

DeviceNet and EtherNet/IP data model in VAMP devices

1.1 Document overview

The purpose of this document is to describe the common data model of the DeviceNet and EtherNet/IP protocols in VAMP 50, VAMP 200 and VAMP 300 series devices.

This document assumes that the reader has some previous knowledge of the DeviceNet and EtherNet/IP protocols.

For more detailed information about the DeviceNet and EtherNet/IP implementation in VAMP devices, refer to [1] and [2].

Note: This document applies fully only to firmware versions v.10.134 and newer.

1.2 References

- [1] Application Note DeviceNet, "DeviceNet configuration instructions for VAMP devices", 30.10.2014, V1.2
- [2] Application Note EthernetIP, "Ethernet/IP configuration instructions for VAMP devices", 30.10.2014, V1.7

2 Data model

2.1 Standard Objects - included in assemblies

VAMP process data are mapped into 2 standard objects (Control Supervisor Object and Overload Object) and 2 private objects (Digital Object and Analog Object). All attributes of these objects are available to be included in assemblies.

2.1.1 Control Supervisor Object, Class Code 0x29, Instance 0x01

Table 2.1.1-1: Control Supervisor Object, Class Code 0x29

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
3	GET SET	Run1	BOOL	Run command from the network is internally blocked. For conformance reasons only.
10	GET	Faulted	BOOL	1 = Fault Occurred (latched), 0 = No Faults present
11	GET	Warning	BOOL	1 = Fault (not latched), 0 = No warnings present
12	GET SET	FaultRst	BOOL	0->1 = Fault Reset 0 = No action
13	GET	FaultCode	UINT	If in Faulted state, FaultCode indicates the fault that caused the transition to Faulted state. If not in Faulted state, FaultCode indicates the fault that caused the last transition to the Faulted state. Power up state of fault code is 0. CurrTrip=20, ThermOver=21, PhImb=26, GndFault=27, Underload=29, Stall=31, Undervol=51, Overvol=52, Phrevers=54, Freq=55, StHrExceed=73

14	GET	WarnCode	UINT	Code word indicating warning present. CurrTrip=20, ThermOver=21, PhImb=26, GndFault=27, Underload=29, Stall=31, Undervol=51, Overvol=52, Phrevers=54, Freq=55, StHrExceed=73
22	GET SET	CycleCount	UDINT	Number of operations (motor starts) on the equipment. Note: The relay's variable used for this attribute is UINT

2.1.2 Overload Object, Class Code 0x2C, Instance 0x01

Table 2.1.2-1: Overload Object, Class Code 0x2C

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
5	GET	AvgCurrent	INT	Average of the three phase current
6	GET	%PhImbal	USINT	% Phase Imbalance
7	GET	%Thermal	USINT	% Thermal Capacity
8	GET	CurrentL1	INT	Actual motor phase current L1
9	GET	CurrentL2	INT	Actual motor phase current L2
10	GET	CurrentL3	INT	Actual motor phase current L3
11	GET	GroundCurrent	INT	Ground Current

2.2 Private Objects - included in assemblies

2.2.1 Digital Object, Class Code 0x64, Instance 0x01

Table 2.2.1-1: Digital Object, Class Code 0x64, Instance 0x01 (private object)

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
1	GET	DI	UDINT	1 = 1
2	GET	Output relays	UINT	1 = 1
3	GET	Alive indicator	BOOL	1 = 1
4	GET	Events	STRUCT OF: UDINT – secSinceGenesis UINT – milliseconds UINT – event code	1 = 1
5	GET	Obj1 state	USINT	Open=0, Close=1, Undef=2
6	GET	Obj2 state	USINT	Open=0, Close=1, Undef=2
7	GET	Obj3 state	USINT	Open=0, Close=1, Undef=2
8	GET	Obj4 state	USINT	Open=0, Close=1, Undef=2
9	GET	Obj5 state	USINT	Open=0, Close=1, Undef=2
10	GET	Obj6 state	USINT	Open=0, Close=1, Undef=2
11	GET SET	Remote/Local State	BOOL	REMOTE=0, LOCAL=1
12	GET SET	Open select Obj1	BOOL	1 = 1
13	GET SET	Close select Obj1	BOOL	1 = 1
14	SET	Execute operation Obj1	BOOL	1 = 1
15	SET	Cancel selected operation	BOOL	1 = 1
16	GET SET	Max ctrl pulse length of Obj1	USINT	1.00 s = 100
17	GET SET	Open select Obj2	BOOL	1 = 1
18	GET SET	Close select Obj2	BOOL	1 = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
19	SET	Execute operation Obj2	BOOL	1 = 1
20	GET SET	Max ctrl pulse length of Obj2	USINT	1.00 s = 100
21	GET SET	OM_MB_ResetLatches	BOOL	1 = 1
22	GET SET	Synchronize minutes	BOOL	1 = 1
23	GET SET	Open select Obj3	BOOL	1 = 1
24	GET SET	Close select Obj3	BOOL	1 = 1
25	SET	Execute operation Obj3	BOOL	1 = 1
26	GET SET	Max ctrl pulse length of Obj3	USINT	1.00 s = 100
27	GET SET	Open select Obj4	BOOL	1 = 1
28	GET SET	Close select Obj4	BOOL	1 = 1
29	SET	Execute operation Obj4	BOOL	1 = 1
30	GET SET	Max ctrl pulse length of Obj4	USINT	1.00 s = 100
31	GET	Pos. sequence I1	INT	1 A = 1
32	GET	Neg. sequence I2	INT	1 A = 1
33	GET	Current -seq./+seq.	INT	1.0 % = 10
34	GET	Current phase seq.	USINT	??=0, OK=1, Reverse=2
35	GET	Pos. sequence U1	INT	1000 V = 1000
36	GET	Neg. sequence U2	INT	1000 V = 1000
37	GET	Voltage -seq./+seq.	INT	1.0 % = 10
38	GET	Voltage phase seq.	SINT	??=0, OK=1, Reverse=2
39	GET	DI1 counter	UINT	1 = 1
40	GET	DI2 counter	UINT	1 = 1
41	GET	DI3 counter	UINT	1 = 1
42	GET	DI4 counter	UINT	1 = 1
43	GET	DI5 counter	UINT	1 = 1
44	GET	DI6 counter	UINT	1 = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
45	GET	DI19 counter	UINT	1 = 1
46	GET	DI20 counter	UINT	1 = 1
47	GET	Shot1 start counter	UINT	1 = 1
48	GET	Shot2 start counter	UINT	1 = 1
49	GET	Shot3 start counter	UINT	1 = 1
50	GET	Shot4 start counter	UINT	1 = 1
51	GET	Shot5 start counter	UINT	1 = 1
52	GET	AR start counter	UINT	1 = 1
53	GET	AR fail counter	UINT	1 = 1
54	GET	Stage start state	BOOL	Start=1
55	GET	Stage trip state	BOOL	Trip=1
56	GET	AR shot number	USINT	1, 2, 3, 4, 5, END=6
57	GET	Critical AR req.	BOOL	1 = 1
58	GET	Reclose locked	BOOL	1 = 1
59	GET	Reclose running	BOOL	1 = 1
60	GET	Final trip	BOOL	1 = 1
61	GET	Autoreclose on	BOOL	1 = 1
62	GET	N> alarm	BOOL	1 = 1
63	GET	Motor start disabled	BOOL	1 = 1
64	GET	Motor starting	BOOL	1 = 1
65	GET	Motor running	BOOL	1 = 1
66	GET	Voltage interrupt	USINT	LOW=0, ok=1
67	GET	Timer 1 status	BOOL	0=1, 1=2
68	GET	Timer 2 status	BOOL	0=1, 1=2
69	GET	Timer 3 status	BOOL	0=1, 1=2
70	GET	Timer 4 status	BOOL	0=1, 1=2

