EXOLINE GATEWAY
Version 2.4

Overview

The GoldenGate will be an EXOline slave, and will be connected to the network with two-wire RS485.

Slave address (PLA, ELA)

The slave address of an EXOline slave consists of two bytes PLA and ELA.
Because of this, the 8 bit dip switch can't be used to set address, the address will therefore be set with the configuration program.

EXOline Data formats

EXOline data types that will be used:

EXOline Type	Description
Logical var.	1 bit Discrete value
Index var.	One byte unsigned value
Real var.	Floating point value

Supported EXOline commands.

The Gateway module supports these EXOline commands.

Opc	Hex	Dec	Interpretation	Data	Answer
SLV	01	1	Set logical var.	DLn Cell Value	Ok!
SLP	2F	47	Set logic segment var.	DLn Seg Offs Value	Ok!
SXV	02	2	Set index var.	DLn Cell Value	Ok!
SXP	B0	176	Set index segment var.	DLn Seg Offs Value	Ok!
SRV	04	4	Set real var.	DLn Cell Value (4)	Ok!
SRP	32	50	Set real segment var.	DLn Seg Offs Value (4)	Ok!
RLV	86	134	Read logical var.	DLn Cell	Value
RLP	B3	179	Read logic segment var.	DLn Seg Offset	Value
RXV	07	7	Read index var.	DLn Cell	Value
RXP	34	52	Read index segment var.	DLn Seg Offset	Value
RRV	89	137	Read real var.	DLn Cell	Value (4)
RRP	B6	182	Read real segment var.	DLn Seg Offset	Value (4)

Return error codes

The following error codes will be used.

Error code	Error	Fault that can occur
01h	Wrong data type	Accessing Cell with wrong data type.
07h	The DPac does not exist.	Accessing a Dpac that's not used.
19h	Illegal parameter value	Try to write to an "Read only" or value is out of range.
25h	Illegal cell number	Accessing Cell number that is not first Cell of a real var. Accessing Cell number that is not used.
26h	Illegal command	Command not supported
27h	Illegal message length	Wrong message length for command.
04h	Illegal DPac load number	
05h	The DPac (or DPac segment) does not exist	

Real var. Vpac 2 (RO)

Index	Cell nbr.	Name	Min/Max verA	Min/Max verB
1	0	SA temp.	0-40.00°C	-55.00-125.00°C
		Current supply air temperature.		
2	3	EA temp.	0-40.00°C	-55.00-125.00°C
		Current exhaust air temperature.		
3	6	OUT-D temp.	-10.00-40.00°C	-55.00-125.00°C
		Current outdoor air temperature.		
4	9	FP temp.	0-40.00°C	-55.00-125.00°C
		Current frost protection temperature.		
5	12	SA-Regulator.	0-40.00°C	-55.00-125.00°C
		Current supply air regulator temperature setpoint.		
6	15	SF level.	0-100.0%	0-100.0%
		Current running level for the supply air fan.		
7	18	EF level.	0-100.0%	0-100.0%
		Current running level for the exhaust air fan.		
8	21	EA filter level.	0-100.0%	0-2000Pa
		Current level for the exhaust air filter.		
9	24	SA filter level.	0-100.0%	0-2000Pa
		Current level for the supply air filter.		
10	27	Heat exch. Level.	0-100.0%	0-100.0%
		Current level for the heat exchanger.		
11	30	Reheat level.	0-100.0%	0-100.0%
		Current level for the reheater coil.		
12	33	Cooling level.	0-100.0%	0-100.0%
		Current level for cooling.		
13	36	SF flow.	0-4000l/s	0-8000l/s
		Current supply air fan flow.		
14	39	EF flow.	0-4000l/s	0-8000l/s
		Current exhaust air fan flow.		
15	42	SF VAV level.	0-100.0%	0-100.0%
		Current level of the supply air input signal for the VAV/Forcing function .		
16	45	EF VAV level.	0-100.0%	0-100.0%

		Current level of the exhaust air input signal for the VAV/Forcing function .		
17	48	SF filter alarm level.	Not used	0-2000Pa
		Current alarm level for the supply air filter.		
18	51	EF filter alarm level.	Not used	0-2000Pa
		Current alarm level for the exhaust air filter.		
19	54	SF flow regulation.	0-4000l/s	0-8000l/s
		Current supply fan regulator flow setpoint.		
20	57	EF flow regulation.	0-4000l/s	0-8000l/s
		Current exhaust fan regulator flow setpoint.		
21	60	EA temp regulation.	0-40.00°C	0-40.00°C
		Current exhaust air regulator temperature setpoint.		
22	63	SF VAV regulation.	Not used	0-100.0%
		Current level for the supply fan VAV regulator.		
23	66	EF VAV regulation.	Not used	0-100.0%
		Current level for the exhaust fan VAV regulator.		
24	69	Coolforcing level.	0-100.0%	0-100.0%
		Current level for coolforcing.		
25	72	Operating time.	0-9999	0-9999
		Shows how many 24-hour days the unit operated.		

