (float format)	Float
77	*MEAS/RmsMMXU1\$MX\$A\$phsB\$cVal\$mag\$i	Current I2 (yellow phase) (decimal format)	Long
78	*MEAS/RmsMMXU1\$MX\$A\$phsB\$cVal\$mag\$f	Current I2 (yellow phase) (float format)	Float
79	*MEAS/RmsMMXU1\$MX\$A\$phsC\$cVal\$mag\$i	Current I3 (blue phase) (decimal format)	Long
80	*MEAS/RmsMMXU1\$MX\$A\$phsC\$cVal\$mag\$f	Current I3 (blue phase) (float format)	Float
81	*MEAS/RmsMMXU1\$MX\$A\$net\$cVal\$mag\$i	E/F current Ist (standby) (decimal format)	Long
82	*MEAS/RmsMMXU1\$MX\$A\$net\$cVal\$mag\$f	E/F current Ist (standby) (float format)	Float
83	*MEAS/RmsMMXU1\$MX\$A\$res\$cVal\$mag\$i	E/F current I0 (residual) (decimal format)	Long
84	*MEAS/RmsMMXU1\$MX\$A\$res\$cVal\$mag\$f	E/F current I0 (residual) (float format)	Float
85	*MEAS/RmsMMXU1\$MX\$W\$phsA\$cVal\$mag\$i	Real power 1 (red phase) (decimal format)	Long
86	*MEAS/RmsMMXU1\$MX\$W\$phsA\$cVal\$mag\$f	Real power 1 (red phase) (float format)	Float
87	*MEAS/RmsMMXU1\$MX\$W\$phsB\$cVal\$mag\$i	Real power 2 (yellow phase) (decimal format)	Long
88	*MEAS/RmsMMXU1\$MX\$W\$phsB\$cVal\$mag\$f	Real power 2 (yellow phase) (float format)	Float
89	*MEAS/RmsMMXU1\$MX\$W\$phsC\$cVal\$mag\$i	Real power 3 (blue phase) (decimal format)	Long
90	*MEAS/RmsMMXU1\$MX\$W\$phsC\$cVal\$mag\$f	Real power 3 (blue phase) (float format)	Float
91	*MEAS/RmsMMXU1\$MX\$VAr\$phsA\$cVal\$mag\$i	Reactive power 1 (red phase) (decimal format)	Long
92	*MEAS/RmsMMXU1\$MX\$VAr\$phsA\$cVal\$mag\$f	Reactive power 1 (red phase) (float format)	Float
93	*MEAS/RmsMMXU1\$MX\$VAr\$phsB\$cVal\$mag\$i	Reactive power 2 (yellow phase) (decimal format)	Long
94	*MEAS/RmsMMXU1\$MX\$VAr\$phsB\$cVal\$mag\$f	Reactive power 2 (yellow phase) (float format)	Float
95	*MEAS/RmsMMXU1\$MX\$VAr\$phsC\$cVal\$mag\$i	Reactive power 3 (blue phase) (decimal format)	Long
96	*MEAS/RmsMMXU1\$MX\$VAr\$phsC\$cVal\$mag\$f	Reactive power 3 (blue phase) (float format)	Float
97	*MEAS/RmsMMXU1\$MX\$VA\$phsA\$cVal\$mag\$i	Apparent power 1 (red phase) (decimal format)	Long
98	*MEAS/RmsMMXU1\$MX\$VA\$phsA\$cVal\$mag\$f	Apparent power 1 (red phase) (float format)	Float
99	*MEAS/RmsMMXU1\$MX\$VA\$phsB\$cVal\$mag\$i	Apparent power 2 (yellow phase) (decimal format)	Long
100	*MEAS/RmsMMXU1\$MX\$VA\$phsB\$cVal\$mag\$f	Apparent power 2 (yellow phase) (float format)	Float
101	*MEAS/RmsMMXU1\$MX\$VA\$phsC\$cVal\$mag\$i	Apparent power 3 (blue phase) (decimal format)	Long
102	*MEAS/RmsMMXU1\$MX\$VA\$phsC\$cVal\$mag\$f	Apparent power 3 (blue phase) (float format)	Float
103	*MEAS/RmsMMXU1\$MX\$PF\$phsA\$cVal\$mag\$i	Power factor 1 (red phase) (decimal format)	Long
104	*MEAS/RmsMMXU1\$MX\$PF\$phsA\$cVal\$mag\$f	Power factor 1 (red phase) (float format)	Float
105	*MEAS/RmsMMXU1\$MX\$PF\$phsB\$cVal\$mag\$i	Power factor 2 (yellow phase) (decimal format)	Long
106	*MEAS/RmsMMXU1\$MX\$PF\$phsB\$cVal\$mag\$f	Power factor 2 (yellow phase) (float format)	Float
107	*MEAS/RmsMMXU1\$MX\$PF\$phsC\$cVal\$mag\$i	Power factor 3 (blue phase) (decimal format)	Long
108	*MEAS/RmsMMXU1\$MX\$PF\$phsC\$cVal\$mag\$f	Power factor 3 (blue phase) (float format)	Float
109	*MEAS/RmsMMXU1\$MX\$Vsyn\$cVal\$mag\$i	Sync voltage (decimal format)	Long
110	*MEAS/RmsMMXU1\$MX\$Vsyn\$cVal\$mag\$f	Sync voltage (float format)	Float
111	*MEAS/RmsMMXU1\$MX\$SynAng\$mag\$i	Sync angle(decimal format)	Long

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112	*MEAS/RmsMMXU1\$MX\$SynAng\$mag\$f	Sync angle(float format)	Float
113	*MEAS/RmsMMXU1\$MX\$VAh\$phsA\$cVal\$mag\$i	Apparent energy 1(red phase) (decimal format)	Long
114	*MEAS/RmsMMXU1\$MX\$VAh\$phsA\$cVal\$mag\$f	Apparent energy 1(red phase) (float format)	Float
115	*MEAS/RmsMMXU1\$MX\$VAh\$phsB\$cVal\$mag\$i	Apparent energy 2(yellow phase) (decimal format)	Long
116	*MEAS/RmsMMXU1\$MX\$VAh\$phsB\$cVal\$mag\$f	Apparent energy 2(yellow phase) (float format)	Float
117	*MEAS/RmsMMXU1\$MX\$VAh\$phsC\$cVal\$mag\$i	Apparent energy 3(blue phase) (decimal format)	Long
118	*MEAS/RmsMMXU1\$MX\$VAh\$phsC\$cVal\$mag\$f	Apparent energy 3(blue phase) (float format)	Float
119	*MEAS/RmsMMXU1\$MX\$Wh\$phsA\$cVal\$mag\$i	Real energy 1(red phase) (decimal format)	Long
120	*MEAS/RmsMMXU1\$MX\$Wh\$phsA\$cVal\$mag\$f	Real energy 1(red phase) (float format)	Float
121	*MEAS/RmsMMXU1\$MX\$Wh\$phsB\$cVal\$mag\$i	Real energy 2(yellow phase) (decimal format)	Long
122	*MEAS/RmsMMXU1\$MX\$Wh\$phsB\$cVal\$mag\$f	Real energy 2(yellow phase) (float format)	Float
123	*MEAS/RmsMMXU1\$MX\$Wh\$phsC\$cVal\$mag\$i	Real energy 3(blue phase) (decimal format)	Long
124	*MEAS/RmsMMXU1\$MX\$Wh\$phsC\$cVal\$mag\$f	Real energy 3(blue phase) (float format)	Float
125	*MEAS/RmsMMXU1\$MX\$VArh\$phsA\$cVal\$mag\$i	Reactive energy 1(red phase) (decimal format)	Long
126	*MEAS/RmsMMXU1\$MX\$VArh\$phsA\$cVal\$mag\$f	Reactive energy 1(red phase) (float format)	Float
127	*MEAS/RmsMMXU1\$MX\$VArh\$phsB\$cVal\$mag\$i	Reactive energy 2(yellow phase) (decimal format)	Long
128	*MEAS/RmsMMXU1\$MX\$VArh\$phsB\$cVal\$mag\$f	Reactive energy 2(yellow phase) (float format)	Float
129	*MEAS/RmsMMXU1\$MX\$VArh\$phsC\$cVal\$mag\$i	Reactive energy 3(blue phase) (decimal format)	Long
130	*MEAS/RmsMMXU1\$MX\$VArh\$phsC\$cVal\$mag\$f	Reactive energy 3(blue phase) (float format)	Float
131	*MEAS/RmsMMXU1\$MX\$Wdmd\$phsA\$cVal\$mag\$i	kW peak demand 1(red phase) (decimal format)	Long
132	*MEAS/RmsMMXU1\$MX\$Wdmd\$phsA\$cVal\$mag\$f	kW peak demand 1(red phase) (float format)	Float
133	*MEAS/RmsMMXU1\$MX\$Wdmd\$phsB\$cVal\$mag\$i	kW peak demand 2(yellow phase) (decimal format)	Long
134	*MEAS/RmsMMXU1\$MX\$Wdmd\$phsB\$cVal\$mag\$f	kW peak demand 2(yellow phase) (float format)	Float
135	*MEAS/RmsMMXU1\$MX\$Wdmd\$phsC\$cVal\$mag\$i	kW peak demand 3(blue phase) (decimal format)	Long
136	*MEAS/RmsMMXU1\$MX\$Wdmd\$phsC\$cVal\$mag\$f	kW peak demand 3(blue phase) (float format)	Float
137	*PROT/AscRSYN1\$MX\$DifVClc\$mag\$i	Measured voltage difference	Long
138	*PROT/AscRSYN1\$MX\$DifAngClc\$mag\$i	Measured sync angle	Long
139	*PROT/AscRSYN1\$ST\$Rel\$stVal	In sync status	Bool
140	*PROT/AscRSYN1\$SP\$DifV\$setMag\$i	Voltage difference	Long
141	*PROT/AscRSYN1\$SP\$DifAng\$setMag\$i	Angle difference	Long
142	*PROT/AscRSYN1\$SP\$SynTmms\$setVal	Time in sync	Long
143	*PROT/AscRSYN1\$SP\$SynOps\$setCharact	Dead line close	Byte
144	*PROT/AscRSYN1\$SP\$PrtOps\$setVal	Sync check protection setting	Long
145	*PROT/CbfRBRF1\$ST\$Str\$general	Breaker failure trip pickup	Bool
146	*PROT/CbfRBRF1\$ST\$OpIn\$general	Breaker failure trip status	Bool
147	*PROT/CbfRBRF1\$SP\$FailTmms\$setVal	Breaker failure time delay	Long
148	*PROT/CbfRBRF1\$SP\$FailDmod\$setCharact	Breaker Failure Detection Mode	Byte
149	*PROT/CbfRBRF1\$SP\$PrtOps\$setVal	Breaker failure protection setting	Long
150	*PROT/EftPTOC1\$ST\$Str\$general	E/F1 trip pickup	Bool
151	*PROT/EftPTOC1\$ST\$Op\$general	E/F1 trip status	Bool
152	*PROT/EftPTOC1\$SP\$TmACrv\$setCharact	E/F1 characteristic curve	Byte
153	*PROT/EftPTOC1\$SP\$StrVal\$setMag\$i	E/F1 trip level	Long
154	*PROT/EftPTOC1\$SP\$TmMult\$setMag\$i	E/F1 time multiplier for inverse-curve	Long
155	*PROT/EftPTOC1\$SP\$OpDI Tmms\$setVal	E/F1 Trip time delay for definite time-curve	Long
156	*PROT/EftPTOC1\$SP\$PrtOps\$setVal	E/F1 protection setting	Long
157	*PROT/EftPTOC2\$ST\$Str\$general	E/F2 trip pickup	Bool
158	*PROT/EftPTOC2\$ST\$Op\$general	E/F2 trip status	Bool
159	*PROT/EftPTOC2\$SP\$TmACrv\$setCharact	E/F2 characteristic curve	Byte
160	*PROT/EftPTOC2\$SP\$StrVal\$setMag\$i	E/F2 trip level	Long
161	*PROT/EftPTOC2\$SP\$TmMult\$setMag\$i	E/F2 time multiplier for inverse-curve	Long
162	*PROT/EftPTOC2\$SP\$OpDI Tmms\$setVal	E/F2 Trip time delay for definite time-curve	Long
163	*PROT/EftPTOC2\$SP\$PrtOps\$setVal	E/F2 protection setting	Long
164	*PROT/ErrPITF1\$ST\$Str\$general	Internal failure trip pickup	Bool

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165	*PROT/ErrPITF1\$ST\$Op\$general	Internal failure trip status	Bool
166	*PROT/ErrPITF1\$SP\$PrtOps\$setVal	Internal failure protection setting	Long
167	*PROT/ExtPEXF1\$ST\$Str\$general	Emergency Xform Fault(External fault 1) trip pickup	Bool
168	*PROT/ExtPEXF1\$ST\$Op\$general	Emergency Xform Fault (External fault 1) trip status	Bool
169	*PROT/ExtPEXF1\$SP\$PrtVal\$setCharact	Emergency Xform Fault (External fault 1) polarity	Byte
170	*PROT/ExtPEXF1\$SP\$OpDITmms\$setVal	Emergency Xform Fault (External fault 1) trip time delay	Long
171	*PROT/ExtPEXF1\$SP\$PrtOps\$setVal	Emergency Xform Fault (External fault 1) protection setting	Long
172	*PROT/ExtPEXF1\$SP\$PrtOps\$setNam	External fault 1 custom-name	Vstring64
173	*PROT/ExtPEXF2\$ST\$Str\$general	MREF External Fault (External fault 2) trip pickup	Bool
174	*PROT/ExtPEXF2\$ST\$Op\$general	MREF External Fault (External fault 2) trip status	Bool
175	*PROT/ExtPEXF2\$SP\$PrtVal\$setCharact	MREF External Fault (External fault 2) polarity	Byte
176	*PROT/ExtPEXF2\$SP\$OpDITmms\$setVal	MREF External Fault (External fault 2) trip time delay	Long
177	*PROT/ExtPEXF2\$SP\$PrtOps\$setVal	MREF External Fault (External fault 2) protection setting	Long
178	*PROT/ExtPEXF2\$SP\$PrtOps\$setNam	External fault 2 custom-name	Vstring64
179	*PROT/ExtPEXF3\$ST\$Str\$general	Xform Buchholz Fault (External fault 3) trip pickup	Bool
180	*PROT/ExtPEXF3\$ST\$Op\$general	Xform Buchholz Fault (External fault 3) trip status	Bool
181	*PROT/ExtPEXF3\$SP\$PrtVal\$setCharact	Xform Buchholz Fault (External fault 3) polarity	Byte
182	*PROT/ExtPEXF3\$SP\$OpDITmms\$setVal	Xform Buchholz Fault (External fault 3) trip time delay	Long
183	*PROT/ExtPEXF3\$SP\$PrtOps\$setVal	Xform Buchholz Fault (External fault 3) protection setting	Long
184	*PROT/ExtPEXF3\$SP\$PrtOps\$setNam	External fault 3 custom-name	Vstring64
185	*PROT/ExtPEXF4\$ST\$Str\$general	Xform Oil Temp Fault (External fault 4) trip pickup	Bool
186	*PROT/ExtPEXF4\$ST\$Op\$general	Xform Oil Temp Fault (External fault 4) trip status	Bool
187	*PROT/ExtPEXF4\$SP\$PrtVal\$setCharact	Xform Oil Temp Fault (External fault 4) polarity	Byte
188	*PROT/ExtPEXF4\$SP\$OpDITmms\$setVal	Xform Oil Temp Fault (External fault 4) trip time delay	Long
189	*PROT/ExtPEXF4\$SP\$PrtOps\$setVal	Xform Oil Temp Fault (External fault 4) protection setting	Long
190	*PROT/ExtPEXF4\$SP\$PrtOps\$setNam	External fault 4 custom-name	Vstring64
191	*PROT/ExtPEXF5\$ST\$Str\$general	Xform Winding Fault (External fault 5) trip pickup	Bool
192	*PROT/ExtPEXF5\$ST\$Op\$general	Xform Winding Fault (External fault 5) trip status	Bool
193	*PROT/ExtPEXF5\$SP\$PrtVal\$setCharact	Xform Winding Fault (External fault 5) polarity	Byte
194	*PROT/ExtPEXF5\$SP\$OpDITmms\$setVal	Xform Winding Fault (External fault 5) trip time delay	Long
195	*PROT/ExtPEXF5\$SP\$PrtOps\$setVal	Xform Winding Fault (External fault 5) protection setting	Long
196	*PROT/ExtPEXF5\$SP\$PrtOps\$setNam	External fault 5 custom-name	Vstring64
197	*PROT/ExtPEXF6\$ST\$Str\$general	Xform PRDS Fault (External fault 6) trip pickup	Bool
198	*PROT/ExtPEXF6\$ST\$Op\$general	Xform PRDS Fault (External fault 6) trip status	Bool
199	*PROT/ExtPEXF6\$SP\$PrtVal\$setCharact	Xform PRDS Fault (External fault 6) polarity	Byte
200	*PROT/ExtPEXF6\$SP\$OpDITmms\$setVal	Xform PRDS Fault (External fault 6) trip time delay	Long
201	*PROT/ExtPEXF6\$SP\$PrtOps\$setVal	Xform PRDS Fault (External fault 6) protection setting	Long
202	*PROT/ExtPEXF6\$SP\$PrtOps\$setNam	External fault 6 custom-name	Vstring64
203	*PROT/ExtPEXF7\$ST\$Str\$general	Control Pwr Fault (External fault 7) trip pickup	Bool
204	*PROT/ExtPEXF7\$ST\$Op\$general	Control Pwr Fault (External fault 7) trip status	Bool
205	*PROT/ExtPEXF7\$SP\$PrtVal\$setCharact	Control Pwr Fault (External fault 7) polarity	Byte
206	*PROT/ExtPEXF7\$SP\$OpDITmms\$setVal	Control Pwr Fault (External fault 7) trip time delay	Long
207	*PROT/ExtPEXF7\$SP\$PrtOps\$setVal	Control Pwr Fault (External fault 7) protection setting	Long
208	*PROT/ExtPEXF7\$SP\$PrtOps\$setNam	External fault 7 custom-name	Vstring64
209	*PROT/ExtPEXF8\$ST\$Str\$general	External fault 8 trip pickup	Bool
210	*PROT/ExtPEXF8\$ST\$Op\$general	External fault 8 trip status	Bool
211	*PROT/ExtPEXF8\$SP\$PrtVal\$setCharact	External fault 8 polarity	Byte
212	*PROT/ExtPEXF8\$SP\$OpDITmms\$setVal	External fault 8 trip time delay	Long
213	*PROT/ExtPEXF8\$SP\$PrtOps\$setVal	External fault 8 protection setting	Long