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
71	GET	Voltage status	USINT	OK=0, LOW=1, HIGH=2, LOW/HIGH=3, (OK)=4, (LOW)=5, (HIGH)=6, (LOW)/HIGH=7
72	GET	Logic output states 1...10	BOOL	Bit 0: Logic output 1 Bit 1: Logic Output 2 Bit 2: Logic Output 3 Bit 3: Logic Output 4 Bit 4: Logic Output 5 Bit 5: Logic Output 6 Bit 6: Logic Output 7 Bit 7: Logic Output 8 0 = Output inactive 1 = Output active Note: Logic Output 9&10 available in Attr. ID 113
73	GET	CBW Alarm 1	BOOL	1 = 1
74	GET	CBW Alarm 2	BOOL	1 = 1
75	GET	CBW Alarm L1..L3	BOOL	1 = 1
76	GET	CBW Fault L1..L3	BOOL	1 = 1
77	GET	SetGrp common change	BOOL	1=0, 2=1
78	GET SET	Open select Obj5	BOOL	1 = 1
79	GET SET	Close select Obj5	BOOL	1 = 1
80	SET	Execute operation Obj5	BOOL	1 = 1
81	GET SET	Max ctrl pulse length of Obj5	USINT	1.00 s = 100
82	GET SET	Open select Obj6	BOOL	1 = 1
83	GET SET	Close select Obj6	BOOL	1 = 1
84	SET	Execute operation Obj6	BOOL	1 = 1
85	GET SET	Max ctrl pulse length of Obj6	USINT	1.00 s = 100
86	GET	Sync1 req.	BOOL	1 = 1
87	GET	Sync1 OK	BOOL	1 = 1
88	GET	Bypass	BOOL	1 = 1
89	GET	Sync1 fail	BOOL	1 = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
90	GET	U12/U12y phase angle difference	INT	1 ° = 1
91	GET	Sync2 req.	BOOL	1 = 1
92	GET	Sync2 OK	BOOL	1 = 1
93	GET	Bypass	BOOL	1 = 1
94	GET	Sync2 fail	BOOL	1 = 1
95	SET	DirectO1O	BOOL	1 = 1
96	SET	DirectO1C	BOOL	1 = 1
97	SET	DirectO2O	BOOL	1 = 1
98	SET	DirectO2C	BOOL	1 = 1
99	SET	DirectO3O	BOOL	1 = 1
100	SET	DirectO3C	BOOL	1 = 1
101	SET	DirectO4O	BOOL	1 = 1
102	SET	DirectO4C	BOOL	1 = 1
103	SET	DirectO5O	BOOL	1 = 1
104	SET	DirectO5C	BOOL	1 = 1
105	SET	DirectO6O	BOOL	1 = 1
106	SET	DirectO6C	BOOL	1 = 1
107	GET SET	Virtual input 1	BOOL	0, 1
108	GET SET	Virtual input 2	BOOL	0, 1
109	GET SET	Virtual input 3	BOOL	0, 1
110	GET SET	Virtual input 4	BOOL	0, 1
111	GET	Obj7 state	USINT	Open=0, Close=1, Undef=2
112	GET	Obj8 state	USINT	Open=0, Close=1, Undef=2

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
113	GET	Logic output states 9...16	USINT	Bit 0: Logic output 9 Bit 1: Logic Output 10 Bit 2: Logic Output 11 Bit 3: Logic Output 12 Bit 4: Logic Output 13 Bit 5: Logic Output 14 Bit 6: Logic Output 15 Bit 7: Logic Output 16 Output inactive = 0 Output active = 1
114	GET	Logic output states 17...20	USINT	Bit 0: Logic output 17 Bit 1: Logic Output 18 Bit 2: Logic Output 19 Bit 3: Logic Output 20 Bit 4-7: not used Output inactive = 0 Output active = 1
115	GET	Virtual outputs	USINT	Bit 0: Virtual Output 1 Bit 1: Virtual Output 2 Bit 2: Virtual Output 3 Bit 3: Virtual Output 4 Bit 4: Virtual Output 5 Bit 5: Virtual Output 6 Bit 6-7: not used Output inactive = 0 Output active = 1
116	GET	Diagnostic register 1	UINT	Bit 0: SF (IF) relay Bit 1: BO Bit 2: Trip relay 1 Bit 3: Trip relay 2 Bit 4: Trip relay 3 Bit 5: Trip relay 4 Bit 6: Trip relay 5 Bit 7: Trip relay 6 Bit 8: Trip relay 7 Bit 9: Trip relay 8 Bit 10: Alarm relay 1 Bit 11: Alarm relay 2 Bit 12: Alarm relay 3 Bit 13: Alarm relay 4 Bit 14: Alarm relay 5 Bit 15: Trip relay 9 No fault = 0 Fault = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
117	GET	Diagnostic register 2	UINT	Bit 0: Trip relay 10 Bit 1: Trip relay 11 Bit 2: Trip relay 12 Bit 3: Trip relay 13 Bit 4: Trip relay 14 Bit 5: Trip relay 15 Bit 6: Trip relay 16 Bit 7: Trip relay 17 Bit 8: Trip relay 18 Bit 9: Trip relay 19 Bit 10: Trip relay 20 Bit 11: Trip relay 21 Bit 12: Trip relay 22 Bit 13: Trip relay 23 Bit 14: Trip relay 24 Bit 15: [not used] No fault = 0 Fault = 1
118	GET	Diagnostic register 3	UINT	Bit 0: DAC Bit 1: Stack Bit 2: Memory check Bit 3: Background task Bit 4: Digital inputs Bit 5: [not used] Bit 6: Arc Bit 7: SecPulse Bit 8: Range check Bit 9: CPU load Bit 10: +24V Bit 11: -15V Bit 12: Internal temperature Bit 13: ADC check 1 Bit 14: ADC check 2 Bit 15: E2PROM No fault = 0 Fault = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
119	GET	Diagnostic register 4	UINT	Bit 0: +12V Bit 1: COM buffer Bit 2: Order code * Bit 3: Slot card * Bit 4: FPGA conf. * Bit 5: I/O unit ** Bit 6: Arc sensor ** Bit 7: QD ** Bit 8: Binary Inputs ** Bit 9: Low AUX Bit 10: FPGA version ** Bit 11: [not used] Bit 12: [not used] Bit 13: [not used] Bit 14: [not used] Bit 15: [not used] No fault = 0 Fault = 1 * Available only in 5X and 3XX series ** Available only in 3XX series
120	GET	Engine running hours	UDINT	1 h = 1
121	GET	Engine running seconds	UINT	1 s = 1
122	GET	Start counter	UINT	1 = 1
123	GET SET	Reset diagnostics	BOOL	RESET=1
124	GET	Clear min & max	BOOL	Clear=1
125	GET	Pos. sequence I'1	INT	1 A = 1
126	GET	Neg. sequence I'2	INT	1 A = 1
127	GET	Current I' - seq./+seq.	INT	1.0 % = 10
128	GET	Current I' phase seq.	SINT	??=0, OK=1, Reverse=2
129	GET	External DI1	BOOL	1 = 1
130	GET	External DI2	BOOL	1 = 1
131	GET	External DI3	BOOL	1 = 1
132	GET	External DI4	BOOL	1 = 1
133	GET	External DI5	BOOL	1 = 1
134	GET	External DI6	BOOL	1 = 1
135	GET	External DI7	BOOL	1 = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
136	GET	External DI8	BOOL	1 = 1
137	GET	External DI9	BOOL	1 = 1
138	GET	External DI10	BOOL	1 = 1
139	GET	External DI11	BOOL	1 = 1
140	GET	External DI12	BOOL	1 = 1
141	GET	External DI13	BOOL	1 = 1
142	GET	External DI14	BOOL	1 = 1
143	GET	External DI15	BOOL	1 = 1
144	GET	External DI16	BOOL	1 = 1
145	GET	External DI17	BOOL	1 = 1
146	GET	External DI18	BOOL	1 = 1
147	GET	Event: code	UINT	1 = 1
148	GET	Event: time (milliseconds and seconds)	UINT	1 = 1
149	GET	Event: time (minutes and hours)	UINT	1 = 1
150	GET	Event: date (day and month)	UINT	1 = 1
151	GET	Event: date (year)	UINT	1 = 1
152	GET	Event: acknowledgement	BOOL	1 = 1
153	GET	External DO1	BOOL	1 = 1
154	GET	External DO2	BOOL	1 = 1
155	GET	External DO3	BOOL	1 = 1
156	GET	External DO4	BOOL	1 = 1
157	GET	External DO5	BOOL	1 = 1
158	GET	External DO6	BOOL	1 = 1
159	GET	External DO7	BOOL	1 = 1
160	GET	External DO8	BOOL	1 = 1
161	GET	External DO9	BOOL	1 = 1
162	GET	External DO10	BOOL	1 = 1
163	GET	External DO11	BOOL	1 = 1
164	GET	External DO12	BOOL	1 = 1
165	GET	External DO13	BOOL	1 = 1
166	GET	External DO14	BOOL	1 = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
167	GET	External DO15	BOOL	1 = 1
168	GET	External DO16	BOOL	1 = 1
169	GET	Device status	BYTE	Bit 0: Motor running Bit 1: Warning Bit 2: Fault
170	GET SET	Virtual output 1	BOOL	1 = 1
171	GET SET	Virtual output 2	BOOL	1 = 1
172	GET SET	Virtual output 3	BOOL	1 = 1
173	GET SET	Virtual output 4	BOOL	1 = 1
174	GET SET	Virtual output 5	BOOL	1 = 1
175	GET SET	Virtual output 6	BOOL	1 = 1

2.2.2 Analog Object, Class Code 0x65, Instance 0x01

Table 2.2.2-1: Analog Object, Class Code 0x65, Instance 0x01 (private object)