Index var. Vpac 3 (RO)

Index	Cell nbr.	Name	Min/Max verA	Min/Max verB
1	0	Menu no. / Operation mode	1-120	0-255
		VerA indicates the AHU handterminal menu. VerB operationstatus for the AHU. 00=Stop alarm, 01=Manual stop, 02=Ext.stop, 03=RS232 stop, 04=S-CL stop, 10=Manual LS, 11=S-CL LS, 12=Ext.LS, 13=RS232 LS, 14=Prolonged LS, 20=Manual HS, 21=Ext.HS, 22=RS232 HS, 23=S-CL HS, 24=Prolonged HS, 30=SN-Cool, 31=Reecooling, 40=Manual test OP, 41=Duct airflow adj, 42=Filtercalibration.		
2	1	Delayed ext. LS_min.	Not used	0-59
		Remaining time for prolonged lowspeed.		
3	2	Delayed ext. LS_hour.	Not used	0-17
		Remaining time for prolonged lowspeed.		
4	3	Delayed ext. HS_min.	0-59	0-59
		Remaining time for prolonged highspeed.		
5	4	Delayed ext. HS_hour.	0-17	0-17
		Remaining time for prolonged highspeed.		
6	5	Alarm No.	0-255	0-49
		Active alarm No.		
7	6	Air handling unit.	0-1	0-2
		0=No communication. 1=Version 4 or A. 2=Version B.		
8	7	Program version.	Not used	0-255
		Program version in GOLD AHU.		

Logical var. Vpac 4 (RO)

Index	Cell no.	Name	Min/Max verA	Min/Max verB
1	0	Cool energy recovery.	0-1	0-1
		Indicates if the function is active.		
2	1	Summer night cooling.	0-1	0-1
		Indicates if the function is active.		
3	2	Group alarm-A	0-1	0-1
		Indicates if the alarm relay output-A is active.		
4	3	Group alarm-B	0-1	0-1
		Indicates if the alarm relay output-B is active.		
5	4	Highspeed operation.	0-1	0-1
		Indicates all operating cases.		
6	5	Lowspeed operation.	0-1	0-1
		Indicates all operating cases.		
7	6	Stop.	0-1	0-1
		Indicates all operating cases.		
8	7	Heating indication relay.	Not used	0-1
		Indicates if the heating function is active.		
9	8	Cooling relay, stage 1.	0-1	0-1
		Indicates if the cooling function stage 1 is active.		
10	9	Cooling relay, stage 2.	Not used	0-1
		Indicates if the cooling function stage 2 is active.		
11	10	Cooling compressor 1.	Not used	0-1
		Indicates if the compressor 1, in Cooler is active.		
12	11	Cooling compressor 2.	Not used	0-1
		Indicates if the compressor 2, in Cooler is active.		
13	12	Reserve 1.	0	0
		Not used in this version.		
14	13	Reserve 2.	0	0
		Not used in this version.		
15	14	Reserve 3.	0	0
		Not used in this version.		
16	15	Reserve 4.	0	0
		Not used in this version.		

17	16	Alarm no. 1.	0-1	0-1
18	17	Alarm no. 2.	0-1	0-1
19	18	Alarm no. 3.	0-1	0-1
20	19	Alarm no. 4.	0-1	0-1
21	20	Alarm no. 5.	0-1	0-1
22	21	Alarm no. 6.	0-1	0-1
23	22	Alarm no. 7.	0-1	0-1
24	23	Alarm no. 8.	0-1	0-1
25	24	Alarm no. 9.	0-1	0-1
26	25	Alarm no. 10.	0-1	0-1
27	26	Alarm no. 11.	0-1	0-1
28	27	Alarm no. 12.	0-1	0-1
29	28	Alarm no. 13.	0-1	0-1
30	29	Alarm no. 14.	0-1	0-1
31	30	Alarm no. 15.	0-1	0-1
32	31	Alarm no. 16.	0-1	0-1
33	32	Alarm no. 17.	0-1	0-1
34	33	Alarm no. 18.	0-1	0-1
35	34	Alarm no. 19.	0-1	0-1
36	35	Alarm no. 20.	0-1	0-1
37	36	Alarm no. 21.	0-1	0-1