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214	*PROT/ExtPEXF8\$SP\$PrtOps\$setNam	External fault 8 custom-name	Vstring64
215	*PROT/ExtPEXF9\$ST\$Str\$general	Trip Cct Fault (External fault 9) trip pickup	Bool
216	*PROT/ExtPEXF9\$ST\$Op\$general	Trip Cct Fault (External fault 9) trip status	Bool
217	*PROT/ExtPEXF9\$SP\$PrtVal\$setCharact	Trip Cct Fault (External fault 9) polarity	Byte
218	*PROT/ExtPEXF9\$SP\$OpDITmms\$setVal	Trip Cct Fault (External fault 9) trip time delay	Long
219	*PROT/ExtPEXF9\$SP\$PrtOps\$setVal	Trip Cct Fault (External fault 9) protection setting	Long
220	*PROT/ExtPEXF9\$SP\$PrtOps\$setNam	External fault 9 custom-name	Vstring64
221	*PROT/HsePTOC1\$ST\$Str\$general	HS E/ F1 trip pickup	Bool
222	*PROT/HsePTOC1\$ST\$Op\$general	HS E/ F1 trip status	Bool
223	*PROT/HsePTOC1\$SP\$TmACrv\$setCharact	HS E/F1 characteristic curve(definite time)	Byte
224	*PROT/HsePTOC1\$SP\$StrVal\$setMag\$i	HS E/F1 trip level	Long
225	*PROT/HsePTOC1\$SP\$OpDITmms\$setVal	HS E/F1 trip time delay	Long
226	*PROT/HsePTOC1\$SP\$PrtOps\$setVal	HS E/F1 protection setting	Long
227	*PROT/HsePTOC2\$ST\$Str\$general	HS E/ F2 trip pickup	Bool
228	*PROT/HsePTOC2\$ST\$Op\$general	HS E/ F2 trip status	Bool
229	*PROT/HsePTOC2\$SP\$TmACrv\$setCharact	HS E/F2 characteristic curve(definite time)	Byte
230	*PROT/HsePTOC2\$SP\$StrVal\$setMag\$i	HS E/F2 trip level	Long
231	*PROT/HsePTOC2\$SP\$OpDITmms\$setVal	HS E/F2 trip time delay	Long
232	*PROT/HsePTOC2\$SP\$PrtOps\$setVal	HS E/F2 protection setting	Long
233	*PROT/HspPTOC1\$ST\$Str\$general	HS Overcurrent trip pickup	Bool
234	*PROT/HspPTOC1\$ST\$Op\$general	HS Overcurrent trip status	Bool
235	*PROT/HspPTOC1\$SP\$TmACrv\$setCharact	HS Overcurrent characteristic curve(definite time)	Byte
236	*PROT/HspPTOC1\$SP\$StrVal\$setMag\$i	HS Overcurrent trip level	Long
237	*PROT/HspPTOC1\$SP\$OpDITmms\$setVal	HS Overcurrent trip time delay	Long
238	*PROT/HspPTOC1\$SP\$PrtOps\$setVal	HS Overcurrent protection setting	Long
239	*PROT/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
240	*PROT/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
241	*PROT/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
242	*PROT/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
243	*PROT/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD1/3	Vstring255
244	*PROT/LdiPTOC1\$ST\$Str\$general	Load-increase trip pickup	Bool
245	*PROT/LdiPTOC1\$ST\$Op\$general	Load-increase trip status	Bool
246	*PROT/LdiPTOC1\$SP\$TmACrv\$setCharact	Load-increase characteristic curve(definite time)	Byte
247	*PROT/LdiPTOC1\$SP\$StrVal\$setMag\$i	Load-increase trip level	Long
248	*PROT/LdiPTOC1\$SP\$OpDITmms\$setVal	Load-increase trip time delay	Long
249	*PROT/LdiPTOC1\$SP\$PrtOps\$setVal	Load-increase protection setting	Long
250	*PROT/LdiPTOC1\$SP\$CcrVal\$setMag\$i	Ccr setting for Load-increase protection	Long
251	*PROT/LrfPEXF1\$ST\$Str\$general	Local/remote fault trip pickup	Bool
252	*PROT/LrfPEXF1\$ST\$Op\$general	Local/remote fault trip status	Bool
253	*PROT/LrfPEXF1\$SP\$OpDITmms\$setVal	Local/remote fault trip time delay	Long
254	*PROT/LrfPEXF1\$SP\$PrtOps\$setVal	Local/remote fault protection setting	Long
255	*PROT/LspPTOC1\$ST\$Str\$general	LS Overcurrent trip pickup	Bool
256	*PROT/LspPTOC1\$ST\$Op\$general	LS Overcurrent trip status	Bool
257	*PROT/LspPTOC1\$SP\$TmACrv\$setCharact	LS Overcurrent characteristic curve(definite time)	Byte
258	*PROT/LspPTOC1\$SP\$StrVal\$setMag\$i	LS Overcurrent trip level	Long
259	*PROT/LspPTOC1\$SP\$OpDITmms\$setVal	LS Overcurrent trip time delay	Long
260	*PROT/LspPTOC1\$SP\$PrtOps\$setVal	LS Overcurrent protection setting	Long
261	*PROT/LvtPEXF1\$ST\$Str\$general	Line VT Failure trip pickup	Bool
262	*PROT/LvtPEXF1\$ST\$Op\$general	Line VT Failure trip status	Bool
263	*PROT/LvtPEXF1\$SP\$OpDITmms\$setVal	Line VT Failure trip time delay	Long
264	*PROT/LvtPEXF1\$SP\$PrtOps\$setVal	Line VT Failure protection setting	Long
265	*PROT/PhsPTOC1\$ST\$Str\$general	Overcurrent 1 trip pickup	Bool
266	*PROT/PhsPTOC1\$ST\$Op\$general	Overcurrent 1 trip status	Bool

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267	*PROT/PhsPTOC1\$SP\$TmACrv\$setCharact	Overcurrent 1 characteristic curve	Byte
268	*PROT/PhsPTOC1\$SP\$StrVal\$setMag\$i	Overcurrent 1 trip level	Long
269	*PROT/PhsPTOC1\$SP\$TmMult\$setMag\$i	Overcurrent 1 time multiplier for inverse-curve	Long
270	*PROT/PhsPTOC1\$SP\$OpDITmms\$setVal	Overcurrent 1 trip time delay for definite-time only	Long
271	*PROT/PhsPTOC1\$SP\$PrtOps\$setVal	Overcurrent 1 protection setting	Long
272	*PROT/PhsPTOC2\$ST\$Str\$general	Overcurrent 2 trip pickup	Bool
273	*PROT/PhsPTOC2\$ST\$Op\$general	Overcurrent 2 trip status	Bool
274	*PROT/PhsPTOC2\$SP\$TmACrv\$setCharact	Overcurrent 2 characteristic curve	Byte
275	*PROT/PhsPTOC2\$SP\$StrVal\$setMag\$i	Overcurrent 2 trip level	Long
276	*PROT/PhsPTOC2\$SP\$TmMult\$setMag\$i	Overcurrent 2 time multiplier for inverse-curve	Long
277	*PROT/PhsPTOC2\$SP\$OpDITmms\$setVal	Overcurrent 2 trip time delay for definite-time only	Long
278	*PROT/PhsPTOC2\$SP\$PrtOps\$setVal	Overcurrent 2 protection setting	Long
279	*PROT/PhsPTOV1\$ST\$Str\$general	Over voltage trip pickup	Bool
280	*PROT/PhsPTOV1\$ST\$Op\$general	Over voltage trip status	Bool
281	*PROT/PhsPTOV1\$SP\$StrVal\$setMag\$i	Over voltage trip level	Long
282	*PROT/PhsPTOV1\$SP\$OpDITmms\$setVal	Over voltage trip time delay	Long
283	*PROT/PhsPTOV1\$SP\$PrtOps\$setVal	Over voltage protection setting	Long
284	*PROT/PhsPTUV1\$ST\$Str\$general	Under voltage trip pickup	Bool
285	*PROT/PhsPTUV1\$ST\$Op\$general	Under voltage trip status	Bool
286	*PROT/PhsPTUV1\$SP\$StrVal\$setMag\$i	Under voltage trip level	Long
287	*PROT/PhsPTUV1\$SP\$OpDITmms\$setVal	Under voltage trip time delay	Long
288	*PROT/PhsPTUV1\$SP\$TrpTyp\$setCharact	Under voltage trip type	Byte
289	*PROT/PhsPTUV1\$SP\$PrtOps\$setVal	Under voltage protection setting	Long
290	*PROT/SrIPSTO1\$ST\$Str\$general	Serial timeout trip pickup	Bool
291	*PROT/SrIPSTO1\$ST\$Op\$general	Serial timeout trip status	Bool
292	*PROT/SrIPSTO1\$SP\$OpDITmms\$setVal	Serial timeout delay	Long
293	*PROT/SrIPSTO1\$SP\$PrtOps\$setVal	Serial timeout protection setting	Long
294	*RECD/DisRDRE1\$ST\$RcdMade\$stVal	RCD available	Bool
295	*RECD/DisRDRE1\$ST\$Loc\$stVal	Local operation mode	Bool
296	*RECD/DisRDRE1\$ST\$FltNam\$rcdNam	RCD comtrade name	Vstring255
297	*RECD/DisRDRE1\$CO\$RdFlgClr\$Oper\$ctlVal	Clear the RCD flag in order to read the comtrade files again	Bool
298	*RECD/DisRDRE1\$SP\$TrgTyp\$setCharact	Trigger type	Byte
299	*RECD/DisRDRE1\$SP\$PreTpos\$setCharact	Trigger position	Byte
300	*RECD/DisRDRE1\$SP\$RcdRes\$setCharact	Record resolution	Byte
301	*RECD/DisRDRE1\$SP\$MaxTrace\$setVal	Max record traces	Long
302	*RECD/DisRDRE1\$SP\$DiChNum\$setVal	Digital input channel number	Long
303	*RECD/DisRDRE1\$SP\$DoChNum\$setVal	Digital output channel number	Long
304	*RECD/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
305	*RECD/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
306	*RECD/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
307	*RECD/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
308	*RECD/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD1/3	Vstring255
309	*SYST/AlmRFLT1\$MX\$A\$phsA\$cVal\$mag\$i	Recent pre alarm I1 (red phase)(decimal format)	Long
310	*SYST/AlmRFLT1\$MX\$A\$phsA\$cVal\$mag\$f	Recent pre alarm I1 (red phase)(float format)	Float
311	*SYST/AlmRFLT1\$MX\$A\$phsB\$cVal\$mag\$i	Recent pre alarm I2 (yellow phase)(decimal format)	Long
312	*SYST/AlmRFLT1\$MX\$A\$phsB\$cVal\$mag\$f	Recent pre alarm I2 (yellow phase)(float format)	Float
313	*SYST/AlmRFLT1\$MX\$A\$phsC\$cVal\$mag\$i	Recent pre alarm I3 (blue phase)(decimal format)	Long
314	*SYST/AlmRFLT1\$MX\$A\$phsC\$cVal\$mag\$f	Recent pre alarm I3 (blue phase)(float format)	Float
315	*SYST/AlmRFLT1\$MX\$A\$net\$cVal\$mag\$i	Recent pre alarm Ist (standby) (decimal format)	Long
316	*SYST/AlmRFLT1\$MX\$A\$net\$cVal\$mag\$f	Recent pre alarm Ist (standby)(float format)	Float
317	*SYST/AlmRFLT1\$MX\$A\$res\$cVal\$mag\$i	Recent pre alarm I0 (e/f)(decimal format)	Long
318	*SYST/AlmRFLT1\$MX\$A\$res\$cVal\$mag\$f	Recent pre alarm I0 (e/f)(float format)	Float

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319	*SYST/AlmRFLT1\$MX\$PhV\$phsA\$cVal\$mag\$i	Recent pre alarm V1 (red phase)(decimal format)	Long
320	*SYST/AlmRFLT1\$MX\$PhV\$phsA\$cVal\$mag\$f	Recent pre alarm V1 (red phase)(float format)	Float
321	*SYST/AlmRFLT1\$MX\$PhV\$phsB\$cVal\$mag\$i	Recent pre alarm V2 (yellow phase) (decimal format) )	Long
322	*SYST/AlmRFLT1\$MX\$PhV\$phsB\$cVal\$mag\$f	Recent pre alarm V2 (yellow phase)(float format)	Float
323	*SYST/AlmRFLT1\$MX\$PhV\$phsC\$cVal\$mag\$i	Recent pre alarm V3 (blue phase)(decimal format)	Long
324	*SYST/AlmRFLT1\$MX\$PhV\$phsC\$cVal\$mag\$f	Recent pre alarm V3 (blue phase)(float format)	Float
325	*SYST/AlmRFLT1\$MX\$Hz\$mag\$i	Recent pre alarm frequency(decimal format)	Long
326	*SYST/AlmRFLT1\$MX\$Hz\$mag\$f	Recent pre alarm frequency(float format)	Float
327	*SYST/AlmRFLT1\$MX\$Vsyn\$cVal\$mag\$i	Recent pre alarm sync voltage(decimal format)	Long
328	*SYST/AlmRFLT1\$MX\$Vsyn\$cVal\$mag\$f	Recent pre alarm sync voltage(float format)	Float
329	*SYST/AlmRFLT1\$MX\$SynAng\$mag\$i	Recent pre alarm sync angle(decimal format)	Long
330	*SYST/AlmRFLT1\$MX\$SynAng\$mag\$f	Recent pre alarm sync angle(float format)	Float
331	*SYST/AlmRFLT1\$ST\$Loc\$stVal	Local operation mode	Bool
332	*SYST/AlmRFLT1\$ST\$FitPos\$stVal	Recent alarm sequence number	Long
333	*SYST/AlmRFLT1\$ST\$FitNo\$stVal	Recent alarm number	Long
334	*SYST/AlmRFLT1\$ST\$FitNo\$t	Time stamp for recent alarm	Utctime
335	*SYST/AlmRFLT1\$CO\$FitPos\$Oper\$ctVal	Set the Recent alarm sequence number(control)	Long
336	*SYST/DinGGIO1\$ST\$BInp01\$stVal	Digital input 1 status	Bool
337	*SYST/DinGGIO1\$ST\$BInp02\$stVal	Digital input 2 status	Bool
338	*SYST/DinGGIO1\$ST\$BInp03\$stVal	Digital input 3 status	Bool
339	*SYST/DinGGIO1\$ST\$BInp04\$stVal	Digital input 4 status	Bool
340	*SYST/DinGGIO1\$ST\$BInp05\$stVal	Digital input 5 status	Bool
341	*SYST/DinGGIO1\$ST\$BInp06\$stVal	Digital input 6 status	Bool
342	*SYST/DinGGIO1\$ST\$BInp07\$stVal	Digital input 7 status	Bool
343	*SYST/DinGGIO1\$ST\$BInp08\$stVal	Digital input 8 status	Bool
344	*SYST/DinGGIO1\$ST\$BInp09\$stVal	Digital input 9 status	Bool
345	*SYST/DinGGIO1\$ST\$BInp10\$stVal	Digital input 10 status	Bool
346	*SYST/DinGGIO1\$ST\$BInp11\$stVal	Digital input 11 status	Bool
347	*SYST/DinGGIO1\$ST\$BInp12\$stVal	Digital input 12 status	Bool
348	*SYST/DinGGIO1\$ST\$BInp13\$stVal	Digital input 13 status	Bool
349	*SYST/DinGGIO1\$ST\$BInp14\$stVal	Digital input 14 status	Bool
350	*SYST/DinGGIO1\$ST\$BInp15\$stVal	Digital input 15 status	Bool
351	*SYST/DinGGIO1\$ST\$BInp16\$stVal	Digital input 16 status	Bool
352	*SYST/DinGGIO1\$ST\$BInp17\$stVal	Digital input 17 status	Bool
353	*SYST/DinGGIO1\$ST\$BInp18\$stVal	Digital input 18 status	Bool
354	*SYST/DinGGIO1\$ST\$BInp19\$stVal	Digital input 19 status	Bool
355	*SYST/DinGGIO1\$ST\$BInp20\$stVal	Digital input 20 status	Bool
356	*SYST/DinGGIO1\$ST\$BInp21\$stVal	Digital input 21 status	Bool
357	*SYST/DinGGIO1\$ST\$BInp22\$stVal	Digital input 22 status	Bool
358	*SYST/DinGGIO1\$ST\$BInp23\$stVal	Digital input 23 status	Bool
359	*SYST/DinGGIO1\$ST\$BInp24\$stVal	Digital input 24 status	Bool
360	*SYST/DinGGIO1\$SP\$DiSet01\$setCharact	Digital input 1 setting	Byte
361	*SYST/DinGGIO1\$SP\$DiSet02\$setCharact	Digital input 2 setting	Byte
362	*SYST/DinGGIO1\$SP\$DiSet03\$setCharact	Digital input 3 setting	Byte
363	*SYST/DinGGIO1\$SP\$DiSet04\$setCharact	Digital input 4 setting	Byte
364	*SYST/DinGGIO1\$SP\$DiSet05\$setCharact	Digital input 5 setting	Byte
365	*SYST/DinGGIO1\$SP\$DiSet06\$setCharact	Digital input 6 setting	Byte
366	*SYST/DinGGIO1\$SP\$DiSet07\$setCharact	Digital input 7 setting	Byte
367	*SYST/DinGGIO1\$SP\$DiSet08\$setCharact	Digital input 8 setting	Byte
368	*SYST/DinGGIO1\$SP\$DiSet09\$setCharact	Digital input 9 setting	Byte
369	*SYST/DinGGIO1\$SP\$DiSet10\$setCharact	Digital input 10 setting	Byte
370	*SYST/DinGGIO1\$SP\$DiSet11\$setCharact	Digital input 11 setting	Byte
371	*SYST/DinGGIO1\$SP\$DiSet12\$setCharact	Digital input 12 setting	Byte

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372	*SYST/DinGGIO1\$SP\$DiSet13\$setCharact	Digital input 13 setting	Byte
373	*SYST/DinGGIO1\$SP\$DiSet14\$setCharact	Digital input 14 setting	Byte
374	*SYST/DinGGIO1\$SP\$DiSet15\$setCharact	Digital input 15 setting	Byte
375	*SYST/DinGGIO1\$SP\$DiSet16\$setCharact	Digital input 16 setting	Byte
376	*SYST/DinGGIO1\$SP\$DiSet17\$setCharact	Digital input 17 setting	Byte
377	*SYST/DinGGIO1\$SP\$DiSet18\$setCharact	Digital input 18 setting	Byte
378	*SYST/DinGGIO1\$SP\$DiSet19\$setCharact	Digital input 19 setting	Byte
379	*SYST/DinGGIO1\$SP\$DiSet20\$setCharact	Digital input 20 setting	Byte
380	*SYST/DinGGIO1\$SP\$DiSet21\$setCharact	Digital input 21 setting	Byte
381	*SYST/DinGGIO1\$SP\$DiSet22\$setCharact	Digital input 22 setting	Byte
382	*SYST/DinGGIO1\$SP\$DiSet23\$setCharact	Digital input 23 setting	Byte
383	*SYST/DinGGIO1\$SP\$DiSet24\$setCharact	Digital input 24 setting	Byte
384	*SYST/EfcTCTR1\$SP\$ARtg\$setMag\$i	EFCT Primary 1	Long
385	*SYST/EfcTCTR2\$SP\$ARtg\$setMag\$i	EFCT Primary 2	Long
386	*SYST/LLN0\$GO\$ItlBasicGOOSE\$GoEna	Enable/disable GOOSE	Bool
387	*SYST/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
388	*SYST/LPHD1\$ST\$Loc\$stVal	Local operation mode	Bool
389	*SYST/LPHD1\$CO\$WrtPrt\$Oper\$ctlVal	Activate setting-write protection (control)	Bool
390	*SYST/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
391	*SYST/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
392	*SYST/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
393	*SYST/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD1/3	Vstring255
394	*SYST/LPHD1\$SP\$IEDTag\$setNam	IED Tag String	Vstring64
395	*SYST/LPHD1\$SP\$PasWrd\$setCharact	Enable/disable user password	Byte
396	*SYST/LPHD1\$SP\$PasStr\$setNam	User password text string	Vstring64
397	*SYST/LPHD1\$SP\$SysPas\$setCharact	Enable/disable engineer password	Byte
398	*SYST/LPHD1\$SP\$ScnSav\$setCharact	Enable/disable screen saver	Byte
399	*SYST/LPHD1\$SP\$ScnTms\$setVal	Screen saver timeout setting	Long
400	*SYST/LPHD1\$SP\$InvLed\$setCharact	Invert LED colour setting	Byte
401	*SYST/LPHD1\$SP\$SwpLed\$setCharact	Swap LED position setting	Byte
402	*SYST/LPHD1\$SP\$RtnTmm\$setCharact	Default Return Time	Byte
403	*SYST/LPHD1\$SP\$DinCfg\$setCharact	Digital Input Configuration	Byte
404	*SYST/LPHD1\$SP\$RemPol\$setCharact	Remote Polarity	Byte
405	*SYST/LPHD1\$SP\$IndpdMod\$setCharact	Enable/disable Independent Mode	Byte
406	*SYST/LPHD1\$SP\$EssoChgOv\$setCharact	Enable/disable Esso Changeover	Byte
407	*SYST/LedGGIO1\$ST\$Bled01\$stVal	LED 1 on/off status	Bool
408	*SYST/LedGGIO1\$ST\$Bled01\$stFlash	LED 1 flash status	Bool
409	*SYST/LedGGIO1\$ST\$Bled02\$stVal	LED 2 on/off status	Bool
410	*SYST/LedGGIO1\$ST\$Bled02\$stFlash	LED 2 flash status	Bool
411	*SYST/LedGGIO1\$ST\$Bled03\$stVal	LED 3 on/off status	Bool
412	*SYST/LedGGIO1\$ST\$Bled03\$stFlash	LED 3 flash status	Bool
413	*SYST/LedGGIO1\$ST\$Bled04\$stVal	LED 4 on/off status	Bool
414	*SYST/LedGGIO1\$ST\$Bled04\$stFlash	LED 4 flash status	Bool
415	*SYST/LedGGIO1\$ST\$Bled05\$stVal	LED 5 on/off status	Bool
416	*SYST/LedGGIO1\$ST\$Bled05\$stFlash	LED 5 flash status	Bool
417	*SYST/LedGGIO1\$ST\$Bled06\$stVal	LED 6 on/off status	Bool
418	*SYST/LedGGIO1\$ST\$Bled06\$stFlash	LED 6 flash status	Bool
419	*SYST/LedGGIO1\$ST\$Bled07\$stVal	LED 7 on/off status	Bool
420	*SYST/LedGGIO1\$ST\$Bled07\$stFlash	LED 7 flash status	Bool
421	*SYST/LedGGIO1\$ST\$Bled08\$stVal	LED 8 on/off status	Bool
422	*SYST/LedGGIO1\$ST\$Bled08\$stFlash	LED 8 flash status	Bool
423	*SYST/LedGGIO1\$ST\$Bled09\$stVal	LED 9 on/off status	Bool
424	*SYST/LedGGIO1\$ST\$Bled09\$stFlash	LED 9 flash status	Bool