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
1	GET	Phase current IL1	INT	1 A = 1
2	GET	Phase current IL2	INT	1 A = 1
3	GET	Phase current IL3	INT	1 A = 1
4	GET	Frequency	INT	50.000 Hz = 5000
5	GET	Io1 residual current	INT	1.000 pu = 1000
6	GET	Io2 residual current	INT	1.000 pu = 1000
7	GET	Zero sequence voltage	INT	1.0 % = 10
8	GET	Active power	INT	1000 kW = 1000
9	GET	Reactive power	INT	1000 kvar = 1000
10	GET	Apparent power	INT	1000 kVA = 1000
11	GET	Line-to-line voltage U12	UINT	1000 V = 1000
12	GET	Line-to-line voltage U23	UINT	1000 V = 1000
13	GET	Line-to-line voltage U31	UINT	1000 V = 1000
14	GET	Exported energy	UDINT	1.000 MWh = 1000
15	GET	Imported energy	UDINT	1.000 MWh = 1000
16	GET	Exp. reactive energy	UDINT	1.000 Mvarh = 1000
17	GET	Imp. reactive energy	UDINT	1.000 Mvarh = 1000

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
18	GET	Power factor	USINT	1.00 = 100
19	GET	Phase-to-earth voltage UL1	UINT	1000 V = 1000
20	GET	Phase-to-earth voltage UL2	UINT	1000 V = 1000
21	GET	Phase-to-earth voltage UL3	UINT	1000 V = 1000
22	GET	Tan phi	INT	1.000 = 1000
23	GET	Phase current IL	INT	1 A = 1
24	GET	Average line voltage	UINT	1000 V = 1000
25	GET	Average phase voltage	UINT	1000 V = 1000
26	GET	Phase current THD	INT	1.0 % = 10
27	GET	IL1 THD	INT	1.0 % = 10
28	GET	IL2 THD	INT	1.0 % = 10
29	GET	IL3 THD	INT	1.0 % = 10
30	GET	HARMONICS of IL1	SINT	1 % = 1
31	GET	HARMONICS of IL2	SINT	1 % = 1
32	GET	HARMONICS of IL3	SINT	1 % = 1
33	GET	Min. of IL1 IL2 IL3	INT	1 A = 1
34	GET	Max. of IL1 IL2 IL3	INT	1 A = 1
35	GET	Phase current ILRMS	INT	1 Arms = 1
36	GET	Phase current IL1RMS	INT	1 Arms = 1
37	GET	Phase current IL2RMS	INT	1 Arms = 1
38	GET	Phase current IL3RMS	INT	1 Arms = 1
39	GET	Temperature rise	INT	1.0 % = 10
40	GET SET	Ambient temperature	SINT	1 °C = 1
41	GET	IL1da demand	INT	1 A = 1
42	GET	IL2da demand	INT	1 A = 1
43	GET	IL3da demand	INT	1 A = 1
44	GET	IoCalc demand	INT	1.00 pu = 100
45	GET	Io1 demand	INT	1.000 pu = 1000
46	GET	Io2 demand	INT	1.000 pu = 1000

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
47	GET	Voltage THD	UINT	1.0 % = 10
48	GET	Ua THD	UINT	1.0 % = 10
49	GET	Ub THD	UINT	1.0 % = 10
50	GET	Uc THD	UINT	1.0 % = 10
51	GET	HARMONICS of Ua	USINT	1 % = 1
52	GET	HARMONICS of Ub	USINT	1 % = 1
53	GET	HARMONICS of Uc	USINT	1 % = 1
54	GET	Min of line voltages	UINT	1000 V = 1000
55	GET	Max of line voltages	UINT	1000 V = 1000
56	GET	Min. of phase voltages	UINT	1000 V = 1000
57	GET	Max. of phase voltages	UINT	1000 V = 1000
58	GET	Voltage mean	UINT	1000 Vrms = 1000
59	GET	Input voltage Ua	UINT	1000 Vrms = 1000
60	GET	Input voltage Ub	UINT	1000 Vrms = 1000
61	GET	Input voltage Uc	UINT	1000 Vrms = 1000
62	GET	U12 demand	UINT	1000 V = 1000
63	GET	U23 demand	UINT	1000 V = 1000
64	GET	U31 demand	UINT	1000 V = 1000
65	GET	UL1 demand	UINT	1000 V = 1000
66	GET	UL2 demand	UINT	1000 V = 1000
67	GET	UL3 demand	UINT	1000 V = 1000
68	GET	Cosine phii	USINT	1.00 = 100
69	GET	Cosine of phase L1	USINT	1.00 = 100
70	GET	Cosine of phase L2	USINT	1.00 = 100
71	GET	Cosine of phase L3	USINT	1.00 = 100
72	GET	Power angle	INT	1 ° = 1
73	GET	Phase L1 active power	INT	1000 kW = 1000
74	GET	Phase L2 active power	INT	1000 kW = 1000
75	GET	Phase L3 active power	INT	1000 kW = 1000
76	GET	Phase L1 reactive power	INT	1000 kvar = 1000