38	37	Alarm no. 22.	0-1	0-1
39	38	Alarm no. 23.	0-1	0-1
40	39	Alarm no. 24.	0-1	0-1
41	40	Alarm no. 25.	0-1	0-1
42	41	Alarm no. 26.	0-1	0-1
43	42	Alarm no. 27.	0-1	0-1
44	43	Alarm no. 28.	0-1	0-1
45	44	Alarm no. 29.	0-1	0-1
46	45	Alarm no. 30.	0-1	0-1
47	46	Alarm no. 31.	0-1	0-1
48	47	Alarm no. 32.	0-1	0-1
49	48	Alarm no. 33.	0-1	0-1
50	49	Alarm no. 34.	0-1	0-1
51	50	Alarm no. 35.	0-1	0-1
52	51	Alarm no. 36.	0-1	0-1
53	52	Alarm no. 37.	0-1	0-1
54	53	Alarm no. 38.	0-1	0-1
55	54	Alarm no. 39.	0-1	0-1
56	55	Alarm no. 40.	0-1	0-1
57	56	Alarm no. 41.	0-1	0-1

58	57	Alarm no. 42.	0-1	0-1
59	58	Alarm no. 43.	0-1	0-1
60	59	Alarm no. 44.	0-1	0-1
61	60	Alarm no. 45.	0-1	0-1
62	61	Alarm no. 46.	0-1	0-1
63	62	Alarm no. 47.	0-1	0-1
64	63	Alarm no. 48.	0-1	0-1
65	64	Alarm no. 49.	Not used	0-1
66	65	Alarm no. 50.	Not used	0-1
67	66	Alarm no. 51.	Not used	0-1
68	67	Alarm no. 52.	Not used	0-1
69	68	Alarm no. 53.	Not used	0-1
70	69	Alarm no. 54.	Not used	0-1
71	70	Alarm no. 55.	Not used	0-1
72	71	Alarm no. 56.	Not used	0-1
73	72	Alarm no. 57.	Not used	0-1
74	73	Alarm no. 58.	Not used	0-1
75	74	Alarm no. 59.	Not used	0-1
76	75	Alarm no. 60.	Not used	0-1
77	76	Alarm no. 61.	Not used	0-1

Real var. Vpac 5 (R/W)

Index	Cell nbr.	Name	Min/Max verA	Min/Max verB
1	0	SF lowspeed.	0-13 000 l/s	0-8000 l/s
		Air flow setpoint of the supply air fan running at lowspeed.		
2	3	SF highspeed.	0-13 000 l/s	0-8000 l/s
		Air flow setpoint of the supply air fan running at highspeed.		
3	6	SF maxspeed.	0-13 000 l/s	0-8000 l/s
		Air flow max. limit of the supply air fan.		
4	9	EF lowspeed.	0-13 000 l/s	0-8000 l/s
		Air flow setpoint of the exhaust air fan running at lowspeed.		
5	12	EF highspeed.	0-13 000 l/s	0-8000 l/s
		Air flow setpoint of the exhaust air fan running at highspeed.		
6	16	EF maxspeed.	0-13 000 l/s	0-8000 l/s
		Air flow max. limit of the supply air fan.		
7	18	SA temp set.	0-40.00°C	10-40.00°C
		Supply air temperature setpoint.		
8	21	ERS DIFF.	0-40.00°C	1.00-10.00°C
		Differential temperature at ERS-reg.		
9	24	ERS Brakepoint.	0-40.00°C	10.00-30.00°C
		Brakepoint temperature at ERS-reg.		
10	27	EA temp set.	0-40.00°C	10.00-40.00°C
		Exhaust air temperature setpoint.		
11	30	Alarmlimit SF filter.	0-99.0%	0-99.0%
		Alarmlimit setpoint of the supply air filter.		
12	33	Alarmlimit EF filter.	0-99.0%	0-99.0%
		Alarmlimit setpoint of the exhaust air filter.		
13	36	SN-COOL EA temp Start.	0-40.00°C	20.00-30.00°C
		Temperature limit for the summer-night cooling function.		
14	39	SN-COOL EA temp Stop.	0-40.00°C	10.00-18.00°C
		Temperature limit for the summer-night cooling function.		
15	42	SN-COOL OUT temp Start.	0-40.00°C	10.00-15.00°C
		Temperature limit for the summer-night cooling function.		