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425	*SYST/LedGGIO1\$ST\$Bled10\$stVal	LED 10 on/off status	Bool
426	*SYST/LedGGIO1\$ST\$Bled10\$stFlash	LED 10 flash status	Bool
427	*SYST/LedGGIO1\$ST\$Bled11\$stVal	LED 11 on/off status	Bool
428	*SYST/LedGGIO1\$ST\$Bled11\$stFlash	LED 11 flash status	Bool
429	*SYST/LedGGIO1\$ST\$Bled12\$stVal	LED 12 on/off status	Bool
430	*SYST/LedGGIO1\$ST\$Bled12\$stFlash	LED 12 flash status	Bool
431	*SYST/LedGGIO1\$SP\$LedSet01\$setCharact	LED output 1 setting	Byte
432	*SYST/LedGGIO1\$SP\$LedSet02\$setCharact	LED output 2 setting	Byte
433	*SYST/LedGGIO1\$SP\$LedSet03\$setCharact	LED output 3 setting	Byte
434	*SYST/LedGGIO1\$SP\$LedSet04\$setCharact	LED output 4 setting	Byte
435	*SYST/LedGGIO1\$SP\$LedSet05\$setCharact	LED output 5 setting	Byte
436	*SYST/LedGGIO1\$SP\$LedSet06\$setCharact	LED output 6 setting	Byte
437	*SYST/LedGGIO1\$SP\$LedSet07\$setCharact	LED output 7 setting	Byte
438	*SYST/LedGGIO1\$SP\$LedSet08\$setCharact	LED output 8 setting	Byte
439	*SYST/LedGGIO1\$SP\$LedSet09\$setCharact	LED output 9 setting	Byte
440	*SYST/LedGGIO1\$SP\$LedSet10\$setCharact	LED output 10 setting	Byte
441	*SYST/LedGGIO1\$SP\$LedSet11\$setCharact	LED output 11 setting	Byte
442	*SYST/LedGGIO1\$SP\$LedSet12\$setCharact	LED output 12 setting	Byte
443	*SYST/MixGGIO1\$ST\$ISCO\$stVal	Relay output 1-8 status	Long
444	*SYST/MixGGIO1\$ST\$IntIn01\$stVal	Digital input 1-8 status	Long
445	*SYST/MixGGIO1\$ST\$IntIn02\$stVal	Digital input 9-16 status	Long
446	*SYST/MixGGIO1\$ST\$IntIn03\$stVal	Digital input 17-24 status	Long
447	*SYST/MixGGIO1\$ST\$LgcSt\$stVal	Logical status	Long
448	*SYST/MixGGIO1\$ST\$IntOut01\$stVal	Trip status (bit 0-15)	Long
449	*SYST/MixGGIO1\$ST\$IntOut02\$stVal	Trip status (bit 16-31)	Long
450	*SYST/MixGGIO1\$ST\$IntOut03\$stVal	Alarm status (bit 0-15)	Long
451	*SYST/MixGGIO1\$ST\$IntOut04\$stVal	Alarm status (bit 16-31)	Long
452	*SYST/MixGGIO1\$ST\$IntOut05\$stVal	Inhibit status (bit 0-15)	Long
453	*SYST/MixGGIO1\$ST\$IntOut06\$stVal	Inhibit status (bit 16-31)	Long
454	*SYST/MixGGIO1\$ST\$LocRem\$stVal	Local/Remote Status	Byte
455	*SYST/MixGGIO1\$ST\$AutoMan\$stVal	Auto/Manual Status	Byte
456	*SYST/MixGGIO1\$ST\$Tss\$stVal	TSS Status	Byte
457	*SYST/MixGGIO1\$ST\$OperSt\$stVal	Operation Status	Byte
458	*SYST/MixGGIO1\$ST\$FltSt\$stVal	Fault Status	Byte
459	*SYST/MixGGIO1\$ST\$TstSvc\$stVal	Test/Service Status	Byte
460	*SYST/PhsTCTR1\$SP\$ARtg\$setMag\$i	CT promary	Long
461	*SYST/PhsTCTR1\$SP\$PoIops\$setCharact	Overcurrent poles setting	Byte
462	*SYST/PhsTVTR1\$SP\$VRtg\$setMag\$i	VT primary	Long
463	*SYST/PhsTVTR1\$SP\$VTsec\$setMag\$i	VT secondary	Long
464	*SYST/PhsTVTR1\$SP\$VtgVal\$setMag\$i	Voltage	Long
465	*SYST/PhsTVTR1\$SP\$VtgRef\$setCharact	Voltage sync. option	Byte
466	*SYST/RlyGGIO1\$ST\$Bout1\$stVal	Relay output 1 status	Bool
467	*SYST/RlyGGIO1\$ST\$Bout2\$stVal	Relay output 2 status	Bool
468	*SYST/RlyGGIO1\$ST\$Bout3\$stVal	Relay output 3 status	Bool
469	*SYST/RlyGGIO1\$ST\$Bout4\$stVal	Relay output 4 status	Bool
470	*SYST/RlyGGIO1\$ST\$Bout5\$stVal	Relay output 5 status	Bool
471	*SYST/RlyGGIO1\$ST\$Bout6\$stVal	Relay output 6 status	Bool
472	*SYST/RlyGGIO1\$ST\$Bout7\$stVal	Relay output 7 status	Bool
473	*SYST/RlyGGIO1\$ST\$Bout8\$stVal	Relay output 8 status	Bool
474	*SYST/RlyGGIO1\$SP\$DoSet1\$setCharact	Relay output 1 setting	Byte
475	*SYST/RlyGGIO1\$SP\$DoSet2\$setCharact	Relay output 2 setting	Byte
476	*SYST/RlyGGIO1\$SP\$DoSet3\$setCharact	Relay output 3 setting	Byte
477	*SYST/RlyGGIO1\$SP\$DoSet4\$setCharact	Relay output 4 setting	Byte

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478	*SYST/RlyGGIO1\$SP\$DoSet5\$setCharact	Relay output 5 setting	Byte
479	*SYST/RlyGGIO1\$SP\$DoSet6\$setCharact	Relay output 6 setting	Byte
480	*SYST/RlyGGIO1\$SP\$DoSet7\$setCharact	Relay output 7 setting	Byte
481	*SYST/RlyGGIO1\$SP\$DoSet8\$setCharact	Relay output 8 setting	Byte
482	*SYST/RlyGGIO1\$SP\$Rly3Cfg\$setCharact	Relay 3 Configuration	Byte
483	*SYST/TrpRFLT1\$MX\$A\$phsA\$cVal\$mag\$i	Recent pre trip I1 (red phase)(decimal format)	Long
484	*SYST/TrpRFLT1\$MX\$A\$phsA\$cVal\$mag\$f	Recent pre trip I1 (red phase)(float format)	Float
485	*SYST/TrpRFLT1\$MX\$A\$phsB\$cVal\$mag\$i	Recent pre trip I2 (yellow phase)(decimal format)	Long
486	*SYST/TrpRFLT1\$MX\$A\$phsB\$cVal\$mag\$f	Recent pre trip I2 (yellow phase)(float format)	Float
487	*SYST/TrpRFLT1\$MX\$A\$phsC\$cVal\$mag\$i	Recent pre trip I3 (blue phase)(decimal format)	Long
488	*SYST/TrpRFLT1\$MX\$A\$phsC\$cVal\$mag\$f	Recent pre trip I3 (blue phase)(float format)	Float
489	*SYST/TrpRFLT1\$MX\$A\$net\$cVal\$mag\$i	Recent pre trip I1st (standby)(decimal format)	Long
490	*SYST/TrpRFLT1\$MX\$A\$net\$cVal\$mag\$f	Recent pre trip I1st (standby)(float format)	Float
491	*SYST/TrpRFLT1\$MX\$A\$res\$cVal\$mag\$i	Recent pre trip I0 (e/f)(decimal format)	Long
492	*SYST/TrpRFLT1\$MX\$A\$res\$cVal\$mag\$f	Recent pre trip I0 (e/f)(float format)	Float
493	*SYST/TrpRFLT1\$MX\$PhV\$phsA\$cVal\$mag\$i	Recent pre trip V1 (red phase)(decimal format)	Long
494	*SYST/TrpRFLT1\$MX\$PhV\$phsA\$cVal\$mag\$f	Recent pre trip V1 (red phase)(float format)	Float
495	*SYST/TrpRFLT1\$MX\$PhV\$phsB\$cVal\$mag\$i	Recent pre trip V2 (yellow phase)(decimal format) )	Long
496	*SYST/TrpRFLT1\$MX\$PhV\$phsB\$cVal\$mag\$f	Recent pre trip V2 (yellow phase)(float format)	Float
497	*SYST/TrpRFLT1\$MX\$PhV\$phsC\$cVal\$mag\$i	Recent pre trip V3 (blue phase)(decimal format)	Long
498	*SYST/TrpRFLT1\$MX\$PhV\$phsC\$cVal\$mag\$f	Recent pre trip V3 (blue phase)(float format)	Float
499	*SYST/TrpRFLT1\$MX\$Hz\$mag\$i	Recent pre trip frequency(decimal format)	Long
500	*SYST/TrpRFLT1\$MX\$Hz\$mag\$f	Recent pre trip frequency(float format)	Float
501	*SYST/TrpRFLT1\$MX\$Vsyn\$cVal\$mag\$i	Recent pre trip sync voltage(decimal format)	Long
502	*SYST/TrpRFLT1\$MX\$Vsyn\$cVal\$mag\$f	Recent pre trip sync voltage(float format)	Float
503	*SYST/TrpRFLT1\$MX\$SynAng\$mag\$i	Recent pre trip sync angle(decimal format)	Long
504	*SYST/TrpRFLT1\$MX\$SynAng\$mag\$f	Recent pre trip sync angle(float format)	Float
505	*SYST/TrpRFLT1\$ST\$Loc\$stVal	Local operation mode	Bool
506	*SYST/TrpRFLT1\$ST\$FitPos\$stVal	Recent trip sequence number	Long
507	*SYST/TrpRFLT1\$ST\$FitNo\$stVal	Recent trip number	Long
508	*SYST/TrpRFLT1\$ST\$FitNo\$t	Time stamp for recent trip	Utctime
509	*SYST/TrpRFLT1\$CO\$FitPos\$Oper\$ctlVal	Set the Recent trip sequence number(control)	Long

### 3.3.2 AFVD2

No.	Attribute Name	Description	Data Type
1	*CTRL/CbmXCBR1\$ST\$Loc\$stVal	Local operation mode	Bool
2	*CTRL/CbmXCBR1\$ST\$OpCnt\$stVal	Number of opening	Long
3	*CTRL/CbmXCBR1\$ST\$Pos\$stVal	Breaker Status	Bstring2
4	*CTRL/CbmXCBR1\$ST\$BlkOpn\$stVal	Block opening	Bool
5	*CTRL/CbmXCBR1\$ST\$BlkCls\$stVal	Block closing	Bool
6	*CTRL/CbmXCBR1\$ST\$TrpCnt\$stVal	Number of trips	Long
7	*CTRL/CbmXCBR1\$ST\$CIsCnt\$stVal	Number of closes	Long
8	*CTRL/CbmXCBR1\$ST\$CIsHrsThis\$stVal	Hours This Close(hrs)	Long
9	*CTRL/CbmXCBR1\$ST\$CIsHrsTot\$stVal	Total Hours Closed(hrs)	Long
10	*CTRL/CbmXCBR1\$CO\$RstStats\$Oper\$ctlVal	Reset XCBR Stats (control)	Bool
11	*CTRL/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
12	*CTRL/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
13	*CTRL/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
14	*CTRL/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
15	*CTRL/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD2	Vstring255
16	*CTRL/SrfCSWI1\$ST\$Loc\$stVal	Local operation mode	Bool

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17	*CTRL/SrfCSWI1\$ST\$Pos\$stVal	Serial reset status	Bstring2
18	*CTRL/SrfCSWI1\$CO\$Pos\$Oper\$ctlVal	Serial reset fault command(control)	Bool
19	*MEAS/EngMMTR1\$ST\$TotVAh\$actVal	Total apparent energy value	Long
20	*MEAS/EngMMTR1\$ST\$TotVAh\$t	Time stamp for total apparent energy	Utctime
21	*MEAS/EngMMTR1\$ST\$TotWh\$actVal	Total real energy value	Long
22	*MEAS/EngMMTR1\$ST\$TotWh\$t	Time stamp for total real energy	Utctime
23	*MEAS/EngMMTR1\$ST\$TotVarh\$actVal	Total reactive energy value	Long
24	*MEAS/EngMMTR1\$ST\$TotVarh\$t	Time stamp for total reactive energy value	Utctime
25	*MEAS/EngMMTR1\$ST\$TotWdmd\$actVal	kW peak demand value	Long
26	*MEAS/EngMMTR1\$ST\$TotWdmd\$t	Time stamp for kW peak demand	Utctime
27	*MEAS/EngMMTR1\$ST\$Loc\$stVal	Local operation mode	Bool
28	*MEAS/EngMMTR1\$ST\$RstStats\$stVal	Stats reset status	Bool
29	*MEAS/EngMMTR1\$CO\$RstStats\$Oper\$ctlVal	Reset Stats (control)	Bool
30	*MEAS/EngMMTR1\$SP\$SmpPrd\$setMag\$i	kW sample period (in minutes)	Long
31	*MEAS/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
32	*MEAS/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
33	*MEAS/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
34	*MEAS/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
35	*MEAS/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD2	Vstring255
36	*MEAS/RmsMMXU1\$MX\$TotW\$mag\$i	Total real power (decimal format)	Long
37	*MEAS/RmsMMXU1\$MX\$TotW\$mag\$f	Total real power (float format)	Float
38	*MEAS/RmsMMXU1\$MX\$TotVar\$mag\$i	Total reactive power (decimal format)	Long
39	*MEAS/RmsMMXU1\$MX\$TotVar\$mag\$f	Total reactive power (float format)	Float
40	*MEAS/RmsMMXU1\$MX\$TotVA\$mag\$i	Total apparent power (decimal format)	Long
41	*MEAS/RmsMMXU1\$MX\$TotVA\$mag\$f	Total apparent power (float format)	Float
42	*MEAS/RmsMMXU1\$MX\$TotPF\$mag\$i	Total Power Factor(decimal format)	Long
43	*MEAS/RmsMMXU1\$MX\$TotPF\$mag\$f	Total Power Factor(float format)	Float
44	*MEAS/RmsMMXU1\$MX\$Hz\$mag\$i	System Frequency(decimal format)	Long
45	*MEAS/RmsMMXU1\$MX\$Hz\$mag\$f	System Frequency(float format)	Float
46	*MEAS/RmsMMXU1\$MX\$PPV\$phsAB\$cVal\$mag\$i	Phase A to B Voltage V12(decimal format)	Long
47	*MEAS/RmsMMXU1\$MX\$PPV\$phsAB\$cVal\$mag\$f	Phase A to B Voltage V12(float format)	Float
48	*MEAS/RmsMMXU1\$MX\$PPV\$phsBC\$cVal\$mag\$i	Phase B to C Voltage V23(decimal format)	Long
49	*MEAS/RmsMMXU1\$MX\$PPV\$phsBC\$cVal\$mag\$f	Phase B to C Voltage V23(float format)	Float
50	*MEAS/RmsMMXU1\$MX\$PPV\$phsCA\$cVal\$mag\$i	Phase C to A Voltage V31(decimal format)	Long
51	*MEAS/RmsMMXU1\$MX\$PPV\$phsCA\$cVal\$mag\$f	Phase C to A Voltage V31(float format)	Float
52	*MEAS/RmsMMXU1\$MX\$PhV\$phsA\$cVal\$mag\$i	Voltage V1 (red phase)(decimal format)	Long
53	*MEAS/RmsMMXU1\$MX\$PhV\$phsA\$cVal\$mag\$f	Voltage V1 (red phase)(float format)	Float
54	*MEAS/RmsMMXU1\$MX\$PhV\$phsB\$cVal\$mag\$i	Voltage V2 (yellow phase)(decimal format)	Long
55	*MEAS/RmsMMXU1\$MX\$PhV\$phsB\$cVal\$mag\$f	Voltage V2 (yellow phase)(float format)	Float
56	*MEAS/RmsMMXU1\$MX\$PhV\$phsC\$cVal\$mag\$i	Voltage V3 (blue phase)(decimal format)	Long
57	*MEAS/RmsMMXU1\$MX\$PhV\$phsC\$cVal\$mag\$f	Voltage V3 (blue phase)(float format)	Float
58	*MEAS/RmsMMXU1\$MX\$A\$phsA\$cVal\$mag\$i	Current I1 (red phase)(decimal format)	Long
59	*MEAS/RmsMMXU1\$MX\$A\$phsA\$cVal\$mag\$f	Current I1 (red phase)(float format)	Float
60	*MEAS/RmsMMXU1\$MX\$A\$phsB\$cVal\$mag\$i	Current I2 (yellow phase)(decimal format)	Long
61	*MEAS/RmsMMXU1\$MX\$A\$phsB\$cVal\$mag\$f	Current I2 (yellow phase)(float format)	Float
62	*MEAS/RmsMMXU1\$MX\$A\$phsC\$cVal\$mag\$i	Current I3 (blue phase)(decimal format)	Long
63	*MEAS/RmsMMXU1\$MX\$A\$phsC\$cVal\$mag\$f	Current I3 (blue phase)(float format)	Float
64	*MEAS/RmsMMXU1\$MX\$A\$net\$cVal\$mag\$i	E/F current Ist (standby)(decimal format)	Long
65	*MEAS/RmsMMXU1\$MX\$A\$net\$cVal\$mag\$f	E/F current Ist (standby)(float format)	Float
66	*MEAS/RmsMMXU1\$MX\$A\$res\$cVal\$mag\$i	E/F current I0 (residual)(decimal format)	Long
67	*MEAS/RmsMMXU1\$MX\$A\$res\$cVal\$mag\$f	E/F current I0 (residual)(float format)	Float
68	*MEAS/RmsMMXU1\$MX\$W\$phsA\$cVal\$mag\$i	Real power 1 (red phase)(decimal format)	Long
69	*MEAS/RmsMMXU1\$MX\$W\$phsA\$cVal\$mag\$f	Real power 1 (red phase)(float format)	Float