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
77	GET	Phase L2 reactive power	INT	1000 kvar = 1000
78	GET	Phase L3 reactive power	INT	1000 kvar = 1000
79	GET	Phase L1 apparent power	INT	1000 kVA = 1000
80	GET	Phase L2 apparent power	INT	1000 kVA = 1000
81	GET	Phase L3 apparent power	INT	1000 kVA = 1000
82	GET	RMS active power	INT	1000 kW = 1000
83	GET	RMS reactive power	INT	1000 kvar = 1000
84	GET	RMS apparent power	INT	1000 kVA = 1000
85	GET	Active power demand	INT	1000 kW = 1000
86	GET	Reactive power demand	INT	1000 kvar = 1000
87	GET	Apparent power demand	INT	1000 kVA = 1000
88	GET	Power factor demand	INT	1.00 = 100
89	GET	RMS active power demand	INT	1000 kW = 1000
90	GET	RMS reactive power demand	INT	1000 kvar = 1000
91	GET	RMS apparent power demand	INT	1000 kVA = 1000
92	GET	Calculated I _o	INT	1.000 pu = 1000
93	GET	Fault current of I _{>}	INT	1.00 = 100
94	GET	Fault current of I _{>>}	INT	1.00 = 100
95	GET	Fault current of I _{>>>}	INT	1.00 = 100
96	GET	Fault reactance	UINT	1.00 ohm = 100
97	GET	Frequency f _y	UINT	50.000 Hz = 5000
98	GET	Line-to-line voltage U _{12y}	INT	1000 V = 1000
99	GET	Frequency f _z	UINT	50.000 Hz = 5000
100	GET	Line-to-line voltage U _{12z}	INT	1000 V = 1000
101	GET	Phase angle difference	INT	1 ° = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
102	GET SET	Minimum frequency	INT	50.000 Hz = 50000
103	GET SET	Minimum active power	INT	1 kW = 1
104	GET SET	Minimum react. power	INT	1 kvar = 1
105	GET SET	Minimum apparent power	INT	1 kVA = 1
106	GET SET	Min power factor	INT	1.000 = 1000
107	GET SET	Minimum of Io	INT	1.0 % = 10
108	GET SET	Minimum of Io2	INT	1.0 % = 10
109	GET SET	Minimum active power	INT	1 kW = 1
110	GET SET	Minimum react. power	INT	1 kvar = 1
111	GET SET	Minimum apparent power	INT	1 kVA = 1
112	GET SET	15 min minimum power factor	INT	1.000 = 1000
113	GET SET	Minimum active power	INT	1 kW = 1
114	GET SET	Minimum react. power	INT	1 kvar = 1
115	GET SET	Minimum apparent power	INT	1 kVA = 1
116	GET SET	Minimum of IL1	INT	1 A = 1
117	GET SET	Minimum of IL2	INT	1 A = 1
118	GET SET	Minimum of IL3	INT	1 A = 1
119	GET SET	RMS minimum of IL1	INT	1 Arms = 1
120	GET SET	RMS minimum of IL2	INT	1 Arms = 1
121	GET SET	RMS minimum of IL3	INT	1 Arms = 1
122	GET SET	Minimum of IL1	INT	1 A = 1
123	GET SET	Minimum of IL2	INT	1 A = 1
124	GET SET	Minimum of IL3	INT	1 A = 1
125	GET SET	RMS minimum of IL1	INT	1 Arms = 1
126	GET SET	RMS minimum of IL2	INT	1 Arms = 1
127	GET SET	RMS minimum of IL3	INT	1 Arms = 1
128	GET SET	Minimum of U12	INT	1 V = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
129	GET SET	Minimum of U23	INT	1 V = 1
130	GET SET	Minimum of U31	INT	1 V = 1
131	GET SET	Maximum frequency	INT	50.000 Hz = 50000
132	GET SET	Maximum active power	INT	1 kW = 1
133	GET SET	Maximum react. power	INT	1 kvar = 1
134	GET SET	Maximum apparent power	INT	1 kVA = 1
135	GET SET	Max power factor	INT	1.000 = 1000
136	GET SET	Maximum of Io	INT	1.0 % = 10
137	GET SET	Maximum of Io2	INT	1.0 % = 10
138	GET SET	Maximum active power	INT	1 kW = 1
139	GET SET	Maximum react. power	INT	1 kvar = 1
140	GET SET	Maximum apparent power	INT	1 kVA = 1
141	GET SET	15 min maximum power factor	INT	1.000 = 1000
142	GET SET	Maximum active power	INT	1 kW = 1
143	GET SET	Maximum react. power	INT	1 kvar = 1
144	GET SET	Maximum apparent power	INT	1 kVA = 1
145	GET SET	Maximum of IL1	INT	1 A = 1
146	GET SET	Maximum of IL2	INT	1 A = 1
147	GET SET	Maximum of IL3	INT	1 A = 1
148	GET SET	RMS maximum of IL1	INT	1 Arms = 1
149	GET SET	RMS maximum of IL2	INT	1 Arms = 1
150	GET SET	RMS maximum of IL3	INT	1 Arms = 1
151	GET SET	Maximum of IL1	INT	1 A = 1
152	GET SET	Maximum of IL2	INT	1 A = 1
153	GET SET	Maximum of IL3	INT	1 A = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
154	GET SET	RMS maximum of IL1	INT	1 Arms = 1
155	GET SET	RMS maximum of IL2	INT	1 Arms = 1
156	GET SET	RMS maximum of IL3	INT	1 Arms = 1
157	GET SET	Maximum of U12	INT	1 V = 1
158	GET SET	Maximum of U23	INT	1 V = 1
159	GET SET	Maximum of U31	INT	1 V = 1
160	GET	Z12 primary impedance	INT	1.00 ohm = 100
161	GET	Z23 primary impedance	INT	1.00 ohm = 100
162	GET	Z31 primary impedance	INT	1.00 ohm = 100
163	GET	Z12 secondary impedance	INT	1.00 ohm = 100
164	GET	Z23 secondary impedance	INT	1.00 ohm = 100
165	GET	Z31 secondary impedance	INT	1.00 ohm = 100
166	GET	Z12 angle	INT	1 ° = 1
167	GET	Z23 angle	INT	1 ° = 1
168	GET	Z31 angle	INT	1 ° = 1
169	GET	Phase current I'L1	INT	1 A = 1
170	GET	Phase current I'L2	INT	1 A = 1
171	GET	Phase current I'L3	INT	1 A = 1
172	GET	IL1 difference	INT	1.00 xln = 100
173	GET	IL2 difference	INT	1.00 xln = 100
174	GET	IL3 difference	INT	1.00 xln = 100
175	GET	Phase current I' THD	INT	1.0 % = 10
176	GET	I'L1 THD	INT	1.0 % = 10
177	GET	I'L2 THD	INT	1.0 % = 10
178	GET	I'L3 THD	INT	1.0 % = 10
179	GET	HARMONICS of I'L1	USINT	1 % = 1
180	GET	HARMONICS of I'L2	USINT	1 % = 1
181	GET	HARMONICS of I'L3	USINT	1 % = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
182	GET	Min. of I'L1 I'L2 I'L3	INT	1 A = 1
183	GET	Max. of I'L1 I'L2 I'L3	INT	1 A = 1
184	GET	Phase current I'LRMS	INT	1 Arms = 1
185	GET	Phase current I'L1RMS	INT	1 Arms = 1
186	GET	Phase current I'L2RMS	INT	1 Arms = 1
187	GET	Phase current I'L3RMS	INT	1 Arms = 1
188	GET	External AI1	UDINT	1.00 = 100
189	GET	External AI2	UDINT	1.00 = 100
190	GET	External AI3	UDINT	1.00 = 100
191	GET	External AI4	UDINT	1.00 = 100
192	GET	External AI5	UDINT	1.00 = 100
193	GET	External AI6	UDINT	1.00 = 100
194	GET	External AI7	UDINT	1.00 = 100
195	GET	External AI8	UDINT	1.00 = 100
196	GET	External AI9	UDINT	1.00 = 100
197	GET	External AI10	UDINT	1.00 = 100
198	GET	External AI11	UDINT	1.00 = 100
199	GET	External AI12	UDINT	1.00 = 100
200	GET	External AI13	UDINT	1.00 = 100
201	GET	External AI14	UDINT	1.00 = 100
202	GET	External AI15	UDINT	1.00 = 100
203	GET	External AI16	UDINT	1.00 = 100
204	GET	External AI Alarm State > (for AI1)	BOOL	Alarm = 1
205	GET	External AI Alarm State > (for AI2)	BOOL	Alarm = 1
206	GET	External AI Alarm State > (for AI3)	BOOL	Alarm = 1
207	GET	External AI Alarm State > (for AI4)	BOOL	Alarm = 1
208	GET	External AI Alarm State > (for AI5)	BOOL	Alarm = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
209	GET	External AI Alarm State > (for AI6)	BOOL	Alarm = 1
210	GET	External AI Alarm State > (for AI7)	BOOL	Alarm = 1
211	GET	External AI Alarm State > (for AI8)	BOOL	Alarm = 1
212	GET	External AI Alarm State > (for AI9)	BOOL	Alarm = 1
213	GET	External AI Alarm State > (for AI10)	BOOL	Alarm = 1
214	GET	External AI Alarm State > (for AI11)	BOOL	Alarm = 1
215	GET	External AI Alarm State > (for AI12)	BOOL	Alarm = 1
216	GET	External AI Alarm State > (for AI13)	BOOL	Alarm = 1
217	GET	External AI Alarm State > (for AI14)	BOOL	Alarm = 1
218	GET	External AI Alarm State > (for AI15)	BOOL	Alarm = 1
219	GET	External AI Alarm State > (for AI16)	BOOL	Alarm = 1
220	GET	External AI Alarm State >> (for AI1)	BOOL	Alarm = 1
221	GET	External AI Alarm State >> (for AI2)	BOOL	Alarm = 1
222	GET	External AI Alarm State >> (for AI3)	BOOL	Alarm = 1
223	GET	External AI Alarm State >> (for AI4)	BOOL	Alarm = 1
224	GET	External AI Alarm State >> (for AI5)	BOOL	Alarm = 1
225	GET	External AI Alarm State >> (for AI6)	BOOL	Alarm = 1
226	GET	External AI Alarm State >> (for AI7)	BOOL	Alarm = 1
227	GET	External AI Alarm State >> (for AI8)	BOOL	Alarm = 1
228	GET	External AI Alarm State >> (for AI9)	BOOL	Alarm = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
229	GET	External AI Alarm State >> (for AI10)	BOOL	Alarm = 1
230	GET	External AI Alarm State >> (for AI11)	BOOL	Alarm = 1
231	GET	External AI Alarm State >> (for AI12)	BOOL	Alarm = 1
232	GET	External AI Alarm State >> (for AI13)	BOOL	Alarm = 1
233	GET	External AI Alarm State >> (for AI14)	BOOL	Alarm = 1
234	GET	External AI Alarm State >> (for AI15)	BOOL	Alarm = 1
235	GET	External AI Alarm State >> (for AI16)	BOOL	Alarm = 1
236	GET	External AO1	UDINT	1.00 = 100
237	GET	External AO2	UDINT	1.00 = 100
238	GET	External AO3	UDINT	1.00 = 100
239	GET	External AO4	UDINT	1.00 = 100
240	GET	External AO5	UDINT	1.00 = 100
241	GET	External AO6	UDINT	1.00 = 100
242	GET	External AO7	UDINT	1.00 = 100
243	GET	External AO8	UDINT	1.00 = 100
244	GET	External AO9	UDINT	1.00 = 100
245	GET	External AO10	UDINT	1.00 = 100
246	GET	External AO11	UDINT	1.00 = 100
247	GET	External AO12	UDINT	1.00 = 100
248	GET	External AO13	UDINT	1.00 = 100
249	GET	External AO14	UDINT	1.00 = 100
250	GET	External AO15	UDINT	1.00 = 100
251	GET	External AO16	UDINT	1.00 = 100

2.2.3 Analog2 Object, Class Code 0x70, Instance 0x01

Table 2.2.3-1: Analog2 Object, Class Code 0x70, Instance 0x01 (private object)