16	45	SF VAV higspeed set.	0-100.0%	0-100.0%
		Duct pressure setpoint of the supply air fan running at highspeed.		
17	48	EF VAV highspeed set.	0-100.0%	0-100.0%
		Duct pressure setpoint of the exhaust air fan running at highspeed.		
18	51	Min SA temp.	0-40.00°C	10.00-20.00°C
		Min. supply air temperature setpoint in conjunction with EA-regulation.		
19	54	Max SA temp.	0-40.00°C	30.00-50.00°C
		Max. supply air temperature setpoint in conjunction with EA-regulation.		
20	57	SF downreg. NZ.	Not used	0-9.90°C
		Neutralzone before dowregulation of the supply air fan gains.		
21	60	SF VAV lowspeed set.	Not used	0-100.0%
		Duct pressure setpoint of the supply air fan running at lowspeed.		
22	63	EF VAV lowspeed set.	Not used	0-100.0%
		Duct pressure setpoint of the exhaust air fan running at lowspeed.		
23	66	Outdoor temp comp. X1.	Not used	-30.00-(-10.00)°C
		Indicate where the winter comp. curve ends.		
24	69	Outdoor temp comp. X2.	Not used	-10.00-15.00°C
		Indicate where the winter comp. curve begins.		
25	72	Outdoor temp comp. X3.	Not used	15.00-25.00°C
		Indicate where the summer comp. curve begins.		
26	75	Outdoor temp comp. X4.	Not used	25.00-40.00°C
		Indicate where the summer comp. curve ends.		
27	78	Outdoor temp comp. Y1.	0-10.00°C	0-10.00°C
		Indicate the maximum level of winter comp.		
28	81	Outdoor temp comp. Y2.	-10.00-10.00°C	-10.00-10.00°C
		Indicate the maximum level of summer comp.		
29	84	Outdoor flow comp. X1.	Not used	-30.00-(-10.00)°C
		Indicate where the winter comp. curve ends.		

30	87	Outdoor flow comp. X2.	Not used	-10.00-20.00°C
		Indicate where the winter comp. curve begins.		
31	90	Outdoor flow comp. Y1.	Not used	0-50.0%
		Indicate the maximum level of winter comp.		
32	93	Neutral zone.	0.50-5.00°C	0.50-10.00°C
		Setting of neutral zone size.		
Min/max for Index. 7, 8, 9, 10, 18, 19 are limitet from the AHU handterminal.				

Index var. Vpac 6 (R/W)

Index	Cell nbr.	Name	Min/Max verA	Min/Max verB
1	0	Second	0-59	0-59
		The AHU internal time.		
2	1	Minute	0-59	0-59
		The AHU internal time.		
3	2	Hour	0-23	0-23
		The AHU internal time.		
4	3	Date	0-31	0-31
		The AHU internal time.		
5	4	Weekday	1-7	1-7
		The AHU internal time.		
6	5	Month	1-12	1-12
		The AHU internal time.		
7	6	Year	0-99 (2000-2099)	0-99 (2000-2099)
		The AHU internal time.		
8	7	Temperature regulation.	1-3	1-3
		Setting of temperature regulation type. 1=ERS, 2= SA, 3=EA.		
9	8	ERS-step.	1-4	1-4
		Setting for step at ERS temperature regulation.		
10	9	Delayed ext. HS_hour Set.	0-3	0-17
		Setting for prolonged highspeed.		
11	10	Delayed ext. HS_min Set.	0-59	0-59
		Setting for prolonged highspeed.		
12	11	Delayed ext. LS_hour Set.	Not used	0-17
		Setting for prolonged lowspeed.		
13	12	Delayed ext. LS_min Set.	Not used	0-59
		Setting for prolonged lowspeed.		
14	13	Flow regulation.	1-3	0-3
		VerA setting of flow/fan regulation type. 1=Flow, 2=VAV, 3=Boost/forcing. VerB setting of flow/fan regulation type. 0=Flow, 1=VAV-pressure, 2=VAV-demand 3=Boost/forcing.		
15	14	Reg.speed temp SA.	Not used	0-9
		Setting for temperature regulation speed.		
16	15	Reg.speed temp EA.	Not used	0-9