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70	*MEAS/RmsMMXU1\$MX\$W\$phsB\$cVal\$mag\$i	Real power 2 (yellow phase)(decimal format)	Long
71	*MEAS/RmsMMXU1\$MX\$W\$phsB\$cVal\$mag\$f	Real power 2 (yellow phase)(float format)	Float
72	*MEAS/RmsMMXU1\$MX\$W\$phsC\$cVal\$mag\$i	Real power 3 (blue phase)(decimal format)	Long
73	*MEAS/RmsMMXU1\$MX\$W\$phsC\$cVal\$mag\$f	Real power 3 (blue phase)(float format)	Float
74	*MEAS/RmsMMXU1\$MX\$VAr\$phsA\$cVal\$mag\$i	Reactive power 1 (red phase)(decimal format)	Long
75	*MEAS/RmsMMXU1\$MX\$VAr\$phsA\$cVal\$mag\$f	Reactive power 1 (red phase)(float format)	Float
76	*MEAS/RmsMMXU1\$MX\$VAr\$phsB\$cVal\$mag\$i	Reactive power 2 (yellow phase)(decimal format)	Long
77	*MEAS/RmsMMXU1\$MX\$VAr\$phsB\$cVal\$mag\$f	Reactive power 2 (yellow phase)(float format)	Float
78	*MEAS/RmsMMXU1\$MX\$VAr\$phsC\$cVal\$mag\$i	Reactive power 3 (blue phase)(decimal format)	Long
79	*MEAS/RmsMMXU1\$MX\$VAr\$phsC\$cVal\$mag\$f	Reactive power 3 (blue phase)(float format)	Float
80	*MEAS/RmsMMXU1\$MX\$VA\$phsA\$cVal\$mag\$i	Apparent power 1 (red phase)(decimal format)	Long
81	*MEAS/RmsMMXU1\$MX\$VA\$phsA\$cVal\$mag\$f	Apparent power 1 (red phase)(float format)	Float
82	*MEAS/RmsMMXU1\$MX\$VA\$phsB\$cVal\$mag\$i	Apparent power 2 (yellow phase)(decimal format)	Long
83	*MEAS/RmsMMXU1\$MX\$VA\$phsB\$cVal\$mag\$f	Apparent power 2 (yellow phase)(float format)	Float
84	*MEAS/RmsMMXU1\$MX\$VA\$phsC\$cVal\$mag\$i	Apparent power 3 (blue phase)(decimal format)	Long
85	*MEAS/RmsMMXU1\$MX\$VA\$phsC\$cVal\$mag\$f	Apparent power 3 (blue phase)(float format)	Float
86	*MEAS/RmsMMXU1\$MX\$PF\$phsA\$cVal\$mag\$i	Power factor 1 (red phase)(decimal format)	Long
87	*MEAS/RmsMMXU1\$MX\$PF\$phsA\$cVal\$mag\$f	Power factor 1 (red phase)(float format)	Float
88	*MEAS/RmsMMXU1\$MX\$PF\$phsB\$cVal\$mag\$i	Power factor 2 (yellow phase)(decimal format)	Long
89	*MEAS/RmsMMXU1\$MX\$PF\$phsB\$cVal\$mag\$f	Power factor 2 (yellow phase)(float format)	Float
90	*MEAS/RmsMMXU1\$MX\$PF\$phsC\$cVal\$mag\$i	Power factor 3 (blue phase)(decimal format)	Long
91	*MEAS/RmsMMXU1\$MX\$PF\$phsC\$cVal\$mag\$f	Power factor 3 (blue phase)(float format)	Float
92	*MEAS/RmsMMXU1\$MX\$VAh\$phsA\$cVal\$mag\$i	Apparent energy 1 (red phase)(decimal format)	Long
93	*MEAS/RmsMMXU1\$MX\$VAh\$phsA\$cVal\$mag\$f	Apparent energy 1 (red phase)(float format)	Float
94	*MEAS/RmsMMXU1\$MX\$VAh\$phsB\$cVal\$mag\$i	Apparent energy 2 (yellow phase)(decimal format)	Long
95	*MEAS/RmsMMXU1\$MX\$VAh\$phsB\$cVal\$mag\$f	Apparent energy 2 (yellow phase)(float format)	Float
96	*MEAS/RmsMMXU1\$MX\$VAh\$phsC\$cVal\$mag\$i	Apparent energy 3 (blue phase)(decimal format)	Long
97	*MEAS/RmsMMXU1\$MX\$VAh\$phsC\$cVal\$mag\$f	Apparent energy 3 (blue phase)(float format)	Float
98	*MEAS/RmsMMXU1\$MX\$Wh\$phsA\$cVal\$mag\$i	Real energy 1 (red phase)(decimal format)	Long
99	*MEAS/RmsMMXU1\$MX\$Wh\$phsA\$cVal\$mag\$f	Real energy 1 (red phase)(float format)	Float
100	*MEAS/RmsMMXU1\$MX\$Wh\$phsB\$cVal\$mag\$i	Real energy 2 (yellow phase)(decimal format)	Long
101	*MEAS/RmsMMXU1\$MX\$Wh\$phsB\$cVal\$mag\$f	Real energy 2 (yellow phase)(float format)	Float
102	*MEAS/RmsMMXU1\$MX\$Wh\$phsC\$cVal\$mag\$i	Real energy 3 (blue phase)(decimal format)	Long
103	*MEAS/RmsMMXU1\$MX\$Wh\$phsC\$cVal\$mag\$f	Real energy 3 (blue phase)(float format)	Float
104	*MEAS/RmsMMXU1\$MX\$VArh\$phsA\$cVal\$mag\$i	Reactive energy 1 (red phase)(decimal format)	Long
105	*MEAS/RmsMMXU1\$MX\$VArh\$phsA\$cVal\$mag\$f	Reactive energy 1 (red phase)(float format)	Float
106	*MEAS/RmsMMXU1\$MX\$VArh\$phsB\$cVal\$mag\$i	Reactive energy 2 (yellow phase)(decimal format)	Long
107	*MEAS/RmsMMXU1\$MX\$VArh\$phsB\$cVal\$mag\$f	Reactive energy 2 (yellow phase)(float format)	Float
108	*MEAS/RmsMMXU1\$MX\$VArh\$phsC\$cVal\$mag\$i	Reactive energy 3 (blue phase)(decimal format)	Long
109	*MEAS/RmsMMXU1\$MX\$VArh\$phsC\$cVal\$mag\$f	Reactive energy 3 (blue phase)(float format)	Float
110	*MEAS/RmsMMXU1\$MX\$Wdmd\$phsA\$cVal\$mag\$i	kW peak demand 1 (red phase)(decimal format)	Long
111	*MEAS/RmsMMXU1\$MX\$Wdmd\$phsA\$cVal\$mag\$f	kW peak demand 1 (red phase)(float format)	Float
112	*MEAS/RmsMMXU1\$MX\$Wdmd\$phsB\$cVal\$mag\$i	kW peak demand 2 (yellow phase)(decimal format)	Long
113	*MEAS/RmsMMXU1\$MX\$Wdmd\$phsB\$cVal\$mag\$f	kW peak demand 2 (yellow phase)(float format)	Float
114	*MEAS/RmsMMXU1\$MX\$Wdmd\$phsC\$cVal\$mag\$i	kW peak demand 3 (blue phase)(decimal format)	Long
115	*MEAS/RmsMMXU1\$MX\$Wdmd\$phsC\$cVal\$mag\$f	kW peak demand 3 (blue phase)(float format)	Float
116	*PROT/BsfPEXF1\$ST\$Str\$general	Breaker In Service Fault trip pickup	Bool
117	*PROT/BsfPEXF1\$ST\$Op\$general	Breaker In Service Fault trip status	Bool
118	*PROT/BsfPEXF1\$SP\$PrtOps\$setVal	Breaker In Service Fault protection setting	Long
119	*PROT/CbfRBRF1\$ST\$Str\$general	Breaker failure trip pickup	Bool
120	*PROT/CbfRBRF1\$ST\$OpIn\$general	Breaker failure trip status	Bool
121	*PROT/CbfRBRF1\$SP\$FailTmms\$setVal	Breaker failure time delay	Long
122	*PROT/CbfRBRF1\$SP\$FailDmod\$setCharact	Breaker Failure Detection Mode	Byte



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123	*PROT/CbfRBRF1\$SP\$PrtOps\$setVal	Breaker failure protection setting	Long
124	*PROT/DbPTUV1\$ST\$Str\$general	Dead Bus Fault trip pickup	Bool
125	*PROT/DbPTUV1\$ST\$Op\$general	Dead Bus Fault trip status	Bool
126	*PROT/DbPTUV1\$SP\$StrVal\$setMag\$	Dead Bus Fault trip level	Long
127	*PROT/DbPTUV1\$SP\$OpDITmms\$setVal	Dead Bus Fault trip time delay	Long
128	*PROT/DbPTUV1\$SP\$PrtOps\$setVal	Dead Bus Fault protection setting	Long
129	*PROT/EftPTOC1\$ST\$Str\$general	E/F1 trip pickup	Bool
130	*PROT/EftPTOC1\$ST\$Op\$general	E/F1 trip status	Bool
131	*PROT/EftPTOC1\$SP\$TmACrv\$setCharact	E/F1 characteristic curve	Byte
132	*PROT/EftPTOC1\$SP\$StrVal\$setMag\$	E/F1 trip level	Long
133	*PROT/EftPTOC1\$SP\$TmMult\$setMag\$	E/F1 time multiplier for inverse-curve	Long
134	*PROT/EftPTOC1\$SP\$OpDITmms\$setVal	E/F1 Trip time delay for definite time-curve	Long
135	*PROT/EftPTOC1\$SP\$PrtOps\$setVal	E/F1 protection setting	Long
136	*PROT/EftPTOC2\$ST\$Str\$general	E/F2 trip pickup	Bool
137	*PROT/EftPTOC2\$ST\$Op\$general	E/F2 trip status	Bool
138	*PROT/EftPTOC2\$SP\$TmACrv\$setCharact	E/F2 characteristic curve	Byte
139	*PROT/EftPTOC2\$SP\$StrVal\$setMag\$	E/F2 trip level	Long
140	*PROT/EftPTOC2\$SP\$TmMult\$setMag\$	E/F2 time multiplier for inverse-curve	Long
141	*PROT/EftPTOC2\$SP\$OpDITmms\$setVal	E/F2 Trip time delay for definite time-curve	Long
142	*PROT/EftPTOC2\$SP\$PrtOps\$setVal	E/F2 protection setting	Long
143	*PROT/ErrPITF1\$ST\$Str\$general	Internal failure trip pickup	Bool
144	*PROT/ErrPITF1\$ST\$Op\$general	Internal failure trip status	Bool
145	*PROT/ErrPITF1\$SP\$PrtOps\$setVal	Internal failure protection setting	Long
146	*PROT/ExtPEXF1\$ST\$Str\$general	Xfrm Buchholz 1 Fault (External fault 1) trip pickup	Bool
147	*PROT/ExtPEXF1\$ST\$Op\$general	Xfrm Buchholz 1 Fault (External fault 1) trip status	Bool
148	*PROT/ExtPEXF1\$SP\$PrtVal\$setCharact	Xfrm Buchholz 1 Fault (External fault 1) polarity	Byte
149	*PROT/ExtPEXF1\$SP\$OpDITmms\$setVal	Xfrm Buchholz 1 Fault (External fault 1) trip time delay	Long
150	*PROT/ExtPEXF1\$SP\$PrtOps\$setVal	Xfrm Buchholz 1 Fault (External fault 1) protection setting	Long
151	*PROT/ExtPEXF1\$SP\$PrtOps\$setNam	External fault 1 custom-name	Vstring64
152	*PROT/ExtPEXF2\$ST\$Str\$general	Xfrm Oil Temp 1 Fault (External fault 2) trip pickup	Bool
153	*PROT/ExtPEXF2\$ST\$Op\$general	Xfrm Oil Temp 1 Fault (External fault 2) trip status	Bool
154	*PROT/ExtPEXF2\$SP\$PrtVal\$setCharact	Xfrm Oil Temp 1 Fault (External fault 2) polarity	Byte
155	*PROT/ExtPEXF2\$SP\$OpDITmms\$setVal	Xfrm Oil Temp 1 Fault (External fault 2) trip time delay	Long
156	*PROT/ExtPEXF2\$SP\$PrtOps\$setVal	Xfrm Oil Temp 1 Fault (External fault 2) protection setting	Long
157	*PROT/ExtPEXF2\$SP\$PrtOps\$setNam	External fault 2 custom-name	Vstring64
158	*PROT/ExtPEXF3\$ST\$Str\$general	Xfrm Wind Temp 1 Fault (External fault 3) trip pickup	Bool
159	*PROT/ExtPEXF3\$ST\$Op\$general	Xfrm Wind Temp 1 Fault (External fault 3) trip status	Bool
160	*PROT/ExtPEXF3\$SP\$PrtVal\$setCharact	Xfrm Wind Temp 1 Fault (External fault 3) polarity	Byte
161	*PROT/ExtPEXF3\$SP\$OpDITmms\$setVal	Xfrm Wind Temp 1 Fault (External fault 3) trip time delay	Long
162	*PROT/ExtPEXF3\$SP\$PrtOps\$setVal	Xfrm Wind Temp 1 Fault (External fault 3) protection setting	Long
163	*PROT/ExtPEXF3\$SP\$PrtOps\$setNam	External fault 3 custom-name	Vstring64
164	*PROT/ExtPEXF4\$ST\$Str\$general	Xfrm MOGL 1 Fault (External fault 4) trip pickup	Bool
165	*PROT/ExtPEXF4\$ST\$Op\$general	Xfrm MOGL 1 Fault (External fault 4) trip status	Bool
166	*PROT/ExtPEXF4\$SP\$PrtVal\$setCharact	Xfrm MOGL 1 Fault (External fault 4) polarity	Byte
167	*PROT/ExtPEXF4\$SP\$OpDITmms\$setVal	Xfrm MOGL 1 Fault (External fault 4) trip time delay	Long
168	*PROT/ExtPEXF4\$SP\$PrtOps\$setVal	Xfrm MOGL 1 Fault (External fault 4) protection setting	Long
169	*PROT/ExtPEXF4\$SP\$PrtOps\$setNam	External fault 4 custom-name	Vstring64
170	*PROT/ExtPEXF5\$ST\$Str\$general	Xfrm Buchholz 2 Fault (External fault 5) trip pickup	Bool

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171	*PROT/ExtPEXF5\$ST\$Op\$general	Xform Buchholz 2 Fault (External fault 5) trip status	Bool
172	*PROT/ExtPEXF5\$SP\$PrtVal\$setCharact	Xform Buchholz 2 Fault (External fault 5) polarity	Byte
173	*PROT/ExtPEXF5\$SP\$OpDITmms\$setVal	Xform Buchholz 2 Fault (External fault 5) trip time delay	Long
174	*PROT/ExtPEXF5\$SP\$PrtOps\$setVal	Xform Buchholz 2 Fault (External fault 5) protection setting	Long
175	*PROT/ExtPEXF5\$SP\$PrtOps\$setNam	External fault 5 custom-name	Vstring64
176	*PROT/ExtPEXF6\$ST\$Str\$general	Xform Oil Temp 2 Fault (External fault 6) trip pickup	Bool
177	*PROT/ExtPEXF6\$ST\$Op\$general	Xform Oil Temp 2 Fault (External fault 6) trip status	Bool
178	*PROT/ExtPEXF6\$SP\$PrtVal\$setCharact	Xform Oil Temp 2 Fault (External fault 6) polarity	Byte
179	*PROT/ExtPEXF6\$SP\$OpDITmms\$setVal	Xform Oil Temp 2 Fault (External fault 6) trip time delay	Long
180	*PROT/ExtPEXF6\$SP\$PrtOps\$setVal	Xform Oil Temp 2 Fault (External fault 6) protection setting	Long
181	*PROT/ExtPEXF6\$SP\$PrtOps\$setNam	External fault 6 custom-name	Vstring64
182	*PROT/ExtPEXF7\$ST\$Str\$general	Xfrm Wind Temp 2 Fault (External fault 7) trip pickup	Bool
183	*PROT/ExtPEXF7\$ST\$Op\$general	Xfrm Wind Temp 2 Fault (External fault 7) trip status	Bool
184	*PROT/ExtPEXF7\$SP\$PrtVal\$setCharact	Xfrm Wind Temp 2 Fault (External fault 7) polarity	Byte
185	*PROT/ExtPEXF7\$SP\$OpDITmms\$setVal	Xfrm Wind Temp 2 Fault (External fault 7) trip time delay	Long
186	*PROT/ExtPEXF7\$SP\$PrtOps\$setVal	Xfrm Wind Temp 2 Fault (External fault 7) protection setting	Long
187	*PROT/ExtPEXF7\$SP\$PrtOps\$setNam	External fault 7 custom-name	Vstring64
188	*PROT/ExtPEXF8\$ST\$Str\$general	Xform MOGL 2 Fault(External fault 8) trip pickup	Bool
189	*PROT/ExtPEXF8\$ST\$Op\$general	Xform MOGL 2 Fault (External fault 8) trip status	Bool
190	*PROT/ExtPEXF8\$SP\$PrtVal\$setCharact	Xform MOGL 2 Fault (External fault 8) polarity	Byte
191	*PROT/ExtPEXF8\$SP\$OpDITmms\$setVal	Xform MOGL 2 Fault (External fault 8) trip time delay	Long
192	*PROT/ExtPEXF8\$SP\$PrtOps\$setVal	Xform MOGL 2 Fault (External fault 8) protection setting	Long
193	*PROT/ExtPEXF8\$SP\$PrtOps\$setNam	External fault 8 custom-name	Vstring64
194	*PROT/ExtPEXF9\$ST\$Str\$general	Trip Cct Fault (External fault 9) trip pickup	Bool
195	*PROT/ExtPEXF9\$ST\$Op\$general	Trip Cct Fault (External fault 9) trip status	Bool
196	*PROT/ExtPEXF9\$SP\$PrtVal\$setCharact	Trip Cct Fault (External fault 9) polarity	Byte
197	*PROT/ExtPEXF9\$SP\$OpDITmms\$setVal	Trip Cct Fault (External fault 9) trip time delay	Long
198	*PROT/ExtPEXF9\$SP\$PrtOps\$setVal	Trip Cct Fault (External fault 9) protection setting	Long
199	*PROT/ExtPEXF9\$SP\$PrtOps\$setNam	External fault 9 custom-name	Vstring64
200	*PROT/ExtPEXF10\$ST\$Str\$general	AC Bus A Fault (External fault 10) trip pickup	Bool
201	*PROT/ExtPEXF10\$ST\$Op\$general	AC Bus A Fault (External fault 10) trip status	Bool
202	*PROT/ExtPEXF10\$SP\$PrtVal\$setCharact	AC Bus A Fault (External fault 10) polarity	Byte
203	*PROT/ExtPEXF10\$SP\$OpDITmms\$setVal	AC Bus A Fault (External fault 10) trip time delay	Long
204	*PROT/ExtPEXF10\$SP\$PrtOps\$setVal	AC Bus A Fault (External fault 10) protection setting	Long
205	*PROT/ExtPEXF10\$SP\$PrtOps\$setNam	External fault 10 custom-name	Vstring64
206	*PROT/ExtPEXF11\$ST\$Str\$general	AC Bus B Fault (External fault 11) trip pickup	Bool
207	*PROT/ExtPEXF11\$ST\$Op\$general	AC Bus B Fault (External fault 11) trip status	Bool
208	*PROT/ExtPEXF11\$SP\$PrtVal\$setCharact	AC Bus B Fault (External fault 11) polarity	Byte
209	*PROT/ExtPEXF11\$SP\$OpDITmms\$setVal	AC Bus B Fault (External fault 11) trip time delay	Long
210	*PROT/ExtPEXF11\$SP\$PrtOps\$setVal	AC Bus B Fault (External fault 11) protection setting	Long
211	*PROT/ExtPEXF11\$SP\$PrtOps\$setNam	External fault 11 custom-name	Vstring64
212	*PROT/HbsPTUV1\$ST\$Str\$general	Healthy Bus Fault trip pickup	Bool
213	*PROT/HbsPTUV1\$ST\$Op\$general	Healthy Bus Fault trip status	Bool
214	*PROT/HbsPTUV1\$SP\$StrVal\$setMag\$i	Healthy Bus Fault trip level	Long
215	*PROT/HbsPTUV1\$SP\$OpDITmms\$setVal	Healthy Bus Fault trip time delay	Long
216	*PROT/HbsPTUV1\$SP\$TrpTyp\$setCharact	Healthy bus trip type setting	Byte
217	*PROT/HbsPTUV1\$SP\$PrtOps\$setVal	Healthy Bus Fault protection setting	Long
218	*PROT/HsePTOC1\$ST\$Str\$general	HS E/F1 trip pickup	Bool