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
1	GET	Frequency	DINT	50.000 Hz = 5000
2	GET	Active power	DINT	1000 kW = 1000
3	GET	Reactive power	DINT	1000 kvar = 1000
4	GET	Apparent power	DINT	1000 kVA = 1000
5	GET	Line-to-line voltage U12	DINT	1000 V = 1000
6	GET	Line-to-line voltage U23	DINT	1000 V = 1000
7	GET	Line-to-line voltage U31	DINT	1000 V = 1000
8	GET	Power factor	DINT	1.00 = 100
9	GET	Phase-to-earth voltage UL1	DINT	1000 V = 1000
10	GET	Phase-to-earth voltage UL2	DINT	1000 V = 1000
11	GET	Phase-to-earth voltage UL3	DINT	1000 V = 1000
12	GET	Tan phii	DINT	1.000 = 1000
13	GET	Average line voltage	DINT	1000 V = 1000
14	GET	Average phase voltage	DINT	1000 V = 1000
15	GET	Pos. sequence U1	DINT	1000 V = 1000
16	GET	Neg. sequence U2	DINT	1000 V = 1000
17	GET	Min of line voltages	DINT	1000 V = 1000
18	GET	Max of line voltages	DINT	1000 V = 1000
19	GET	Min. of phase voltages	DINT	1000 V = 1000
20	GET	Max. of phase voltages	DINT	1000 V = 1000
21	GET	Voltage mean	DINT	1000 Vrms = 1000
22	GET	Input voltage Ua	DINT	1000 Vrms = 1000
23	GET	Input voltage Ub	DINT	1000 Vrms = 1000

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
24	GET	Input voltage Uc	DINT	1000 Vrms = 1000
25	GET	U12 demand	DINT	1000 V = 1000
26	GET	U23 demand	DINT	1000 V = 1000
27	GET	U31 demand	DINT	1000 V = 1000
28	GET	UL1 demand	DINT	1000 V = 1000
29	GET	UL2 demand	DINT	1000 V = 1000
30	GET	UL3 demand	DINT	1000 V = 1000
31	GET	Cosine phi	DINT	1.00 = 100
32	GET	Cosine of phase L1	DINT	1.00 = 100
33	GET	Cosine of phase L2	DINT	1.00 = 100
34	GET	Cosine of phase L3	DINT	1.00 = 100
35	GET	Phase L1 active power	DINT	1000 kW = 1000
36	GET	Phase L2 active power	DINT	1000 kW = 1000
37	GET	Phase L3 active power	DINT	1000 kW = 1000
38	GET	Phase L1 reactive power	DINT	1000 kvar = 1000
39	GET	Phase L2 reactive power	DINT	1000 kvar = 1000
40	GET	Phase L3 reactive power	DINT	1000 kvar = 1000
41	GET	Phase L1 apparent power	DINT	1000 kVA = 1000
42	GET	Phase L2 apparent power	DINT	1000 kVA = 1000
43	GET	Phase L3 apparent power	DINT	1000 kVA = 1000
44	GET	RMS active power	DINT	1000 kW = 1000
45	GET	RMS reactive power	DINT	1000 kvar = 1000
46	GET	RMS apparent power	DINT	1000 kVA = 1000
47	GET	Active power demand	DINT	1000 kW = 1000

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
48	GET	Reactive power demand	DINT	1000 kvar = 1000
49	GET	Apparent power demand	DINT	1000 kVA = 1000
50	GET	Power factor demand	DINT	1.00 = 100
51	GET	RMS active power demand	DINT	1000 kW = 1000
52	GET	RMS reactive power demand	DINT	1000 kvar = 1000
53	GET	RMS apparent power demand	DINT	1000 kVA = 1000
54	GET	T> Estimated time to trip	DINT	1 s = 1 999999999 = 'Infinite'
55	GET	Phase current IL1	UDINT	1A = 1
56	GET	Phase current IL2	UDINT	1A = 1
57	GET	Phase current IL3	UDINT	1A = 1
58	GET	Pos. sequence I1	UDINT	1A = 1
59	GET	Pos. sequence I2	UDINT	1A = 1
60	GET	Current - seq./+seq.	UDINT	1.0 % = 10
61	GET	Voltage – seq./+seq.	DINT	??=0, OK=1, Reverse=2
62	GET	External AI miscellaneous alarms	UDINT	Bit 0: Sensor 1 in SC Bit 1: Sensor 2 in SC : Bit 14: Sensor 15 in SC Bit 15: Sensor 16 in SC Bit 16: Sensor 1 DISC Bit 17: Sensor 2 DISC : Bit 30: Sensor 15 DISC Bit 31: Sensor 16 DISC SC=Short Circuit DISC=Disconnected

2.2.4 Special, Class Code 0x71, Instance 0x01

Table 2.2.4-1: Special, Class Code 0x71 Instance 0x01 (private object)

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
1	GET	1 byte padding	USINT	*
2	GET	2 bytes padding	UINT	*
3	GET SET	RPI	UDINT	Request Packet Interval
4	GET	Producing frame 100 size	UINT	Hidden parameter. For EtherNet/IP only.
5	GET	Consuming frame 150 size	UINT	Hidden parameter. For EtherNet/IP only.
6	GET	Producing frame 100 size	UINT	Hidden parameter. For DeviceNet only.
7	GET	Consuming frame 150 size	UINT	Hidden parameter. For DeviceNet only.

* Two additional items available to be added to assemblies:

- 1 byte padding
- 2 bytes padding

They can be used when the configuration tool requires assembly data to be word or double-word aligned, to appropriately align the assembly contents.

2.3 Private Objects – not included in assemblies

Additionally, the interface implementation includes 4 private objects with the configuration parameters of VAMP relay protection stages (StgProtCurrent Object, StgProtEF Object, StgProtOther Object, StgGeneral Object). Attributes of these objects are not available for including in the assemblies.

2.3.1 StgProtCurrent Object, Class Code 0x66, Instance 0x01

NOTE: Whenever in consecutive rows there are two attributes with the same names, the first attribute is for Setting Group 1 and the second for Setting Group 2. In the EDS file there will be also two attributes with the same description for first and second setting group respectively.

Table 2.3.1-1: StgProtCurrent Object, Class Code 0x66, Instance 0x01 (private object)

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
1	GET SET	Enable for I>	BOOL	Off=0, On=1
2	GET SET	Group	USINT	1=0, 2=1
3	GET SET	Pick-up setting	UDINT	1.00 xIn = 100
4	GET SET	Pick-up setting	UDINT	1.00 xIn = 100

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
5	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7
6	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7
7	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11
8	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11
9	GET SET	Inv. time coefficient k	UDINT	1.00 = 100
10	GET SET	Inv. time coefficient k	UDINT	1.00 = 100
11	GET SET	Include harmonics	BOOL	Off=0, On=1
12	GET SET	Constant A	UDINT	1.000 = 1000

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
13	GET SET	Constant B	UDINT	1.000 = 1000
14	GET SET	Constant C	UDINT	1.000 = 1000
15	GET SET	Constant D	UDINT	1.000 = 1000
16	GET SET	Constant E	UDINT	1.000 = 1000
17	GET SET	Enable for I>>	BOOL	Off=0, On=1
18	GET SET	Group	USINT	1=0, 2=1
19	GET SET	Pick-up setting	UDINT	1.00 xln = 100
20	GET SET	Pick-up setting	UDINT	1.00 xln = 100
21	GET SET	Operation delay	UDINT	1.00 s = 100
22	GET SET	Operation delay	UDINT	1.00 s = 100
23	GET SET	Enable for I>>>	BOOL	Off=0, On=1
24	GET SET	Group	USINT	1=0,2=1
25	GET SET	Pick-up setting	UDINT	1.00 xln = 100
26	GET SET	Pick-up setting	UDINT	1.00 xln = 100
27	GET SET	Operation delay	UDINT	1.00 s = 100
28	GET SET	Operation delay	UDINT	1.00 s = 100
29	GET SET	Enable for Idir>	BOOL	Off=0, On=1
30	GET SET	Group	USINT	1=0, 2=1
31	GET SET	Pick-up setting	UDINT	1.00 xln = 100
32	GET SET	Pick-up setting	UDINT	1.00 xln = 100
33	GET SET	Direction mode	USINT	Dir=0, Undir=1
34	GET SET	Direction mode	USINT	Dir=0, Undir=1
35	GET SET	Angle offset	UINT	1 ř = 1
36	GET SET	Angle offset	UINT	1 ř = 1
37	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
38	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7
39	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11
40	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11
41	GET SET	Inv. time coefficient k	UDINT	1.00 = 100
42	GET SET	Inv. time coefficient k	UDINT	1.00 = 100
43	GET SET	Constant A	UDINT	1.000 = 1000
44	GET SET	Constant B	UDINT	1.000 = 1000
45	GET SET	Constant C	UDINT	1.000 = 1000
46	GET SET	Constant D	UDINT	1.000 = 1000
47	GET SET	Constant E	UDINT	1.000 = 1000
48	GET SET	Enable for ldir>>	BOOL	Off=0, On=1
49	GET SET	Group	USINT	1=0,2=1
50	GET SET	Pick-up setting	UDINT	1.00 xln = 100