		Setting for temperature regulation speed.		
17	16	Reg.speed VAV SA.	Not used	0-9
		Setting for VAV regulation speed.		
18	17	Reg.speed VAV EA.	Not used	0-9
		Setting for VAV regulation speed.		
19	18	Filtertest time hour.	0-23	Not used
20	19	Filtertest time min.	0-59	Not used
21	20	Switch clock Channel1 start-minut	0-59	0-59
22	21	Switch clock Channel1 start-hour	0-23	0-23
23	22	Switch clock Channel1 stop-minut	0-59	0-59
24	23	Switch clock Channel1 stop-hour	0-23	0-23
25	24	Switch clock Channel1 period	0-9	0-10
		VerA 0=Not active. 1=Monday. 2=Tuesday. 3=Wednesday. 4=Thursday. 5=Friday. 6=Saturday. 7=Sunday. 8=Monday - Friday. 9=Monday - Sunday.		
		VerB 0=Not active. 1=Monday. 2=Tuesday. 3=Wednesday. 4=Thursday. 5=Friday. 6=Saturday. 7=Sunday. 8=Monday - Friday. 9=Monday - Sunday. 10=Saturday - Sunday.		
26	25	Switch clock Channel2 start-minut	0-59	0-59
27	26	Switch clock Channel2 start-hour	0-23	0-23
28	27	Switch clock Channel2 stop-minut	0-59	0-59
29	28	Switch clock Channel2 stop-hour	0-23	0-23
30	29	Switch clock Channel2 period	0-9	0-10
31	30	Switch clock Channel3 start-minut	0-59	0-59
32	31	Switch clock Channel3 start-hour	0-23	0-23
33	32	Switch clock Channel3 stop-minut	0-59	0-59
34	33	Switch clock Channel3 stop-hour	0-23	0-23

35	34	Switch clock Channel3 period	0-9	0-10
36	35	Switch clock Channel4 start-minut	0-59	0-59
37	36	Switch clock Channel4 start-hour	0-23	0-23
38	37	Switch clock Channel4 stop-minut	0-59	0-59
39	38	Switch clock Channel4 stop-hour	0-23	0-23
40	39	Switch clock Channel4 period	0-9	0-10
41	40	Switch clock Channel5 start-minut	0-59	0-59
42	41	Switch clock Channel5 start-hour	0-23	0-23
43	42	Switch clock Channel5 stop-minut	0-59	0-59
44	43	Switch clock Channel5 stop-hour	0-23	0-23
45	44	Switch clock Channel5 period	0-9	0-10
46	45	Switch clock Channel6 start-minut	0-59	0-59
47	46	Switch clock Channel6 start-hour	0-23	0-23
48	47	Switch clock Channel6 stop-minut	0-59	0-59
49	48	Switch clock Channel6 stop-hour	0-23	0-23
50	49	Switch clock Channel6 period	0-9	0-10
51	50	Switch clock Channel7 start-minut	0-59	0-59
52	51	Switch clock Channel7 start-hour	0-23	0-23
53	52	Switch clock Channel7 stop-minut	0-59	0-59
54	53	Switch clock Channel7 stop-hour	0-23	0-23
55	54	Switch clock Channel7 period	0-9	0-10
56	55	Switch clock Channel8 start-minut	0-59	0-59
57	56	Switch clock Channel8 start-hour	0-23	0-23
58	57	Switch clock Channel8 stop-minut	0-59	0-59
59	58	Switch clock Channel8 stop-hour	0-23	0-23
60	59	Switch clock Channel8 period	0-9	0-10
61	60	ServicePeriod	0-99	0-99
		AHU setting for Service period month.		
62	61	Coolforcing.	0-2	0-2
		Setting of coolforcing.		
		0=Not active.		
		1=Comfort.		
		2=Economy.		

Logical var. Vpac 7 (R/W)

Index	Cell nbr.	Name	Min/Max verA	Min/Max verB
1	0	Highspeed operation.	0-1	0-1
		Controls the AHU from S-CL stop or lowspeed to highspeed operation.		
2	1	Lowspeed operation.	0-1	0-1
		Controls the AHU from S-CL stop to lowspeed operation.		
3	2	Stop.	0-1	0-1
		Controls the AHU to stop.		
4	3	Switch-clock func.	0-1	0-1
		0=Lowspeed-Highspeed.		
		VerA 1=Stop-Lowspeed.		
		VerB 1=Stop-Lowspeed-Highspeed.		
5	4	Outdoor temp compensation.	0-1	0-1
		Used to enable the function.		
6	5	Summer night cooling.	0-1	0-1
		Used to enable the function.		
7	6	Alarm reset.	0-1	0-1
		Reset for active alarms.		