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219	*PROT/HsePTOC1\$ST\$Op\$general	HS E/F1 trip status	Bool
220	*PROT/HsePTOC1\$SP\$TmACrv\$setCharact	HS E/F1 characteristic curve(definite time)	Byte
221	*PROT/HsePTOC1\$SP\$StrVal\$setMag\$i	HS E/F1 trip level	Long
222	*PROT/HsePTOC1\$SP\$OpDITmms\$setVal	HS E/F1 trip time delay	Long
223	*PROT/HsePTOC1\$SP\$PrtOps\$setVal	HS E/F1 protection setting	Long
224	*PROT/HsePTOC2\$ST\$Str\$general	HS E/F2 trip pickup	Bool
225	*PROT/HsePTOC2\$ST\$Op\$general	HS E/F2 trip status	Bool
226	*PROT/HsePTOC2\$SP\$TmACrv\$setCharact	HS E/F2 characteristic curve(definite time)	Byte
227	*PROT/HsePTOC2\$SP\$StrVal\$setMag\$i	HS E/F2 trip level	Long
228	*PROT/HsePTOC2\$SP\$OpDITmms\$setVal	HS E/F2 trip time delay	Long
229	*PROT/HsePTOC2\$SP\$PrtOps\$setVal	HS E/F2 protection setting	Long
230	*PROT/HspPTOC1\$ST\$Str\$general	HS Overcurrent trip pickup	Bool
231	*PROT/HspPTOC1\$ST\$Op\$general	HS Overcurrent trip status	Bool
232	*PROT/HspPTOC1\$SP\$TmACrv\$setCharact	HS Overcurrent characteristic curve(definite time)	Byte
233	*PROT/HspPTOC1\$SP\$StrVal\$setMag\$i	HS Overcurrent trip level	Long
234	*PROT/HspPTOC1\$SP\$OpDITmms\$setVal	HS Overcurrent trip time delay	Long
235	*PROT/HspPTOC1\$SP\$PrtOps\$setVal	HS Overcurrent protection setting	Long
236	*PROT/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
237	*PROT/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
238	*PROT/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
239	*PROT/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
240	*PROT/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD2	Vstring255
241	*PROT/LdiPTOC1\$ST\$Str\$general	Load-increase trip pickup	Bool
242	*PROT/LdiPTOC1\$ST\$Op\$general	Load-increase trip status	Bool
243	*PROT/LdiPTOC1\$SP\$TmACrv\$setCharact	Load-increase characteristic curve(definite time)	Byte
244	*PROT/LdiPTOC1\$SP\$StrVal\$setMag\$i	Load-increase trip level	Long
245	*PROT/LdiPTOC1\$SP\$OpDITmms\$setVal	Load-increase trip time delay	Long
246	*PROT/LdiPTOC1\$SP\$PrtOps\$setVal	Load-increase protection setting	Long
247	*PROT/LdiPTOC1\$SP\$CcrVal\$setMag\$i	Ccr setting for Load-increase protection	Long
248	*PROT/LspPTOC1\$ST\$Str\$general	LS Overcurrent trip pickup	Bool
249	*PROT/LspPTOC1\$ST\$Op\$general	LS Overcurrent trip status	Bool
250	*PROT/LspPTOC1\$SP\$TmACrv\$setCharact	LS Overcurrent characteristic curve(definite time)	Byte
251	*PROT/LspPTOC1\$SP\$StrVal\$setMag\$i	LS Overcurrent trip level	Long
252	*PROT/LspPTOC1\$SP\$OpDITmms\$setVal	LS Overcurrent trip time delay	Long
253	*PROT/LspPTOC1\$SP\$PrtOps\$setVal	LS Overcurrent protection setting	Long
254	*PROT/PhsPTOC1\$ST\$Str\$general	Overcurrent 1 trip pickup	Bool
255	*PROT/PhsPTOC1\$ST\$Op\$general	Overcurrent 1 trip status	Bool
256	*PROT/PhsPTOC1\$SP\$TmACrv\$setCharact	Overcurrent 1 characteristic curve	Byte
257	*PROT/PhsPTOC1\$SP\$StrVal\$setMag\$i	Overcurrent 1 trip level	Long
258	*PROT/PhsPTOC1\$SP\$TmMult\$setMag\$i	Overcurrent 1 time multiplier for inverse-curve	Long
259	*PROT/PhsPTOC1\$SP\$OpDITmms\$setVal	Overcurrent 1 trip time delay for definite-time only	Long
260	*PROT/PhsPTOC1\$SP\$PrtOps\$setVal	Overcurrent 1 protection setting	Long
261	*PROT/PhsPTOC2\$ST\$Str\$general	Overcurrent 2 trip pickup	Bool
262	*PROT/PhsPTOC2\$ST\$Op\$general	Overcurrent 2 trip status	Bool
263	*PROT/PhsPTOC2\$SP\$TmACrv\$setCharact	Overcurrent 2 characteristic curve	Byte
264	*PROT/PhsPTOC2\$SP\$StrVal\$setMag\$i	Overcurrent 2 trip level	Long
265	*PROT/PhsPTOC2\$SP\$TmMult\$setMag\$i	Overcurrent 2 time multiplier for inverse-curve	Long
266	*PROT/PhsPTOC2\$SP\$OpDITmms\$setVal	Overcurrent 2 trip time delay for definite-time only	Long
267	*PROT/PhsPTOC2\$SP\$PrtOps\$setVal	Overcurrent 2 protection setting	Long
268	*PROT/SrlPSTO1\$ST\$Str\$general	Serial timeout trip pickup	Bool
269	*PROT/SrlPSTO1\$ST\$Op\$general	Serial timeout trip status	Bool
270	*PROT/SrlPSTO1\$SP\$OpDITmms\$setVal	Serial timeout delay	Long
271	*PROT/SrlPSTO1\$SP\$PrtOps\$setVal	Serial timeout protection setting	Long

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272	*RECD/DisRDRE1\$ST\$RcdMade\$stVal	RCD available	Bool
273	*RECD/DisRDRE1\$ST\$Loc\$stVal	Local operation mode	Bool
274	*RECD/DisRDRE1\$ST\$FltNam\$rcdNam	RCD comtrade name	Vstring255
275	*RECD/DisRDRE1\$CO\$RdFlgClr\$Oper\$ctlVal	Clear the RCD flag in order to read the comtrade files again	Bool
276	*RECD/DisRDRE1\$SP\$TrgTyp\$setCharact	Trigger type	Byte
277	*RECD/DisRDRE1\$SP\$PreTpos\$setCharact	Trigger position	Byte
278	*RECD/DisRDRE1\$SP\$RcdRes\$setCharact	Record resolution	Byte
279	*RECD/DisRDRE1\$SP\$MaxTrace\$setVal	Max record traces	Long
280	*RECD/DisRDRE1\$SP\$DiChNum\$setVal	Digital input channel number	Long
281	*RECD/DisRDRE1\$SP\$DoChNum\$setVal	Digital output channel number	Long
282	*RECD/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
283	*RECD/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
284	*RECD/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
285	*RECD/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
286	*RECD/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD2	Vstring255
287	*SYST/AlmRFLT1\$MX\$A\$phsA\$cVal\$mag\$i	Recent pre alarm I1 (red phase) (decimal format)	Long
288	*SYST/AlmRFLT1\$MX\$A\$phsA\$cVal\$mag\$f	Recent pre alarm I1 (red phase)(float format)	Float
289	*SYST/AlmRFLT1\$MX\$A\$phsB\$cVal\$mag\$i	Recent pre alarm I2 (yellow phase)(decimal format)	Long
290	*SYST/AlmRFLT1\$MX\$A\$phsB\$cVal\$mag\$f	Recent pre alarm I2 (yellow phase)(float format)	Float
291	*SYST/AlmRFLT1\$MX\$A\$phsC\$cVal\$mag\$i	Recent pre alarm I3 (blue phase)(decimal format)	Long
292	*SYST/AlmRFLT1\$MX\$A\$phsC\$cVal\$mag\$f	Recent pre alarm I3 (blue phase)(float format)	Float
293	*SYST/AlmRFLT1\$MX\$A\$net\$cVal\$mag\$i	Recent pre alarm Ist (standby)(decimal format)	Long
294	*SYST/AlmRFLT1\$MX\$A\$net\$cVal\$mag\$f	Recent pre alarm Ist (standby)(float format)	Float
295	*SYST/AlmRFLT1\$MX\$A\$res\$cVal\$mag\$i	Recent pre alarm I0 (e/f)(decimal format)	Long
296	*SYST/AlmRFLT1\$MX\$A\$res\$cVal\$mag\$f	Recent pre alarm I0 (e/f)(float format)	Float
297	*SYST/AlmRFLT1\$MX\$PhV\$phsA\$cVal\$mag\$i	Recent pre alarm V1 (red phase)(decimal format)	Long
298	*SYST/AlmRFLT1\$MX\$PhV\$phsA\$cVal\$mag\$f	Recent pre alarm V1 (red phase)(float format)	Float
299	*SYST/AlmRFLT1\$MX\$PhV\$phsB\$cVal\$mag\$i	Recent pre alarm V2 (yellow phase)(decimal format)	Long
300	*SYST/AlmRFLT1\$MX\$PhV\$phsB\$cVal\$mag\$f	Recent pre alarm V2 (yellow phase)(float format)	Float
301	*SYST/AlmRFLT1\$MX\$PhV\$phsC\$cVal\$mag\$i	Recent pre alarm V3 (blue phase) (decimal format)	Long
302	*SYST/AlmRFLT1\$MX\$PhV\$phsC\$cVal\$mag\$f	Recent pre alarm V3 (blue phase)(float format)	Float
303	*SYST/AlmRFLT1\$MX\$Hz\$mag\$i	Recent pre alarm frequency(decimal format)	Long
304	*SYST/AlmRFLT1\$MX\$Hz\$mag\$f	Recent pre alarm frequency(float format)	Float
305	*SYST/AlmRFLT1\$ST\$Loc\$stVal	Local operation mode	Bool
306	*SYST/AlmRFLT1\$ST\$FltPos\$stVal	Recent alarm sequence number	Long
307	*SYST/AlmRFLT1\$ST\$FltNo\$stVal	Recent alarm number	Long
308	*SYST/AlmRFLT1\$ST\$FltNo\$t	Time stamp for recent alarm	Utctime
309	*SYST/AlmRFLT1\$CO\$FltPos\$Oper\$ctlVal	Set the Recent alarm sequence number(control)	Long
310	*SYST/DinGGIO1\$ST\$Binp01\$stVal	Digital input 1 status	Bool
311	*SYST/DinGGIO1\$ST\$Binp02\$stVal	Digital input 2 status	Bool
312	*SYST/DinGGIO1\$ST\$Binp03\$stVal	Digital input 3 status	Bool
313	*SYST/DinGGIO1\$ST\$Binp04\$stVal	Digital input 4 status	Bool
314	*SYST/DinGGIO1\$ST\$Binp05\$stVal	Digital input 5 status	Bool
315	*SYST/DinGGIO1\$ST\$Binp06\$stVal	Digital input 6 status	Bool
316	*SYST/DinGGIO1\$ST\$Binp07\$stVal	Digital input 7 status	Bool
317	*SYST/DinGGIO1\$ST\$Binp08\$stVal	Digital input 8 status	Bool
318	*SYST/DinGGIO1\$ST\$Binp09\$stVal	Digital input 9 status	Bool
319	*SYST/DinGGIO1\$ST\$Binp10\$stVal	Digital input 10 status	Bool
320	*SYST/DinGGIO1\$ST\$Binp11\$stVal	Digital input 11 status	Bool
321	*SYST/DinGGIO1\$ST\$Binp12\$stVal	Digital input 12 status	Bool
322	*SYST/DinGGIO1\$ST\$Binp13\$stVal	Digital input 13 status	Bool
323	*SYST/DinGGIO1\$ST\$Binp14\$stVal	Digital input 14 status	Bool

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324	*SYST/DinGGIO1\$ST\$Binp15\$stVal	Digital input 15 status	Bool
325	*SYST/DinGGIO1\$ST\$Binp16\$stVal	Digital input 16 status	Bool
326	*SYST/DinGGIO1\$ST\$Binp17\$stVal	Digital input 17 status	Bool
327	*SYST/DinGGIO1\$ST\$Binp18\$stVal	Digital input 18 status	Bool
328	*SYST/DinGGIO1\$ST\$Binp19\$stVal	Digital input 19 status	Bool
329	*SYST/DinGGIO1\$ST\$Binp20\$stVal	Digital input 20 status	Bool
330	*SYST/DinGGIO1\$ST\$Binp21\$stVal	Digital input 21 status	Bool
331	*SYST/DinGGIO1\$ST\$Binp22\$stVal	Digital input 22 status	Bool
332	*SYST/DinGGIO1\$ST\$Binp23\$stVal	Digital input 23 status	Bool
333	*SYST/DinGGIO1\$ST\$Binp24\$stVal	Digital input 24 status	Bool
334	*SYST/DinGGIO1\$SP\$DiSet01\$setCharact	Digital input 1 setting	Byte
335	*SYST/DinGGIO1\$SP\$DiSet02\$setCharact	Digital input 2 setting	Byte
336	*SYST/DinGGIO1\$SP\$DiSet03\$setCharact	Digital input 3 setting	Byte
337	*SYST/DinGGIO1\$SP\$DiSet04\$setCharact	Digital input 4 setting	Byte
338	*SYST/DinGGIO1\$SP\$DiSet05\$setCharact	Digital input 5 setting	Byte
339	*SYST/DinGGIO1\$SP\$DiSet06\$setCharact	Digital input 6 setting	Byte
340	*SYST/DinGGIO1\$SP\$DiSet07\$setCharact	Digital input 7 setting	Byte
341	*SYST/DinGGIO1\$SP\$DiSet08\$setCharact	Digital input 8 setting	Byte
342	*SYST/DinGGIO1\$SP\$DiSet09\$setCharact	Digital input 9 setting	Byte
343	*SYST/DinGGIO1\$SP\$DiSet10\$setCharact	Digital input 10 setting	Byte
344	*SYST/DinGGIO1\$SP\$DiSet11\$setCharact	Digital input 11 setting	Byte
345	*SYST/DinGGIO1\$SP\$DiSet12\$setCharact	Digital input 12 setting	Byte
346	*SYST/DinGGIO1\$SP\$DiSet13\$setCharact	Digital input 13 setting	Byte
347	*SYST/DinGGIO1\$SP\$DiSet14\$setCharact	Digital input 14 setting	Byte
348	*SYST/DinGGIO1\$SP\$DiSet15\$setCharact	Digital input 15 setting	Byte
349	*SYST/DinGGIO1\$SP\$DiSet16\$setCharact	Digital input 16 setting	Byte
350	*SYST/DinGGIO1\$SP\$DiSet17\$setCharact	Digital input 17 setting	Byte
351	*SYST/DinGGIO1\$SP\$DiSet18\$setCharact	Digital input 18 setting	Byte
352	*SYST/DinGGIO1\$SP\$DiSet19\$setCharact	Digital input 19 setting	Byte
353	*SYST/DinGGIO1\$SP\$DiSet20\$setCharact	Digital input 20 setting	Byte
354	*SYST/DinGGIO1\$SP\$DiSet21\$setCharact	Digital input 21 setting	Byte
355	*SYST/DinGGIO1\$SP\$DiSet22\$setCharact	Digital input 22 setting	Byte
356	*SYST/DinGGIO1\$SP\$DiSet23\$setCharact	Digital input 23 setting	Byte
357	*SYST/DinGGIO1\$SP\$DiSet24\$setCharact	Digital input 24 setting	Byte
358	*SYST/EfcTCTR1\$SP\$ARtg\$setMag\$i	EFCT Primary 1	Long
359	*SYST/EfcTCTR2\$SP\$ARtg\$setMag\$i	EFCT Primary 2	Long
360	*SYST/LLN0\$GO\$ItlBasicGOOSE\$GoEna	Enable/disable GOOSE	Bool
361	*SYST/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
362	*SYST/LPHD1\$ST\$Loc\$stVal	Local operation mode	Bool
363	*SYST/LPHD1\$CO\$WrtPrt\$Oper\$ctlVal	Activate setting-write protection (control)	Bool
364	*SYST/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
365	*SYST/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
366	*SYST/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
367	*SYST/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD2	Vstring255
368	*SYST/LPHD1\$SP\$IEDTag\$setNam	IED Tag String	Vstring64
369	*SYST/LPHD1\$SP\$PasWrd\$setCharact	Enable/disable user password	Byte
370	*SYST/LPHD1\$SP\$PasStr\$setNam	User password text string	Vstring64
371	*SYST/LPHD1\$SP\$SysPas\$setCharact	Enable/disable engineer password	Byte
372	*SYST/LPHD1\$SP\$ScnSav\$setCharact	Enable/disable screen saver	Byte
373	*SYST/LPHD1\$SP\$ScnTms\$setVal	Screen saver timeout setting	Long
374	*SYST/LPHD1\$SP\$InvLed\$setCharact	Invert LED colour setting	Byte
375	*SYST/LPHD1\$SP\$SwpLed\$setCharact	Swap LED position setting	Byte
376	*SYST/LPHD1\$SP\$RtnTmm\$setCharact	Default Return Time	Byte