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
51	GET SET	Pick-up setting	UDINT	1.00 xIn = 100
52	GET SET	Direction mode	USINT	Dir=0, Undir=1
53	GET SET	Direction mode	USINT	Dir=0, Undir=1
54	GET SET	Angle offset	UINT	1 ř = 1
55	GET SET	Angle offset	UINT	1 ř = 1
56	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7
57	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7
58	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11
59	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
60	GET SET	Inv. time coefficient k	UDINT	1.00 = 100
61	GET SET	Inv. time coefficient k	UDINT	1.00 = 100
62	GET SET	Constant A	UDINT	1.000 = 1000
63	GET SET	Constant B	UDINT	1.000 = 1000
64	GET SET	Constant C	UDINT	1.000 = 1000
65	GET SET	Constant D	UDINT	1.000 = 1000
66	GET SET	Constant E	UDINT	1.000 = 1000
67	GET SET	Enable for Idir>>>	BOOL	Off=0, On=1
68	GET SET	Group	USINT	1=0, 2=1
69	GET SET	Pick-up setting	UDINT	1.00 xln = 100
70	GET SET	Pick-up setting	UDINT	1.00 xln = 100
71	GET SET	Direction mode	USINT	Dir=0, Undir=1
72	GET SET	Direction mode	USINT	Dir=0, Undir=1
73	GET SET	Angle offset	UINT	1 ř = 1
74	GET SET	Angle offset	UINT	1 ř = 1
75	GET SET	Operation delay	UDINT	1.00 s = 100
76	GET SET	Operation delay	UDINT	1.00 s = 100
77	GET SET	Enable for Idir>>>>	BOOL	Off=0, On=1
78	GET SET	Group	USINT	1=0, 2=1
79	GET SET	Pick-up setting	UDINT	1.00 xln = 100
80	GET SET	Pick-up setting	UDINT	1.00 xln = 100
81	GET SET	Direction mode	USINT	Dir=0, Undir=1
82	GET SET	Direction mode	USINT	Dir=0, Undir=1
83	GET SET	Angle offset	UINT	1 ř = 1
84	GET SET	Angle offset	UINT	1 ř = 1
85	GET SET	Operation delay	UDINT	1.00 s = 100
86	GET SET	Operation delay	UDINT	1.00 s = 100

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
87	GET SET	Enable for I2>	BOOL	Off=0, On=1
88	GET SET	Group	USINT	1=0, 2=1
89	GET SET	Pick-up setting	UDINT	1 % = 1
90	GET SET	Pick-up setting	UDINT	1 % = 1
91	GET SET	Delay type	USINT	DT=0, INV=1
92	GET SET	Delay type	USINT	DT=0, INV=1
93	GET SET	Operation delay	UDINT	1.0 s = 10
94	GET SET	Operation delay	UDINT	1.0 s = 10
95	GET SET	Enable for I2>>	BOOL	Off=0, On=1
96	GET SET	Enable for Ist>	BOOL	Off=0, On=1
97	GET SET	Motor start detection current	UDINT	1.00 xIn = 100
98	GET SET	Nom motor start current	UDINT	1.00 xIn = 100
99	GET SET	Delay type	USINT	DT=0, INV=1
100	GET SET	Operation delay	UDINT	1.0 s = 10
101	GET SET	Enable for N>	BOOL	Off=0, On=1
102	GET SET	Max motor starts/hour	UDINT	1 = 1
103	GET SET	Min time between motor starts	UDINT	1.0 min = 10
104	GET SET	Alarm on event	BOOL	Off=0, On=1
105	GET SET	Alarm off event	BOOL	Off=0, On=1
106	GET SET	Motor start disabled	BOOL	Off=0, On=1
107	GET SET	Motor start enabled	BOOL	Off=0, On=1
108	GET SET	Enable for I<	BOOL	Off=0, On=1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
109	GET SET	Group	USINT	1=0, 2=1
110	GET SET	Pick-up setting	UDINT	1 %ln = 1
111	GET SET	Pick-up setting	UDINT	1 %ln = 1
112	GET SET	Operation delay	UDINT	1.0 s = 10
113	GET SET	Operation delay	UDINT	1.0 s = 10
114	GET SET	Enable for Arcl>	BOOL	Off=0, On=1
115	GET SET	Pick-up setting	UDINT	1.0 pu = 10
116	GET SET	Arc inputs in use	USINT	S1=1, S2=2, S1/S2=3, BI=4, S1/BI=5, S2/BI=6, S1/S2/BI=7
117	GET SET	Enable for ΔI>	BOOL	Off=0, On=1
118	GET SET	dl> pick-up (Ibias < 0.5I _{gn})	UDINT	1 %ln = 1
119	GET SET	Slope1	UDINT	1 % = 1
120	GET SET	Ibias for start of slope 2	UDINT	1.00 xln = 100
121	GET SET	Slope2	UDINT	1 % = 1
122	GET SET	dl> 2.harm. block enable	BOOL	Off=0, On=1
123	GET SET	dl> 2.harm. block limit	UDINT	1 % = 1
124	GET SET	Enable for ΔI>>	BOOL	Off=0, On=1
125	GET SET	Pick-up setting	UDINT	1.0 xln = 10
126	GET SET	Enable for I'2>	BOOL	Off=0, On=1
127	GET SET	Group	USINT	1=0, 2=1
128	GET SET	Pick-up setting	UDINT	1 % = 1
129	GET SET	Pick-up setting	UDINT	1 % = 1
130	GET SET	Delay type	USINT	DT=0, INV=1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
131	GET SET	Delay type	USINT	DT=0, INV=1
132	GET SET	Operation delay	UDINT	1.0 s = 10
133	GET SET	Operation delay	UDINT	1.0 s = 10
134	GET SET	Enable for I'>	BOOL	Off=0, On=1
135	GET SET	Group	USINT	1=0, 2=1
136	GET SET	Pick-up setting	UDINT	1.00 xln = 100
137	GET SET	Pick-up setting	UDINT	1.00 xln = 100
138	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7
139	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7
140	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
141	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11
142	GET SET	Inv. time coefficient k	UDINT	1.00 = 100
143	GET SET	Inv. time coefficient k	UDINT	1.00 = 100
144	GET SET	Constant A	UDINT	1.000 = 1000
145	GET SET	Constant B	UDINT	1.000 = 1000
146	GET SET	Constant C	UDINT	1.000 = 1000
147	GET SET	Constant D	UDINT	1.000 = 1000
148	GET SET	Constant E	UDINT	1.000 = 1000
149	GET SET	Enable for I'>>	BOOL	Off=0, On=1
150	GET SET	Group	USINT	1=0, 2=1
151	GET SET	Pick-up setting	UDINT	1.00 xln = 100
152	GET SET	Pick-up setting	UDINT	1.00 xln = 100
153	GET SET	Operation delay	UDINT	1.00 s = 100
154	GET SET	Operation delay	UDINT	1.00 s = 100

2.3.2 StgProtEF, Class Code 0x67, Instance 0x01

NOTE: Whenever in consecutive rows there are two attributes with the same names, the first attribute is for Setting Group 1 and the second for Setting Group 2. In the EDS file there will be also two attributes with the same description for first and second setting group respectively.

Table 2.3.2-1: StgProtEF, Class Code 0x67, Instance 0x01 (private object)

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
1	GET SET	Enable for Io>	BOOL	Off=0, On=1
2	GET SET	Group	USINT	1=0, 2=1
3	GET SET	Pick-up setting	UDINT	1.000 pu = 1000
4	GET SET	Pick-up setting	UDINT	1.000 pu = 1000
5	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7
6	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7
7	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
8	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11
9	GET SET	Operation delay	UDINT	1.00 s = 100
10	GET SET	Operation delay	UDINT	1.00 s = 100
11	GET SET	Intermittent time	UDINT	1.00 s = 100
12	GET SET	Constant A	UDINT	1.000 = 1000
13	GET SET	Constant B	UDINT	1.000 = 1000
14	GET SET	Constant C	UDINT	1.000 = 1000
15	GET SET	Constant D	UDINT	1.000 = 1000
16	GET SET	Constant E	UDINT	1.000 = 1000
17	GET SET	Enable for Io>>	BOOL	Off=0, On=1
18	GET SET	Group	USINT	1=0, 2=1
19	GET SET	Pick-up setting	UDINT	1.00 pu = 100
20	GET SET	Pick-up setting	UDINT	1.00 pu = 100
21	GET SET	Operation delay	UDINT	1.00 s = 100
22	GET SET	Operation delay	UDINT	1.00 s = 100
23	GET SET	Enable for IoDir>	BOOL	Off=0, On=1
24	GET SET	Group	USINT	1=0, 2=1
25	GET SET	Direction mode	USINT	ResCap=0, Sector=1, Undir=2
26	GET SET	Direction mode	USINT	ResCap=0, Sector=1, Undir=2