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377	*SYST/LPHD1\$SP\$DinCfg\$setCharact	Digital Input Configuration	Byte
378	*SYST/LedGGIO1\$ST\$Bled01\$stVal	LED 1 on/off status	Bool
379	*SYST/LedGGIO1\$ST\$Bled01\$stFlash	LED 1 flash status	Bool
380	*SYST/LedGGIO1\$ST\$Bled02\$stVal	LED 2 on/off status	Bool
381	*SYST/LedGGIO1\$ST\$Bled02\$stFlash	LED 2 flash status	Bool
382	*SYST/LedGGIO1\$ST\$Bled03\$stVal	LED 3 on/off status	Bool
383	*SYST/LedGGIO1\$ST\$Bled03\$stFlash	LED 3 flash status	Bool
384	*SYST/LedGGIO1\$ST\$Bled04\$stVal	LED 4 on/off status	Bool
385	*SYST/LedGGIO1\$ST\$Bled04\$stFlash	LED 4 flash status	Bool
386	*SYST/LedGGIO1\$ST\$Bled05\$stVal	LED 5 on/off status	Bool
387	*SYST/LedGGIO1\$ST\$Bled05\$stFlash	LED 5 flash status	Bool
388	*SYST/LedGGIO1\$ST\$Bled06\$stVal	LED 6 on/off status	Bool
389	*SYST/LedGGIO1\$ST\$Bled06\$stFlash	LED 6 flash status	Bool
390	*SYST/LedGGIO1\$ST\$Bled07\$stVal	LED 7 on/off status	Bool
391	*SYST/LedGGIO1\$ST\$Bled07\$stFlash	LED 7 flash status	Bool
392	*SYST/LedGGIO1\$ST\$Bled08\$stVal	LED 8 on/off status	Bool
393	*SYST/LedGGIO1\$ST\$Bled08\$stFlash	LED 8 flash status	Bool
394	*SYST/LedGGIO1\$ST\$Bled09\$stVal	LED 9 on/off status	Bool
395	*SYST/LedGGIO1\$ST\$Bled09\$stFlash	LED 9 flash status	Bool
396	*SYST/LedGGIO1\$ST\$Bled10\$stVal	LED 10 on/off status	Bool
397	*SYST/LedGGIO1\$ST\$Bled10\$stFlash	LED 10 flash status	Bool
398	*SYST/LedGGIO1\$ST\$Bled11\$stVal	LED 11 on/off status	Bool
399	*SYST/LedGGIO1\$ST\$Bled11\$stFlash	LED 11 flash status	Bool
400	*SYST/LedGGIO1\$ST\$Bled12\$stVal	LED 12 on/off status	Bool
401	*SYST/LedGGIO1\$ST\$Bled12\$stFlash	LED 12 flash status	Bool
402	*SYST/LedGGIO1\$SP\$LedSet01\$setCharact	LED output 1 setting	Byte
403	*SYST/LedGGIO1\$SP\$LedSet02\$setCharact	LED output 2 setting	Byte
404	*SYST/LedGGIO1\$SP\$LedSet03\$setCharact	LED output 3 setting	Byte
405	*SYST/LedGGIO1\$SP\$LedSet04\$setCharact	LED output 4 setting	Byte
406	*SYST/LedGGIO1\$SP\$LedSet05\$setCharact	LED output 5 setting	Byte
407	*SYST/LedGGIO1\$SP\$LedSet06\$setCharact	LED output 6 setting	Byte
408	*SYST/LedGGIO1\$SP\$LedSet07\$setCharact	LED output 7 setting	Byte
409	*SYST/LedGGIO1\$SP\$LedSet08\$setCharact	LED output 8 setting	Byte
410	*SYST/LedGGIO1\$SP\$LedSet09\$setCharact	LED output 9 setting	Byte
411	*SYST/LedGGIO1\$SP\$LedSet10\$setCharact	LED output 10 setting	Byte
412	*SYST/LedGGIO1\$SP\$LedSet11\$setCharact	LED output 11 setting	Byte
413	*SYST/LedGGIO1\$SP\$LedSet12\$setCharact	LED output 12 setting	Byte
414	*SYST/MixGGIO1\$ST\$ISCSO\$stVal	Relay output 1-8 status	Long
415	*SYST/MixGGIO1\$ST\$IntIn01\$stVal	Digital input 1-8 status	Long
416	*SYST/MixGGIO1\$ST\$IntIn02\$stVal	Digital input 9-16 status	Long
417	*SYST/MixGGIO1\$ST\$IntIn03\$stVal	Digital input 17-24 status	Long
418	*SYST/MixGGIO1\$ST\$LgcSt\$stVal	Logical status	Long
419	*SYST/MixGGIO1\$ST\$IntOut01\$stVal	Trip status (bit 0-15)	Long
420	*SYST/MixGGIO1\$ST\$IntOut02\$stVal	Trip status (bit 16-31)	Long
421	*SYST/MixGGIO1\$ST\$IntOut03\$stVal	Alarm status (bit 0-15)	Long
422	*SYST/MixGGIO1\$ST\$IntOut04\$stVal	Alarm status (bit 16-31)	Long
423	*SYST/MixGGIO1\$ST\$IntOut05\$stVal	Inhibit status (bit 0-15)	Long
424	*SYST/MixGGIO1\$ST\$IntOut06\$stVal	Inhibit status (bit 16-31)	Long
425	*SYST/MixGGIO1\$ST\$OperSt\$stVal	Operation Status	Byte
426	*SYST/MixGGIO1\$ST\$FltSt\$stVal	Fault Status	Byte
427	*SYST/MixGGIO1\$ST\$TstSvc\$stVal	Test/Service Status	Byte
428	*SYST/PhsTCTR1\$SP\$ARtg\$setMag\$i	CT promary	Long
429	*SYST/PhsTCTR1\$SP\$PolOps\$setCharact	Overcurrent poles setting	Byte

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430	*SYST/PhsTVTR1\$SP\$VRtg\$setMag\$i	VT primary	Long
431	*SYST/PhsTVTR1\$SP\$VTsec\$setMag\$i	VT secondary	Long
432	*SYST/PhsTVTR1\$SP\$VtgVal\$setMag\$i	Voltage	Long
433	*SYST/PhsTVTR1\$SP\$VtgRef\$setCharact	Voltage sync. option	Byte
434	*SYST/RlyGGIO1\$ST\$Bout1\$stVal	Relay output 1 status	Bool
435	*SYST/RlyGGIO1\$ST\$Bout2\$stVal	Relay output 2 status	Bool
436	*SYST/RlyGGIO1\$ST\$Bout3\$stVal	Relay output 3 status	Bool
437	*SYST/RlyGGIO1\$ST\$Bout4\$stVal	Relay output 4 status	Bool
438	*SYST/RlyGGIO1\$ST\$Bout5\$stVal	Relay output 5 status	Bool
439	*SYST/RlyGGIO1\$ST\$Bout6\$stVal	Relay output 6 status	Bool
440	*SYST/RlyGGIO1\$ST\$Bout7\$stVal	Relay output 7 status	Bool
441	*SYST/RlyGGIO1\$ST\$Bout8\$stVal	Relay output 8 status	Bool
442	*SYST/RlyGGIO1\$SP\$DoSet1\$setCharact	Relay output 1 setting	Byte
443	*SYST/RlyGGIO1\$SP\$DoSet2\$setCharact	Relay output 2 setting	Byte
444	*SYST/RlyGGIO1\$SP\$DoSet3\$setCharact	Relay output 3 setting	Byte
445	*SYST/RlyGGIO1\$SP\$DoSet4\$setCharact	Relay output 4 setting	Byte
446	*SYST/RlyGGIO1\$SP\$DoSet5\$setCharact	Relay output 5 setting	Byte
447	*SYST/RlyGGIO1\$SP\$DoSet6\$setCharact	Relay output 6 setting	Byte
448	*SYST/RlyGGIO1\$SP\$DoSet7\$setCharact	Relay output 7 setting	Byte
449	*SYST/RlyGGIO1\$SP\$DoSet8\$setCharact	Relay output 8 setting	Byte
450	*SYST/TrpRFLT1\$MX\$A\$phsA\$cVal\$mag\$i	Recent pre trip I1 (red phase)(decimal format)	Long
451	*SYST/TrpRFLT1\$MX\$A\$phsA\$cVal\$mag\$f	Recent pre trip I1 (red phase)(float format)	Float
452	*SYST/TrpRFLT1\$MX\$A\$phsB\$cVal\$mag\$i	Recent pre trip I2 (yellow phase)(decimal format)	Long
453	*SYST/TrpRFLT1\$MX\$A\$phsB\$cVal\$mag\$f	Recent pre trip I2 (yellow phase)(float format)	Float
454	*SYST/TrpRFLT1\$MX\$A\$phsC\$cVal\$mag\$i	Recent pre trip I3 (blue phase)(decimal format)	Long
455	*SYST/TrpRFLT1\$MX\$A\$phsC\$cVal\$mag\$f	Recent pre trip I3 (blue phase)(float format)	Float
456	*SYST/TrpRFLT1\$MX\$A\$net\$cVal\$mag\$i	Recent pre trip I1st (standby)(decimal format)	Long
457	*SYST/TrpRFLT1\$MX\$A\$net\$cVal\$mag\$f	Recent pre trip I1st (standby)(float format)	Float
458	*SYST/TrpRFLT1\$MX\$A\$res\$cVal\$mag\$i	Recent pre trip I0 (e/f)(decimal format)	Long
459	*SYST/TrpRFLT1\$MX\$A\$res\$cVal\$mag\$f	Recent pre trip I0 (e/f)(float format)	Float
460	*SYST/TrpRFLT1\$MX\$PhV\$phsA\$cVal\$mag\$i	Recent pre trip V1 (red phase)(decimal format)	Long
461	*SYST/TrpRFLT1\$MX\$PhV\$phsA\$cVal\$mag\$f	Recent pre trip V1 (red phase)(float format)	Float
462	*SYST/TrpRFLT1\$MX\$PhV\$phsB\$cVal\$mag\$i	Recent pre trip V2 (yellow phase)(decimal format)	Long
463	*SYST/TrpRFLT1\$MX\$PhV\$phsB\$cVal\$mag\$f	Recent pre trip V2 (yellow phase)(float format)	Float
464	*SYST/TrpRFLT1\$MX\$PhV\$phsC\$cVal\$mag\$i	Recent pre trip V3 (blue phase)(decimal format)	Long
465	*SYST/TrpRFLT1\$MX\$PhV\$phsC\$cVal\$mag\$f	Recent pre trip V3 (blue phase)(float format)	Float
466	*SYST/TrpRFLT1\$MX\$Hz\$mag\$i	Recent pre trip frequency(decimal format)	Long
467	*SYST/TrpRFLT1\$MX\$Hz\$mag\$f	Recent pre trip frequency(float format)	Float
468	*SYST/TrpRFLT1\$ST\$Loc\$stVal	Local operation mode	Bool
469	*SYST/TrpRFLT1\$ST\$FltPos\$stVal	Recent trip sequence number	Long
470	*SYST/TrpRFLT1\$ST\$FltNo\$stVal	Recent trip number	Long
471	*SYST/TrpRFLT1\$ST\$FltNo\$t	Time stamp for recent trip	Utctime
472	*SYST/TrpRFLT1\$CO\$FltPos\$Oper\$ctlVal	Set the Recent trip sequence number(control)	Long

### 3.3.3 AFVD4

No.	Attribute Name	Description	Data Type
1	*CTRL/CbcCSWI1\$ST\$Loc\$stVal	Local operation mode	Bool
2	*CTRL/CbcCSWI1\$ST\$Pos\$stVal	Breaker status	Bstring2
3	*CTRL/CbcCSWI1\$ST\$Pos\$t	Time stamp for checking breaker status	Utctime
4	*CTRL/CbcCSWI1\$ST\$OpOpn\$general	Breaker opened status	Bool
5	*CTRL/CbcCSWI1\$ST\$OpCls\$general	Breaker closed status	Bool

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6	*CTRL/CbcCSWI1\$ST\$PnlClsAvl\$stVal	Panel close available	Bool
7	*CTRL/CbcCSWI1\$ST\$TncClsAvl\$stVal	TNC close available	Bool
8	*CTRL/CbcCSWI1\$ST\$RemClsAvl\$stVal	Remote close available	Bool
9	*CTRL/CbcCSWI1\$ST\$SrlClsAvl\$stVal	Serial close available	Bool
10	*CTRL/CbcCSWI1\$CO\$Pos\$Oper\$ctlVal	Operate the breaker (control)	Bool
11	*CTRL/CbcCSWI1\$SP\$ParTmms\$setVal	Parallel time	Long
12	*CTRL/CbcCSWI1\$SP\$Ht1DITmms\$setVal	HT1 delay time	Long
13	*CTRL/CbcCSWI1\$SP\$Ht2DITmms\$setVal	HT2 delay time	Long
14	*CTRL/CbmXCBR1\$ST\$Loc\$stVal	Local operation mode	Bool
15	*CTRL/CbmXCBR1\$ST\$OpCnt\$stVal	Number of opening	Long
16	*CTRL/CbmXCBR1\$ST\$Pos\$stVal	Breaker Status	Bstring2
17	*CTRL/CbmXCBR1\$ST\$BlkOpn\$stVal	Block opening	Bool
18	*CTRL/CbmXCBR1\$ST\$BlkCls\$stVal	Block closing	Bool
19	*CTRL/CbmXCBR1\$ST\$TrpCnt\$stVal	Number of trips	Long
20	*CTRL/CbmXCBR1\$ST\$ClsCnt\$stVal	Number of closes	Long
21	*CTRL/CbmXCBR1\$ST\$ClsFrm\$stVal	Last Close Source	Long
22	*CTRL/CbmXCBR1\$ST\$ClsFrm\$t	Time stamp for last close	Utctime
23	*CTRL/CbmXCBR1\$ST\$OpnFrm\$stVal	Last Open Source	Long
24	*CTRL/CbmXCBR1\$ST\$OpnFrm\$t	Time stamp for last open	Utctime
25	*CTRL/CbmXCBR1\$ST\$ClsHrsThis\$stVal	Hours This Close(hrs)	Long
26	*CTRL/CbmXCBR1\$ST\$ClsHrsTot\$stVal	Total Hours Closed(hrs)	Long
27	*CTRL/CbmXCBR1\$CO\$RstStats\$Oper\$ctlVal	Reset XCBR Stats (control)	Bool
28	*CTRL/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
29	*CTRL/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
30	*CTRL/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
31	*CTRL/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
32	*CTRL/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD4	Vstring255
33	*CTRL/PnlCSWI1\$ST\$Loc\$stVal	Local operation mode	Bool
34	*CTRL/PnlCSWI1\$ST\$Pos\$stVal	Panel close enabling status	Bstring2
35	*CTRL/PnlCSWI1\$CO\$Pos\$Oper\$ctlVal	Enable panel close(control)	Bool
36	*CTRL/SrfCSWI1\$ST\$Loc\$stVal	Local operation mode	Bool
37	*CTRL/SrfCSWI1\$ST\$Pos\$stVal	Serial reset status	Bstring2
38	*CTRL/SrfCSWI1\$CO\$Pos\$Oper\$ctlVal	Serial reset fault command(control)	Bool
39	*MEAS/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
40	*MEAS/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
41	*MEAS/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
42	*MEAS/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
43	*MEAS/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD4	Vstring255
44	*MEAS/RmsMMXU1\$MX\$Hz\$mag\$i	System Frequency(decimal format)	Long
45	*MEAS/RmsMMXU1\$MX\$Hz\$mag\$f	System Frequency(float format)	Float
46	*MEAS/RmsMMXU1\$MX\$PPV\$phsAB\$cVal\$mag\$i	Phase A to B Voltage V12(decimal format)	Long
47	*MEAS/RmsMMXU1\$MX\$PPV\$phsAB\$cVal\$mag\$f	Phase A to B Voltage V12(float format)	Float
48	*MEAS/RmsMMXU1\$MX\$PPV\$phsBC\$cVal\$mag\$i	Phase B to C Voltage V23(decimal format)	Long
49	*MEAS/RmsMMXU1\$MX\$PPV\$phsBC\$cVal\$mag\$f	Phase B to C Voltage V23(float format)	Float
50	*MEAS/RmsMMXU1\$MX\$PPV\$phsCA\$cVal\$mag\$i	Phase C to A Voltage V31(decimal format)	Long
51	*MEAS/RmsMMXU1\$MX\$PPV\$phsCA\$cVal\$mag\$f	Phase C to A Voltage V31(float format)	Float
52	*MEAS/RmsMMXU1\$MX\$PhV\$phsA\$cVal\$mag\$i	Voltage V1 (red phase)(decimal format)	Long
53	*MEAS/RmsMMXU1\$MX\$PhV\$phsA\$cVal\$mag\$f	Voltage V1 (red phase)(float format)	Float
54	*MEAS/RmsMMXU1\$MX\$PhV\$phsB\$cVal\$mag\$i	Voltage V2 (yellow phase)(decimal format)	Long
55	*MEAS/RmsMMXU1\$MX\$PhV\$phsB\$cVal\$mag\$f	Voltage V2 (yellow phase)(float format)	Float
56	*MEAS/RmsMMXU1\$MX\$PhV\$phsC\$cVal\$mag\$i	Voltage V3 (blue phase)(decimal format)	Long
57	*MEAS/RmsMMXU1\$MX\$PhV\$phsC\$cVal\$mag\$f	Voltage V3 (blue phase)(float format)	Float
58	*MEAS/RmsMMXU1\$MX\$Vsyn\$cVal\$mag\$i	Sync voltage(decimal format)	Long