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
27	GET SET	Char ctrl. in ResCap mode	USINT	Res=0, Cap=1, DI1=2, DI2=3, DI3=4, DI4=5, DI5=6, DI6=7, DI7=8, DI8=9, DI9=10, DI10=11
28	GET SET	Char ctrl. in ResCap mode	USINT	Res=0, Cap=1, DI1=2, DI2=3, DI3=4, DI4=5, DI5=6, DI6=7, DI7=8, DI8=9, DI9=10, DI10=11
29	GET SET	Pick-up setting	UDINT	1.000 pu = 1000
30	GET SET	Pick-up setting	UDINT	1.000 pu = 1000
31	GET SET	Uo setting for loDir> stage	UDINT	1 % = 1
32	GET SET	Uo setting for loDir> stage	UDINT	1 % = 1
33	GET SET	Angle offset	UINT	1 ř = 1
34	GET SET	Angle offset	UINT	1 ř = 1
35	GET SET	Pick up sector size	UINT	1 ř = 1
36	GET SET	Pick up sector size	UINT	1 ř = 1
37	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
38	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7
39	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11
40	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11
41	GET SET	Operation delay	UDINT	1.00 s = 100
42	GET SET	Operation delay	UDINT	1.00 s = 100
43	GET SET	Constant A	UDINT	1.000 = 1000
44	GET SET	Constant B	UDINT	1.000 = 1000
45	GET SET	Constant C	UDINT	1.000 = 1000
46	GET SET	Constant D	UDINT	1.000 = 1000
47	GET SET	Constant E	UDINT	1.000 = 1000
48	GET SET	Enable for IoDir>>	BOOL	Off=0, On=1
49	GET SET	Group	USINT	1=0, 2=1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
50	GET SET	Direction mode	USINT	ResCap=0, Sector=1, Undir=2
51	GET SET	Direction mode	USINT	ResCap=0, Sector=1, Undir=2
52	GET SET	Char ctrl. in ResCap mode	USINT	Res=0, Cap=1, DI1=2, DI2=3, DI3=4, DI4=5, DI5=6, DI6=7, DI7=8, DI8=9, DI9=10, DI10=11
53	GET SET	Char ctrl. in ResCap mode	USINT	Res=0, Cap=1, DI1=2, DI2=3, DI3=4, DI4=5, DI5=6, DI6=7, DI7=8, DI8=9, DI9=10, DI10=11
54	GET SET	Pick-up setting	UDINT	1.00 pu = 100
55	GET SET	Pick-up setting	UDINT	1.00 pu = 100
56	GET SET	Uo setting for loDir> stage	UDINT	1 % = 1
57	GET SET	Uo setting for loDir> stage	UDINT	1 % = 1
58	GET SET	Angle offset	UINT	1 ř = 1
59	GET SET	Angle offset	UINT	1 ř = 1
60	GET SET	Pick up sector size	UINT	1 řř = 1
61	GET SET	Pick up sector size	UINT	1 řř = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
62	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7
63	GET SET	Delay curve family	USINT	DT=0, IEC=1, IEEE=2, IEEE2=3, RI=4, Prg1=5, Prg2=6, Prg3=7
64	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11
65	GET SET	Delay type	USINT	DT=0, NI=1, VI=2, EI=3, LTI=4, LTEI=5, LTVI=6, MI=7, STI=8, STEI=9, RI=10, RXIDG=11
66	GET SET	Operation delay	UDINT	1.00 s = 100
67	GET SET	Operation delay	UDINT	1.00 s = 100
68	GET SET	Constant A	UDINT	1.000 = 1000
69	GET SET	Constant B	UDINT	1.000 = 1000
70	GET SET	Constant C	UDINT	1.000 = 1000
71	GET SET	Constant D	UDINT	1.000 = 1000

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
72	GET SET	Constant E	UDINT	1.000 = 1000
73	GET SET	Enable for Io>>>	BOOL	Off=0, On=1
74	GET SET	Group	USINT	1=0, 2=1
75	GET SET	Pick-up setting	UDINT	1.00 pu = 100
76	GET SET	Pick-up setting	UDINT	1.00 pu = 100
77	GET SET	Operation delay	UDINT	1.00 s = 100
78	GET SET	Operation delay	UDINT	1.00 s = 100
79	GET SET	Compensation mode	BOOL	Off=0, On=1
80	GET SET	Compensation current	UDINT	1.000 pu = 1000
81	GET SET	Save unbalance current	USINT	Get=1
82	GET SET	'Saving unbal' event	BOOL	Off=0, On=1
83	GET SET	'Unbal saved' event	BOOL	Off=0, On=1
84	GET SET	Enable for Io>>>>	BOOL	Off=0, On=1
85	GET SET	Group	USINT	1=0, 2=1
86	GET SET	Pick-up setting	UDINT	1.00 pu = 100
87	GET SET	Pick-up setting	UDINT	1.00 pu = 100
88	GET SET	Operation delay	UDINT	1.00 s = 100
89	GET SET	Operation delay	UDINT	1.00 s = 100
90	GET SET	Compensation mode	BOOL	Off=0, Normal=1, Location=2
91	GET SET	Compensation current	UDINT	1.000 pu = 1000
92	GET SET	Save unbalance current	USINT	Get=1
93	GET SET	Max allowed faults	UINT	1 = 1
94	GET SET	Clear location counters	USINT	Clear=1
95	GET SET	'Saving unbal' event	BOOL	Off=0, On=1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
96	GET SET	'Unbal saved' event	BOOL	Off=0, On=1
97	GET SET	Enable for IoInt>	BOOL	Off=0, On=1
98	GET SET	Group	USINT	1=0, 2=1
99	GET SET	Uo pick-up	UDINT	1 % = 1
100	GET SET	Uo pick-up	UDINT	1 % = 1
101	GET SET	Operation delay	UDINT	1.00 s = 100
102	GET SET	Operation delay	UDINT	1.00 s = 100
103	GET SET	Intermittent time	UDINT	1.00 s = 100
104	GET SET	Enable for Uo>	BOOL	Off=0, On=1
105	GET SET	Group	USINT	1=0, 2=1
106	GET SET	Pick-up setting	UDINT	1 % = 1
107	GET SET	Pick-up setting	UDINT	1 % = 1
108	GET SET	Operation delay	UDINT	1.0 s = 10
109	GET SET	Operation delay	UDINT	1.0 s = 10
110	GET SET	Enable for Uo>>	BOOL	Off=0, On=1
111	GET SET	Group	USINT	1=0, 2=1
112	GET SET	Pick-up setting	UDINT	1 % = 1
113	GET SET	Pick-up setting	UDINT	1 % = 1
114	GET SET	Operation delay	UDINT	1.0 s = 10
115	GET SET	Operation delay	UDINT	1.0 s = 10
116	GET SET	Enable for Arclo1>	BOOL	Off=0, On=1
117	GET SET	Pick-up setting	UDINT	1.00 pu = 100
118	GET SET	Arc inputs in use	USINT	S1=1, S2=2, S1/S2=3, BI=4, S1/BI=5, S2/BI=6, S1/S2/BI=7
119	GET SET	Enable for Arclo2>	BOOL	Off=0, On=1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
120	GET SET	Pick-up setting	UDINT	1.00 pu = 100
121	GET SET	Arc inputs in use	USINT	S1=1, S2=2, S1/S2=3, BI=4, S1/BI=5, S2/BI=6, S1/S2/BI=7

2.3.3 StgProtOther, Class Code 0x68, Instance 0x01

NOTE: Whenever in consecutive rows there are two attributes with the same names, the first attribute is for Setting Group 1 and the second for Setting Group 2. In the EDS file there will be also two attributes with the same description for first and second setting group respectively.

Table 2.3.3-1: StgProtOther, Class Code 0x68, Instance 0x01 (private object)