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59	*MEAS/RmsMMXU1\$MX\$Vsyn\$cVal\$mag\$f	Sync voltage(float format)	Float
60	*MEAS/RmsMMXU1\$MX\$SynAng\$mag\$i	Sync angle(decimal format)	Long
61	*MEAS/RmsMMXU1\$MX\$SynAng\$mag\$f	Sync angle(float format)	Float
62	*PROT/AcfPEXF1\$ST\$Str\$general	Auto-Changeover(AC) Fail trip pickup	Bool
63	*PROT/AcfPEXF1\$ST\$Op\$general	Auto-Changeover(AC) Fail trip status	Bool
64	*PROT/AcfPEXF1\$SP\$PrtOps\$setVal	Auto-Changeover(AC) Fail protection setting	Long
65	*PROT/AmfPEXF1\$ST\$Str\$general	Auto/Manual Fault trip pickup	Bool
66	*PROT/AmfPEXF1\$ST\$Op\$general	Auto/Manual Fault trip status	Bool
67	*PROT/AmfPEXF1\$SP\$OpDITmms\$setVal	Auto/Manual Fault time delay	Long
68	*PROT/AmfPEXF1\$SP\$PrtOps\$setVal	Auto/Manual Fault protection setting	Long
69	*PROT/AscRSYN1\$MX\$DiVClc\$mag\$i	Measured voltage difference	Long
70	*PROT/AscRSYN1\$MX\$DiAngClc\$mag\$i	Measured sync angle	Long
71	*PROT/AscRSYN1\$ST\$Rel\$setVal	In sync status	Bool
72	*PROT/AscRSYN1\$SP\$DiV\$setMag\$i	Voltage difference	Long
73	*PROT/AscRSYN1\$SP\$DiAng\$setMag\$i	Angle difference	Long
74	*PROT/AscRSYN1\$SP\$SynTmms\$setVal	Time in sync	Long
75	*PROT/AscRSYN1\$SP\$PrtOps\$setVal	Sync check protection setting	Long
76	*PROT/BchPEXF1\$ST\$Str\$general	BC Healthy Fault trip pickup	Bool
77	*PROT/BchPEXF1\$ST\$Op\$general	BC Healthy Fault trip status	Bool
78	*PROT/BchPEXF1\$SP\$OpDITmms\$setVal	BC Healthy Fault time delay	Long
79	*PROT/BchPEXF1\$SP\$PrtOps\$setVal	BC Healthy Fault protection setting	Long
80	*PROT/BvtPEXF1\$ST\$Str\$general	BUS A VT Fuse Failure trip pickup	Bool
81	*PROT/BvtPEXF1\$ST\$Op\$general	BUS A VT Fuse Failure trip status	Bool
82	*PROT/BvtPEXF1\$SP\$OpDITmms\$setVal	BUS A VT Fuse Failure time delay	Long
83	*PROT/BvtPEXF1\$SP\$PrtOps\$setVal	BUS A VT Fuse Failure protection setting	Long
84	*PROT/BvtPEXF2\$ST\$Str\$general	BUS B VT Fuse Failure trip pickup	Bool
85	*PROT/BvtPEXF2\$ST\$Op\$general	BUS B VT Fuse Failure trip status	Bool
86	*PROT/BvtPEXF2\$SP\$OpDITmms\$setVal	BUS B VT Fuse Failure time delay	Long
87	*PROT/BvtPEXF2\$SP\$PrtOps\$setVal	BUS B VT Fuse Failure protection setting	Long
88	*PROT/CbfRBRF1\$ST\$Str\$general	Breaker failure trip pickup	Bool
89	*PROT/CbfRBRF1\$ST\$OpIn\$general	Breaker failure trip status	Bool
90	*PROT/CbfRBRF1\$SP\$FailTmms\$setVal	Breaker failure time delay	Long
91	*PROT/CbfRBRF1\$SP\$FailDmod\$setCharact	Breaker Failure Detection Mode	Byte
92	*PROT/CbfRBRF1\$SP\$PrtOps\$setVal	Breaker failure protection setting	Long
93	*PROT/DbsPTUV1\$ST\$Str\$general	Dead Bus Fault trip pickup	Bool
94	*PROT/DbsPTUV1\$ST\$Op\$general	Dead Bus Fault trip status	Bool
95	*PROT/DbsPTUV1\$SP\$StrVal\$setMag\$i	Dead Bus Fault trip level	Long
96	*PROT/DbsPTUV1\$SP\$OpDITmms\$setVal	Dead Bus Fault trip time delay	Long
97	*PROT/DbsPTUV1\$SP\$PrtOps\$setVal	Dead Bus Fault protection setting	Long
98	*PROT/ErrPITF1\$ST\$Str\$general	Internal failure trip pickup	Bool
99	*PROT/ErrPITF1\$ST\$Op\$general	Internal failure trip status	Bool
100	*PROT/ErrPITF1\$SP\$PrtOps\$setVal	Internal failure protection setting	Long
101	*PROT/HbsPTUV1\$ST\$Str\$general	Healthy Bus Fault trip pickup	Bool
102	*PROT/HbsPTUV1\$ST\$Op\$general	Healthy Bus Fault trip status	Bool
103	*PROT/HbsPTUV1\$SP\$StrVal\$setMag\$i	Healthy Bus Fault trip level	Long
104	*PROT/HbsPTUV1\$SP\$OpDITmms\$setVal	Healthy Bus Fault trip time delay	Long
105	*PROT/HbsPTUV1\$SP\$TrpTyp\$setCharact	Healthy bus trip type setting	Byte
106	*PROT/HbsPTUV1\$SP\$PrtOps\$setVal	Healthy Bus Fault protection setting	Long
107	*PROT/IcfRBRF1\$ST\$Str\$general	IC1 Breaker Failure trip pickup	Bool
108	*PROT/IcfRBRF1\$ST\$OpIn\$general	IC1 Breaker Failure trip status	Bool
109	*PROT/IcfRBRF1\$SP\$FailTmms\$setVal	IC1 Breaker Failure time delay	Long
110	*PROT/IcfRBRF1\$SP\$PrtOps\$setVal	IC1 Breaker Failure protection setting	Long
111	*PROT/IcfRBRF2\$ST\$Str\$general	IC2 Breaker Failure trip pickup	Bool









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321	*SYST/TrpRFLT1\$ST\$FltPos\$stVal	Recent trip sequence number	Long
322	*SYST/TrpRFLT1\$ST\$FltNo\$stVal	Recent trip number	Long
323	*SYST/TrpRFLT1\$ST\$FltNo\$t	Time stamp for recent trip	Utctime
324	*SYST/TrpRFLT1\$CO\$FltPos\$Oper\$ctlVal	Set the Recent trip sequence number(control)	Long

### 3.3.4 AFVD5

No.	Attribute Name	Description	Data Type
1	*CTRL/CbmXCBR1\$ST\$Loc\$stVal	Local operation mode	Bool
2	*CTRL/CbmXCBR1\$ST\$OpCnt\$stVal	Number of opening	Long
3	*CTRL/CbmXCBR1\$ST\$Pos\$stVal	Breaker Status	Bstring2
4	*CTRL/CbmXCBR1\$ST\$BlkOpn\$stVal	Block opening	Bool
5	*CTRL/CbmXCBR1\$ST\$BlkCls\$stVal	Block closing	Bool
6	*CTRL/CbmXCBR1\$ST\$TrpCnt\$stVal	Number of trips	Long
7	*CTRL/CbmXCBR1\$ST\$ClsCnt\$stVal	Number of closes	Long
8	*CTRL/CbmXCBR1\$ST\$ClsFrm\$stVal	Last Close Source	Long
9	*CTRL/CbmXCBR1\$ST\$ClsFrm\$t	Time stamp for last close	Utctime
10	*CTRL/CbmXCBR1\$ST\$OpnFrm\$stVal	Last Open Source	Long
11	*CTRL/CbmXCBR1\$ST\$OpnFrm\$t	Time stamp for last open	Utctime
12	*CTRL/CbmXCBR1\$ST\$ClsHrsThis\$stVal	Hours This Close(hrs)	Long
13	*CTRL/CbmXCBR1\$ST\$ClsHrsTot\$stVal	Total Hours Closed(hrs)	Long
14	*CTRL/CbmXCBR1\$CO\$RstStats\$Oper\$ctlVal	Reset XCBR Stats (control)	Bool
15	*CTRL/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
16	*CTRL/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
17	*CTRL/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
18	*CTRL/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
19	*CTRL/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD5	Vstring255
20	*CTRL/SrfCSWI1\$ST\$Loc\$stVal	Local operation mode	Bool
21	*CTRL/SrfCSWI1\$ST\$Pos\$stVal	Serial reset status	Bstring2
22	*CTRL/SrfCSWI1\$CO\$Pos\$Oper\$ctlVal	Serial reset fault command(control)	Bool
23	*MEAS/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
24	*MEAS/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
25	*MEAS/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
26	*MEAS/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
27	*MEAS/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD5	Vstring255
28	*MEAS/RmsMMXU1\$MX\$Hz\$mag\$i	System Frequency(decimal format)	Long
29	*MEAS/RmsMMXU1\$MX\$Hz\$mag\$f	System Frequency(float format)	Float
30	*MEAS/RmsMMXU1\$MX\$PPV\$phsAB\$cVal\$mag\$i	Phase A to B Voltage V12(decimal format)	Long
31	*MEAS/RmsMMXU1\$MX\$PPV\$phsAB\$cVal\$mag\$f	Phase A to B Voltage V12(float format)	Float
32	*MEAS/RmsMMXU1\$MX\$PPV\$phsBC\$cVal\$mag\$i	Phase B to C Voltage V23(decimal format)	Long
33	*MEAS/RmsMMXU1\$MX\$PPV\$phsBC\$cVal\$mag\$f	Phase B to C Voltage V23(float format)	Float
34	*MEAS/RmsMMXU1\$MX\$PPV\$phsCA\$cVal\$mag\$i	Phase C to A Voltage V31(decimal format)	Long
35	*MEAS/RmsMMXU1\$MX\$PPV\$phsCA\$cVal\$mag\$f	Phase C to A Voltage V31(float format)	Float
36	*MEAS/RmsMMXU1\$MX\$PhV\$phsA\$cVal\$mag\$i	Voltage V1 (red phase)(decimal format)	Long
37	*MEAS/RmsMMXU1\$MX\$PhV\$phsA\$cVal\$mag\$f	Voltage V1 (red phase)(float format)	Float
38	*MEAS/RmsMMXU1\$MX\$PhV\$phsB\$cVal\$mag\$i	Voltage V2 (yellow phase)(decimal format)	Long
39	*MEAS/RmsMMXU1\$MX\$PhV\$phsB\$cVal\$mag\$f	Voltage V2 (yellow phase)(float format)	Float
40	*MEAS/RmsMMXU1\$MX\$PhV\$phsC\$cVal\$mag\$i	Voltage V3 (blue phase)(decimal format)	Long
41	*MEAS/RmsMMXU1\$MX\$PhV\$phsC\$cVal\$mag\$f	Voltage V3 (blue phase)(float format)	Float
42	*PROT/AcfPEXF1\$ST\$Str\$general	Auto-Changeover(AC) Fail trip pickup	Bool
43	*PROT/AcfPEXF1\$ST\$Op\$general	Auto-Changeover(AC) Fail trip status	Bool
44	*PROT/AcfPEXF1\$SP\$PrtOps\$setVal	Auto-Changeover(AC) Fail protection setting	Long

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45	*PROT/AmfPEXF1\$ST\$Str\$general	Auto/Manual Fault trip pickup	Bool
46	*PROT/AmfPEXF1\$ST\$Op\$general	Auto/Manual Fault trip status	Bool
47	*PROT/AmfPEXF1\$SP\$OpDITmms\$setVal	Auto/Manual Fault time delay	Long
48	*PROT/AmfPEXF1\$SP\$PrtOps\$setVal	Auto/Manual Fault protection setting	Long
49	*PROT/DbPTUV1\$ST\$Str\$general	Dead Bus Fault trip pickup	Bool
50	*PROT/DbPTUV1\$ST\$Op\$general	Dead Bus Fault trip status	Bool
51	*PROT/DbPTUV1\$SP\$StrVal\$setMag\$i	Dead Bus Fault trip level	Long
52	*PROT/DbPTUV1\$SP\$OpDITmms\$setVal	Dead Bus Fault trip time delay	Long
53	*PROT/DbPTUV1\$SP\$PrtOps\$setVal	Dead Bus Fault protection setting	Long
54	*PROT/ErrPITF1\$ST\$Str\$general	Internal failure trip pickup	Bool
55	*PROT/ErrPITF1\$ST\$Op\$general	Internal failure trip status	Bool
56	*PROT/ErrPITF1\$SP\$PrtOps\$setVal	Internal failure protection setting	Long
57	*PROT/ExtPEXF1\$ST\$Str\$general	240AC Fail(External fault 1) trip pickup	Bool
58	*PROT/ExtPEXF1\$ST\$Op\$general	240AC Fail(External fault 1) trip status	Bool
59	*PROT/ExtPEXF1\$SP\$PrtVal\$setCharact	240AC Fail(External fault 1) polarity	Byte
60	*PROT/ExtPEXF1\$SP\$OpDITmms\$setVal	240AC Fail(External fault 1) trip time delay	Long
61	*PROT/ExtPEXF1\$SP\$PrtOps\$setVal	240AC Fail(External fault 1) protection setting	Long
62	*PROT/ExtPEXF1\$SP\$PrtOps\$setNam	External fault 1 custom-name	Vstring64
63	*PROT/ExtPEXF2\$ST\$Str\$general	Bus VT Fail(External fault 2) trip pickup	Bool
64	*PROT/ExtPEXF2\$ST\$Op\$general	Bus VT Fail(External fault 2) trip status	Bool
65	*PROT/ExtPEXF2\$SP\$PrtVal\$setCharact	Bus VT Fail(External fault 2) polarity	Byte
66	*PROT/ExtPEXF2\$SP\$OpDITmms\$setVal	Bus VT Fail(External fault 2) trip time delay	Long
67	*PROT/ExtPEXF2\$SP\$PrtOps\$setVal	Bus VT Fail(External fault 2) protection setting	Long
68	*PROT/ExtPEXF2\$SP\$PrtOps\$setNam	External fault 2 custom-name	Vstring64
69	*PROT/ExtPEXF3\$ST\$Str\$general	Buchholz/(Buchholz T1) Fault(External fault 3) trip pickup	Bool
70	*PROT/ExtPEXF3\$ST\$Op\$general	Buchholz/(Buchholz T1) Fault(External fault 3) trip status	Bool
71	*PROT/ExtPEXF3\$SP\$PrtVal\$setCharact	Buchholz/(Buchholz T1) Fault(External fault 3) polarity	Byte
72	*PROT/ExtPEXF3\$SP\$OpDITmms\$setVal	Buchholz/(Buchholz T1) Fault(External fault 3) trip time delay	Long
73	*PROT/ExtPEXF3\$SP\$PrtOps\$setVal	Buchholz/(Buchholz T1) Fault(External fault 3) protection setting	Long
74	*PROT/ExtPEXF3\$SP\$PrtOps\$setNam	External fault 3 custom-name	Vstring64
75	*PROT/ExtPEXF4\$ST\$Str\$general	Oil Temp/(Oil Temp T1) Fault(External fault 4) trip pickup	Bool
76	*PROT/ExtPEXF4\$ST\$Op\$general	Oil Temp/(Oil Temp T1) Fault(External fault 4) trip status	Bool
77	*PROT/ExtPEXF4\$SP\$PrtVal\$setCharact	Oil Temp/(Oil Temp T1) Fault(External fault 4) polarity	Byte
78	*PROT/ExtPEXF4\$SP\$OpDITmms\$setVal	Oil Temp/(Oil Temp T1) Fault(External fault 4) trip time delay	Long
79	*PROT/ExtPEXF4\$SP\$PrtOps\$setVal	Oil Temp/(Oil Temp T1) Fault(External fault 4) protection setting	Long
80	*PROT/ExtPEXF4\$SP\$PrtOps\$setNam	External fault 4 custom-name	Vstring64
81	*PROT/ExtPEXF5\$ST\$Str\$general	Wind Temp/(Buchholz T2) Fault(External fault 5) trip pickup	Bool
82	*PROT/ExtPEXF5\$ST\$Op\$general	Wind Temp/(Buchholz T2) Fault(External fault 5) trip status	Bool
83	*PROT/ExtPEXF5\$SP\$PrtVal\$setCharact	Wind Temp/(Buchholz T2) Fault(External fault 5) polarity	Byte
84	*PROT/ExtPEXF5\$SP\$OpDITmms\$setVal	Wind Temp/(Buchholz T2) Fault(External fault 5) trip time delay	Long
85	*PROT/ExtPEXF5\$SP\$PrtOps\$setVal	Wind Temp/(Buchholz T2) Fault(External fault 5) protection setting	Long
86	*PROT/ExtPEXF5\$SP\$PrtOps\$setNam	External fault 5 custom-name	Vstring64
87	*PROT/ExtPEXF6\$ST\$Str\$general	MOGL Alarm/(Oil Temp T2) Fault(External fault 6) trip pickup	Bool





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138	*PROT/SrIPSTO1\$SP\$OpDITmms\$setVal	Serial timeout delay	Long
139	*PROT/SrIPSTO1\$SP\$PriOps\$setVal	Serial timeout protection setting	Long
140	*RECD/DisRDRE1\$ST\$RcdMade\$stVal	RCD available	Bool
141	*RECD/DisRDRE1\$ST\$Loc\$stVal	Local operation mode	Bool
142	*RECD/DisRDRE1\$ST\$FltNam\$rcdNam	RCD comtrade name	Vstring255
143	*RECD/DisRDRE1\$CO\$RdFlgClr\$Oper\$ctlVal	Clear the RCD flag in order to read the comtrade files again	Bool
144	*RECD/DisRDRE1\$SP\$TrgTyp\$setCharact	Trigger type	Byte
145	*RECD/DisRDRE1\$SP\$PreTpos\$setCharact	Trigger position	Byte
146	*RECD/DisRDRE1\$SP\$RcdRes\$setCharact	Record resolution	Byte
147	*RECD/DisRDRE1\$SP\$MaxTrace\$setVal	Max record traces	Long
148	*RECD/DisRDRE1\$SP\$DiChNum\$setVal	Digital input channel number	Long
149	*RECD/DisRDRE1\$SP\$DoChNum\$setVal	Digital output channel number	Long
150	*RECD/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
151	*RECD/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
152	*RECD/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
153	*RECD/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
154	*RECD/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD5	Vstring255
155	*SYST/AlmRFLT1\$MX\$PhV\$phsA\$cVal\$mag\$i	Recent pre alarm V1 (red phase)(decimal format)	Long
156	*SYST/AlmRFLT1\$MX\$PhV\$phsA\$cVal\$mag\$f	Recent pre alarm V1 (red phase)(float format)	Float
157	*SYST/AlmRFLT1\$MX\$PhV\$phsB\$cVal\$mag\$i	Recent pre alarm V2 (yellow phase)(decimal format) )	Long
158	*SYST/AlmRFLT1\$MX\$PhV\$phsB\$cVal\$mag\$f	Recent pre alarm V2 (yellow phase)(float format)	Float
159	*SYST/AlmRFLT1\$MX\$PhV\$phsC\$cVal\$mag\$i	Recent pre alarm V3 (blue phase)(decimal format)	Long
160	*SYST/AlmRFLT1\$MX\$PhV\$phsC\$cVal\$mag\$f	Recent pre alarm V3 (blue phase)(float format)	Float
161	*SYST/AlmRFLT1\$ST\$Loc\$stVal	Local operation mode	Bool
162	*SYST/AlmRFLT1\$ST\$FltPos\$stVal	Recent alarm sequence number	Long
163	*SYST/AlmRFLT1\$ST\$FltNo\$stVal	Recent alarm number	Long
164	*SYST/AlmRFLT1\$ST\$FltNo\$t	Time stamp for recent alarm	Utctime
165	*SYST/AlmRFLT1\$CO\$FltPos\$Oper\$ctlVal	Set the Recent alarm sequence number(control)	Long
166	*SYST/DinGGIO1\$ST\$Binp01\$stVal	Digital input 1 status	Bool
167	*SYST/DinGGIO1\$ST\$Binp02\$stVal	Digital input 2 status	Bool
168	*SYST/DinGGIO1\$ST\$Binp03\$stVal	Digital input 3 status	Bool
169	*SYST/DinGGIO1\$ST\$Binp04\$stVal	Digital input 4 status	Bool
170	*SYST/DinGGIO1\$ST\$Binp05\$stVal	Digital input 5 status	Bool
171	*SYST/DinGGIO1\$ST\$Binp06\$stVal	Digital input 6 status	Bool
172	*SYST/DinGGIO1\$ST\$Binp07\$stVal	Digital input 7 status	Bool
173	*SYST/DinGGIO1\$ST\$Binp08\$stVal	Digital input 8 status	Bool
174	*SYST/DinGGIO1\$ST\$Binp09\$stVal	Digital input 9 status	Bool
175	*SYST/DinGGIO1\$ST\$Binp10\$stVal	Digital input 10 status	Bool
176	*SYST/DinGGIO1\$ST\$Binp11\$stVal	Digital input 11 status	Bool
177	*SYST/DinGGIO1\$ST\$Binp12\$stVal	Digital input 12 status	Bool
178	*SYST/DinGGIO1\$ST\$Binp13\$stVal	Digital input 13 status	Bool
179	*SYST/DinGGIO1\$ST\$Binp14\$stVal	Digital input 14 status	Bool
180	*SYST/DinGGIO1\$ST\$Binp15\$stVal	Digital input 15 status	Bool
181	*SYST/DinGGIO1\$ST\$Binp16\$stVal	Digital input 16 status	Bool
182	*SYST/DinGGIO1\$ST\$Binp17\$stVal	Digital input 17 status	Bool
183	*SYST/DinGGIO1\$ST\$Binp18\$stVal	Digital input 18 status	Bool
184	*SYST/DinGGIO1\$ST\$Binp19\$stVal	Digital input 19 status	Bool
185	*SYST/DinGGIO1\$ST\$Binp20\$stVal	Digital input 20 status	Bool
186	*SYST/DinGGIO1\$ST\$Binp21\$stVal	Digital input 21 status	Bool
187	*SYST/DinGGIO1\$ST\$Binp22\$stVal	Digital input 22 status	Bool
188	*SYST/DinGGIO1\$ST\$Binp23\$stVal	Digital input 23 status	Bool
189	*SYST/DinGGIO1\$ST\$Binp24\$stVal	Digital input 24 status	Bool