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
1	GET SET	Enable for U>	BOOL	Off=0, On=1
2	GET SET	Group	USINT	1=0, 2=1
3	GET SET	Pick-up setting	UDINT	1 %Un = 1
4	GET SET	Pick-up setting	UDINT	1 %Un = 1
5	GET SET	Operation delay	UDINT	1.00 s = 100
6	GET SET	Operation delay	UDINT	1.00 s = 100
7	GET SET	Release delay	UDINT	1.00 s = 100
8	GET SET	Hysteresis	UDINT	1.0 % = 10
9	GET SET	Enable for U>>	BOOL	Off=0, On=1
10	GET SET	Group	USINT	1=0, 2=1
11	GET SET	Pick-up setting	UDINT	1 %Un = 1
12	GET SET	Pick-up setting	UDINT	1 %Un = 1
13	GET SET	Operation delay	UDINT	1.00 s = 100
14	GET SET	Operation delay	UDINT	1.00 s = 100
15	GET SET	Hysteresis	UDINT	1.0 % = 10
16	GET SET	Enable for U>>>	BOOL	Off=0, On=1
17	GET SET	Group	USINT	1=0, 2=1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
18	GET SET	Pick-up setting	UDINT	1 %Un = 1
19	GET SET	Pick-up setting	UDINT	1 %Un = 1
20	GET SET	Operation delay	UDINT	1.00 s = 100
21	GET SET	Operation delay	UDINT	1.00 s = 100
22	GET SET	Hysteresis	UDINT	1.0 % = 10
23	GET SET	Enable for U<	BOOL	Off=0, On=1
24	GET SET	Group	USINT	1=0, 2=1
25	GET SET	Pick-up setting	UDINT	1 %Un = 1
26	GET SET	Pick-up setting	UDINT	1 %Un = 1
27	GET SET	Operation delay	UDINT	1.00 s = 100
28	GET SET	Operation delay	UDINT	1.00 s = 100
29	GET SET	Low voltage blocking	UDINT	1 %Un = 1
30	GET SET	Low voltage blocking	UDINT	1 %Un = 1
31	GET SET	Release delay	UDINT	1.00 s = 100
32	GET SET	Hysteresis	UDINT	1.0 % = 10
33	GET SET	Enable for U<<	BOOL	Off=0, On=1
34	GET SET	Group	USINT	1=0, 2=1
35	GET SET	Pick-up setting	UDINT	1 %Un = 1
36	GET SET	Pick-up setting	UDINT	1 %Un = 1
37	GET SET	Operation delay	UDINT	1.00 s = 100
38	GET SET	Operation delay	UDINT	1.00 s = 100
39	GET SET	Low voltage blocking	UDINT	1 %Un = 1
40	GET SET	Low voltage blocking	UDINT	1 %Un = 1
41	GET SET	Hysteresis	UDINT	1.0 % = 10
42	GET SET	Enable for U<<<	BOOL	Off=0, On=1
43	GET SET	Group	USINT	1=0, 2=1
44	GET SET	Pick-up setting	UDINT	1 %Un = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
45	GET SET	Pick-up setting	UDINT	1 %Un = 1
46	GET SET	Operation delay	UDINT	1.00 s = 100
47	GET SET	Operation delay	UDINT	1.00 s = 100
48	GET SET	Low voltage blocking	UDINT	1 %Un = 1
49	GET SET	Low voltage blocking	UDINT	1 %Un = 1
50	GET SET	Hysteresis	UDINT	1.0 % = 10
51	GET SET	Enable for fX	BOOL	Off=0, On=1
52	GET SET	Group	USINT	1=0, 2=1
53	GET SET	Pick-up setting	UDINT	50.00 Hz = 5000
54	GET SET	Pick-up setting	UDINT	50.00 Hz = 5000
55	GET SET	Operation delay	UDINT	1.00 s = 100
56	GET SET	Operation delay	UDINT	1.00 s = 100
57	GET SET	Low voltage blocking	UDINT	1 %Un = 1
58	GET SET	Enable for fXX	BOOL	Off=0, On=1
59	GET SET	Group	USINT	1=0, 2=1
60	GET SET	Pick-up setting	UDINT	50.00 Hz = 5000
61	GET SET	Pick-up setting	UDINT	50.00 Hz = 5000
62	GET SET	Operation delay	UDINT	1.00 s = 100
63	GET SET	Operation delay	UDINT	1.00 s = 100
64	GET SET	Low voltage blocking	UDINT	1 %Un = 1
65	GET SET	Enable for f<	BOOL	Off=0, On=1
66	GET SET	Group	USINT	1=0, 2=1
67	GET SET	Pick-up setting	UDINT	50.00 Hz = 5000
68	GET SET	Pick-up setting	UDINT	50.00 Hz = 5000
69	GET SET	Operation delay	UDINT	1.00 s = 100
70	GET SET	Operation delay	UDINT	1.00 s = 100
71	GET SET	Low voltage blocking	UDINT	1 %Un = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
72	GET SET	Enable for f<<	BOOL	Off=0, On=1
73	GET SET	Group	USINT	1=0, 2=1
74	GET SET	Pick-up setting	UDINT	50.00 Hz = 5000
75	GET SET	Pick-up setting	UDINT	50.00 Hz = 5000
76	GET SET	Operation delay	UDINT	1.00 s = 100
77	GET SET	Operation delay	UDINT	1.00 s = 100
78	GET SET	Low voltage blocking	UDINT	1 %Un = 1
79	GET SET	Enable for df/dt	BOOL	Off=0, On=1
80	GET SET	Group	USINT	1=0, 2=1
81	GET SET	Pick-up setting	UDINT	1.0 Hz/s = 10
82	GET SET	Pick-up setting	UDINT	1.0 Hz/s = 10
83	GET SET	Operation delay	UDINT	1.00 s = 100
84	GET SET	Operation delay	UDINT	1.00 s = 100
85	GET SET	Minimum delay	UDINT	1.00 s = 100
86	GET SET	Minimum delay	UDINT	1.00 s = 100
87	GET SET	Enable for P<	BOOL	Off=0, On=1
88	GET SET	Group	USINT	1=0, 2=1
89	GET SET	Pick-up setting	UDINT	1.0 %Sn = 10
90	GET SET	Pick-up setting	UDINT	1.0 %Sn = 10
91	GET SET	Operation delay	UDINT	1.0 s = 10
92	GET SET	Operation delay	UDINT	1.0 s = 10
93	GET SET	Enable for P<<	BOOL	Off=0, On=1
94	GET SET	Group	USINT	1=0, 2=1
95	GET SET	Pick-up setting	UDINT	1 %Sn = 1
96	GET SET	Pick-up setting	UDINT	1 %Sn = 1
97	GET SET	Operation delay	UDINT	1.0 s = 10
98	GET SET	Operation delay	UDINT	1.0 s = 10

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
99	GET SET	Enable for T>	BOOL	Off=0, On=1
100	GET SET	Maximum continuous current	UDINT	1.00 xIn = 100
101	GET SET	Alarm setting	UDINT	1 % = 1
102	GET SET	Time constant tau	UINT	1 min = 1
103	GET SET	Rel. cooling time constant	UDINT	1.0 x tau = 10
104	GET SET	Max overload at +40C	UDINT	1 %In = 1
105	GET SET	Max overload at +70C	UDINT	1 %In = 1
106	GET SET	Ambient temperature	UINT	1 řC = 1
107	GET SET	Ambient temp. sensor	USINT	ExtAI1=1, ExtAI2=2, ExtAI3=3, ExtAI4=4, ExtAI5=5, ExtAI6=6, ExtAI7=7, ExtAI8=8, ExtAI8=9, ExtAI9=10, ExtAI10=11, ExtAI11=12, ExtAI12=13, ExtAI13=14, ExtAI14=15, ExtAI15=16,
108	GET SET	Enable for CBFP	BOOL	Off=0, On=1
109	GET SET	Monitored Trip relay	USINT	T1=1, T2=2, T3=3, T4=4, T5=5, T6=6, T7=7, T8=8, T9=9, T10=10, T11=11, T12=12, T13=13

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
110	GET SET	Operation delay	UDINT	1.00 s = 100

2.3.4 StgGeneral, Class Code 0x69, Instance 0x01

NOTE: Whenever in consecutive rows there are two attributes with the same names, the first attribute is for Setting Group 1 and the second for Setting Group 2. In the EDS file there will be also two attributes with the same description for first and second setting group respectively.

Table 2.3.4-1: StgGeneral, Class Code 0x69, Instance 0x01 (private object)

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
1	GET SET	CT primary	UDINT	1 A = 1
2	GET SET	CT secondary	UINT	1 A = 1
3	GET	Nominal input	UINT	1 A = 1
4	GET SET	Io1 CT primary	UDINT	1 A = 1
5	GET SET	Io1 CT secondary	UDINT	1.0 A = 10
6	GET	Nominal Io1 input	UDINT	1.0 A = 10
7	GET SET	Io2 CT primary	UDINT	1 A = 1
8	GET SET	Io2 CT secondary	UDINT	1.0 A = 10
9	GET	Nominal Io2 input	UDINT	1.0 A = 10
10	GET SET	VT primary	UDINT	1 V = 1
11	GET SET	VT secondary	UINT	1 V = 1
12	GET SET	VTo secondary	UDINT	1.000 V = 1000
13	GET SET	Motor nom current	UDINT	1.0 A = 10
14	GET SET	Generator nom voltage	UINT	1 V = 1
15	GET SET	Generator nom power	UDINT	1 kVA = 1
16	GET SET	Nominal shaft power Pm	UDINT	1 kW = 1
17	GET SET	Is there a unit trafo?	BOOL	Off=0, On=1
18	GET SET	Bus bar nominal voltage	UDINT	1 V = 1
19	GET SET	Genrtr side nom voltage	UDINT	1 V = 1

Attr. ID	Access	Name	Data Type	Scaling / Description of Attribute
20	GET SET	Connection group	USINT	Yy0=0, Yy6=1, Yd1=2, Yd5=3, Yd7=4, Yd11=5, Dy1=6, Dy5=7, Dy7=8, Dy11=9, Dd0=10

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