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190	*SYST/DinGGIO1\$SP\$DiSet01\$setCharact	Digital input 1 setting	Byte
191	*SYST/DinGGIO1\$SP\$DiSet02\$setCharact	Digital input 2 setting	Byte
192	*SYST/DinGGIO1\$SP\$DiSet03\$setCharact	Digital input 3 setting	Byte
193	*SYST/DinGGIO1\$SP\$DiSet04\$setCharact	Digital input 4 setting	Byte
194	*SYST/DinGGIO1\$SP\$DiSet05\$setCharact	Digital input 5 setting	Byte
195	*SYST/DinGGIO1\$SP\$DiSet06\$setCharact	Digital input 6 setting	Byte
196	*SYST/DinGGIO1\$SP\$DiSet07\$setCharact	Digital input 7 setting	Byte
197	*SYST/DinGGIO1\$SP\$DiSet08\$setCharact	Digital input 8 setting	Byte
198	*SYST/DinGGIO1\$SP\$DiSet09\$setCharact	Digital input 9 setting	Byte
199	*SYST/DinGGIO1\$SP\$DiSet10\$setCharact	Digital input 10 setting	Byte
200	*SYST/DinGGIO1\$SP\$DiSet11\$setCharact	Digital input 11 setting	Byte
201	*SYST/DinGGIO1\$SP\$DiSet12\$setCharact	Digital input 12 setting	Byte
202	*SYST/DinGGIO1\$SP\$DiSet13\$setCharact	Digital input 13 setting	Byte
203	*SYST/DinGGIO1\$SP\$DiSet14\$setCharact	Digital input 14 setting	Byte
204	*SYST/DinGGIO1\$SP\$DiSet15\$setCharact	Digital input 15 setting	Byte
205	*SYST/DinGGIO1\$SP\$DiSet16\$setCharact	Digital input 16 setting	Byte
206	*SYST/DinGGIO1\$SP\$DiSet17\$setCharact	Digital input 17 setting	Byte
207	*SYST/DinGGIO1\$SP\$DiSet18\$setCharact	Digital input 18 setting	Byte
208	*SYST/DinGGIO1\$SP\$DiSet19\$setCharact	Digital input 19 setting	Byte
209	*SYST/DinGGIO1\$SP\$DiSet20\$setCharact	Digital input 20 setting	Byte
210	*SYST/DinGGIO1\$SP\$DiSet21\$setCharact	Digital input 21 setting	Byte
211	*SYST/DinGGIO1\$SP\$DiSet22\$setCharact	Digital input 22 setting	Byte
212	*SYST/DinGGIO1\$SP\$DiSet23\$setCharact	Digital input 23 setting	Byte
213	*SYST/DinGGIO1\$SP\$DiSet24\$setCharact	Digital input 24 setting	Byte
214	*SYST/DinGGIO1\$SP\$Ht1DITmms\$setVal	HT1 delay time	Long
215	*SYST/DinGGIO1\$SP\$Ht2DITmms\$setVal	HT2 delay time	Long
216	*SYST/LLN0\$GO\$IthBasicGOOSE\$GoEna	Enable/disable GOOSE	Bool
217	*SYST/LPHD1\$ST\$PhyHealth\$stVal	Relay device status	Byte
218	*SYST/LPHD1\$ST\$Loc\$stVal	Local operation mode	Bool
219	*SYST/LPHD1\$CO\$WrtPrt\$Oper\$ctlVal	Activate setting-write protection (control)	Bool
220	*SYST/LPHD1\$DC\$PhyNam\$hwRev	Hardware type: SuperVision II	Vstring255
221	*SYST/LPHD1\$DC\$PhyNam\$swRev	Software version	Vstring255
222	*SYST/LPHD1\$DC\$PhyNam\$serNum	Relay serial number	Vstring255
223	*SYST/LPHD1\$DC\$PhyNam\$model	Relay Type: AFVD5	Vstring255
224	*SYST/LPHD1\$SP\$IEDTag\$setNam	IED Tag String	Vstring64
225	*SYST/LPHD1\$SP\$PasWrd\$setCharact	Enable/disable user password	Byte
226	*SYST/LPHD1\$SP\$PasStr\$setNam	User password text string	Vstring64
227	*SYST/LPHD1\$SP\$SysPas\$setCharact	Enable/disable engineer password	Byte
228	*SYST/LPHD1\$SP\$ScnSav\$setCharact	Enable/disable screen saver	Byte
229	*SYST/LPHD1\$SP\$ScnTms\$setVal	Screen saver timeout setting	Long
230	*SYST/LPHD1\$SP\$InvLed\$setCharact	Invert LED colour setting	Byte
231	*SYST/LPHD1\$SP\$SwpLed\$setCharact	Swap LED position setting	Byte
232	*SYST/LPHD1\$SP\$RtnTmm\$setCharact	Default Return Time	Byte
233	*SYST/LPHD1\$SP\$DinCfg\$setCharact	Digital Input Configuration	Byte
234	*SYST/LPHD1\$SP\$RemPol\$setCharact	Remote Polarity	Byte
235	*SYST/LPHD1\$SP\$XfmSch\$setCharact	Xform I/P scheme	Byte
236	*SYST/LPHD1\$SP\$FullDplx\$setCharact	Full Duplex Transfer	Byte
237	*SYST/LedGGIO1\$ST\$Bled01\$stVal	LED 1 on/off status	Bool
238	*SYST/LedGGIO1\$ST\$Bled01\$stFlash	LED 1 flash status	Bool
239	*SYST/LedGGIO1\$ST\$Bled02\$stVal	LED 2 on/off status	Bool
240	*SYST/LedGGIO1\$ST\$Bled02\$stFlash	LED 2 flash status	Bool
241	*SYST/LedGGIO1\$ST\$Bled03\$stVal	LED 3 on/off status	Bool
242	*SYST/LedGGIO1\$ST\$Bled03\$stFlash	LED 3 flash status	Bool

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243	*SYST/LedGGIO1\$ST\$Bled04\$stVal	LED 4 on/off status	Bool
244	*SYST/LedGGIO1\$ST\$Bled04\$stFlash	LED 4 flash status	Bool
245	*SYST/LedGGIO1\$ST\$Bled05\$stVal	LED 5 on/off status	Bool
246	*SYST/LedGGIO1\$ST\$Bled05\$stFlash	LED 5 flash status	Bool
247	*SYST/LedGGIO1\$ST\$Bled06\$stVal	LED 6 on/off status	Bool
248	*SYST/LedGGIO1\$ST\$Bled06\$stFlash	LED 6 flash status	Bool
249	*SYST/LedGGIO1\$ST\$Bled07\$stVal	LED 7 on/off status	Bool
250	*SYST/LedGGIO1\$ST\$Bled07\$stFlash	LED 7 flash status	Bool
251	*SYST/LedGGIO1\$ST\$Bled08\$stVal	LED 8 on/off status	Bool
252	*SYST/LedGGIO1\$ST\$Bled08\$stFlash	LED 8 flash status	Bool
253	*SYST/LedGGIO1\$ST\$Bled09\$stVal	LED 9 on/off status	Bool
254	*SYST/LedGGIO1\$ST\$Bled09\$stFlash	LED 9 flash status	Bool
255	*SYST/LedGGIO1\$ST\$Bled10\$stVal	LED 10 on/off status	Bool
256	*SYST/LedGGIO1\$ST\$Bled10\$stFlash	LED 10 flash status	Bool
257	*SYST/LedGGIO1\$ST\$Bled11\$stVal	LED 11 on/off status	Bool
258	*SYST/LedGGIO1\$ST\$Bled11\$stFlash	LED 11 flash status	Bool
259	*SYST/LedGGIO1\$ST\$Bled12\$stVal	LED 12 on/off status	Bool
260	*SYST/LedGGIO1\$ST\$Bled12\$stFlash	LED 12 flash status	Bool
261	*SYST/LedGGIO1\$SP\$LedSet01\$setCharact	LED output 1 setting	Byte
262	*SYST/LedGGIO1\$SP\$LedSet02\$setCharact	LED output 2 setting	Byte
263	*SYST/LedGGIO1\$SP\$LedSet03\$setCharact	LED output 3 setting	Byte
264	*SYST/LedGGIO1\$SP\$LedSet04\$setCharact	LED output 4 setting	Byte
265	*SYST/LedGGIO1\$SP\$LedSet05\$setCharact	LED output 5 setting	Byte
266	*SYST/LedGGIO1\$SP\$LedSet06\$setCharact	LED output 6 setting	Byte
267	*SYST/LedGGIO1\$SP\$LedSet07\$setCharact	LED output 7 setting	Byte
268	*SYST/LedGGIO1\$SP\$LedSet08\$setCharact	LED output 8 setting	Byte
269	*SYST/LedGGIO1\$SP\$LedSet09\$setCharact	LED output 9 setting	Byte
270	*SYST/LedGGIO1\$SP\$LedSet10\$setCharact	LED output 10 setting	Byte
271	*SYST/LedGGIO1\$SP\$LedSet11\$setCharact	LED output 11 setting	Byte
272	*SYST/LedGGIO1\$SP\$LedSet12\$setCharact	LED output 12 setting	Byte
273	*SYST/MixGGIO1\$ST\$ISCO\$stVal	Relay output 1-8 status	Long
274	*SYST/MixGGIO1\$ST\$IntIn01\$stVal	Digital input 1-8 status	Long
275	*SYST/MixGGIO1\$ST\$IntIn02\$stVal	Digital input 9-16 status	Long
276	*SYST/MixGGIO1\$ST\$IntIn03\$stVal	Digital input 17-24 status	Long
277	*SYST/MixGGIO1\$ST\$LgcSt\$stVal	Logical status	Long
278	*SYST/MixGGIO1\$ST\$IntOut01\$stVal	Trip status (bit 0-15)	Long
279	*SYST/MixGGIO1\$ST\$IntOut02\$stVal	Trip status (bit 16-31)	Long
280	*SYST/MixGGIO1\$ST\$IntOut03\$stVal	Alarm status (bit 0-15)	Long
281	*SYST/MixGGIO1\$ST\$IntOut04\$stVal	Alarm status (bit 16-31)	Long
282	*SYST/MixGGIO1\$ST\$IntOut05\$stVal	Inhibit status (bit 0-15)	Long
283	*SYST/MixGGIO1\$ST\$IntOut06\$stVal	Inhibit status (bit 16-31)	Long
284	*SYST/MixGGIO1\$ST\$AutoMan\$stVal	Auto/Manual Status	Byte
285	*SYST/MixGGIO1\$ST\$Tss\$stVal	TSS Status	Byte
286	*SYST/MixGGIO1\$ST\$OperSt\$stVal	Operation Status	Byte
287	*SYST/MixGGIO1\$ST\$FltSt\$stVal	Fault Status	Byte
288	*SYST/MixGGIO1\$ST\$BusSt1\$stVal	Bus A Status	Byte
289	*SYST/MixGGIO1\$ST\$BusSt2\$stVal	Bus B Status	Byte
290	*SYST/MixGGIO1\$ST\$IcmSt1\$stVal	Incomer 1(IC1) Status	Byte
291	*SYST/MixGGIO1\$ST\$IcmSt2\$stVal	Incomer 2(IC2) Status	Byte
292	*SYST/PhsTVTR1\$SP\$VRtg\$setMag\$i	VT primary	Long
293	*SYST/PhsTVTR1\$SP\$VTsec\$setMag\$i	VT secondary	Long
294	*SYST/PhsTVTR1\$SP\$VtgVal\$setMag\$i	Voltage	Long
295	*SYST/PhsTVTR1\$SP\$VtgRef\$setCharact	Voltage sync. option	Byte

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296	*SYST/RlyGGIO1\$ST\$Bout1\$stVal	Relay output 1 status	Bool
297	*SYST/RlyGGIO1\$ST\$Bout2\$stVal	Relay output 2 status	Bool
298	*SYST/RlyGGIO1\$ST\$Bout3\$stVal	Relay output 3 status	Bool
299	*SYST/RlyGGIO1\$ST\$Bout4\$stVal	Relay output 4 status	Bool
300	*SYST/RlyGGIO1\$ST\$Bout5\$stVal	Relay output 5 status	Bool
301	*SYST/RlyGGIO1\$ST\$Bout6\$stVal	Relay output 6 status	Bool
302	*SYST/RlyGGIO1\$ST\$Bout7\$stVal	Relay output 7 status	Bool
303	*SYST/RlyGGIO1\$ST\$Bout8\$stVal	Relay output 8 status	Bool
304	*SYST/RlyGGIO1\$SP\$DoSet1\$setCharact	Relay output 1 setting	Byte
305	*SYST/RlyGGIO1\$SP\$DoSet2\$setCharact	Relay output 2 setting	Byte
306	*SYST/RlyGGIO1\$SP\$DoSet3\$setCharact	Relay output 3 setting	Byte
307	*SYST/RlyGGIO1\$SP\$DoSet4\$setCharact	Relay output 4 setting	Byte
308	*SYST/RlyGGIO1\$SP\$DoSet5\$setCharact	Relay output 5 setting	Byte
309	*SYST/RlyGGIO1\$SP\$DoSet6\$setCharact	Relay output 6 setting	Byte
310	*SYST/RlyGGIO1\$SP\$DoSet7\$setCharact	Relay output 7 setting	Byte
311	*SYST/RlyGGIO1\$SP\$DoSet8\$setCharact	Relay output 8 setting	Byte
312	*SYST/TrpRFLT1\$MX\$PhV\$phsA\$cVal\$mag\$i	Recent pre trip V1 (red phase)(decimal format)	Long
313	*SYST/TrpRFLT1\$MX\$PhV\$phsA\$cVal\$mag\$f	Recent pre trip V1 (red phase)(float format)	Float
314	*SYST/TrpRFLT1\$MX\$PhV\$phsB\$cVal\$mag\$i	Recent pre trip V2 (yellow phase)(decimal format) )	Long
315	*SYST/TrpRFLT1\$MX\$PhV\$phsB\$cVal\$mag\$f	Recent pre trip V2 (yellow phase)(float format)	Float
316	*SYST/TrpRFLT1\$MX\$PhV\$phsC\$cVal\$mag\$i	Recent pre trip V3 (blue phase)(decimal format)	Long
317	*SYST/TrpRFLT1\$MX\$PhV\$phsC\$cVal\$mag\$f	Recent pre trip V3 (blue phase)(float format)	Float
318	*SYST/TrpRFLT1\$ST\$Loc\$stVal	Local operation mode	Bool
319	*SYST/TrpRFLT1\$ST\$FltPos\$stVal	Recent trip sequence number	Long
320	*SYST/TrpRFLT1\$ST\$FltNo\$stVal	Recent trip number	Long
321	*SYST/TrpRFLT1\$ST\$FltNo\$t	Time stamp for recent trip	Utctime
322	*SYST/TrpRFLT1\$CO\$FltPos\$Oper\$ctlVal	Set the Recent trip sequence number(control)	Long

**Note:**

- 1) All analogue values or parameter values could be stored in integer format, whose actual value = (( $\$i$ ) value)\*( $\$scaleFactor$ )+( $\$offset$ ), or directly in float format.
- 2) The write-protection must be deactivated first by manipulating the “WrtPrt” control under the logic node “\*SYST/LPHD1” before any operations of writing to a desired logic attribute is executed. The write-protection is activated when the system powers up and the de-activation status automatically becomes invalid in 5 minutes after the deactivation operation is successfully carried out. In order to de-activate the write-protection, the value of “1” has to be successfully written to the logic attribute “\*SYST/LHPD1\$CO\$WrtPrt\$Oper\$ctlVal” and the correct order of manipulating a control model has to be followed as well.
- 3) If the setting of “Local Status(61850)” is set to “Local Mode”, then all of the controls are not controllable by the client. In order to make it controllable by the client, this setting has to be set to “Remote Mode”.

### 3.4 MMS data-type conversions

The following table shows the relationships between the Part 7 and Part 8-1 data types. The definitions presented above use MMS (Part 8-1) data types.

Part 7 Data Type	MMS Data Type (Part 8-1)	Part 7 Description
BOOLEAN	Bool	Logical TRUE/FALSE value
BVstring13	BVstring13	Variable bit string (up to 13 bits)
CODED_ENUM	Byte	Coded enumeration
CODED_ENUM2	Byte	Coded enumeration (2)
EntryTime	Btime6	8.1 Section 8.1.3.7
ENUMERATED8	Byte	8 bit enumerated value
ENUMERATED16	Short	16 bit enumerated value

FLOAT32	Float	32 bit floating point value
FLOAT64	Double	64 bit floating point value
INT8	Byte	8 bit signed integer value
INT8U	Ubyte	8 bit unsigned integer value
INT16	Short	16 bit signed integer value
INT16U	Ushort	16 bit unsigned integer value
INT24U	Ulong	24 bit unsigned integer value
INT32	Long	32 bit signed integer value
INT32U	Ulong	32 bit unsigned integer value
INT128	Long	128 bit signed integer value
OCTET_STRING6	Ostring6	6 character string (8 bits per character)
OCTET_STRING8	Ostring8	8 character string (8 bits per character)
OCTET_STRING64	Ostring64	64 character string (8 bits per character)
Quality	BVstring13	IEC 61850 Quality
RTYP_BOOL	Bool	Reporting type - BOOLEAN
RTYP_BSTR6	Bstring6	Reporting type - 6 bit string
RTYP_BSTR8	Bstring8	Reporting type - 8 bit string
RTYP_BSTR9	Bstring9	Reporting type - 9 bit string
RTYP_BTME6	Btime6	Reporting type - 6 byte timestamp
RTYP_BVSTR6	BVstring6	Reporting type - Variable bit string (up to 6 bits)
RTYP_BVSTR8	BVstring8	Reporting type - Variable bit string (up to 8 bits)
RTYP_BVSTR10	BVstring10	Reporting type - Variable bit string (up to 10 bits)
RTYP_INT16U	Ushort	Reporting type - 16 bit unsigned integer value
RTYP_INT32U	Ulong	Reporting type - 32 bit unsigned integer value
RTYP_INT8U	Ubyte	Reporting type - 8 bit unsigned integer value
RTYP_OSTR8	Ostring8	Reporting type - 8 character string (8 bits per character)
RTYP_VSTR32	Vstring32	Reporting type - 32 character string
RTYP_VSTR65	Vstring65	Reporting type - 65 character string
TimeStamp	Utime	IEC 61850 Time stamp
UNICODE_STRING255	UTF8Vstring255	255 character string (16 bits per unicode character)
UTC_TM	Utime	UTC Timestamp
VISIBLE_STRING64	Vstring64	64 character string
VISIBLE_STRING65	Vstring65	65 character string
VISIBLE_STRING97	Vstring97	97 character string
VISIBLE_STRING255	Vstring255	255 character string