abs

COMLI Modbus
PC 241 242

GB

Reference Manual

www.absgroup.com

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1 Comli/Modbus IO number layout

1.1 Digital outputs

DO1 Alarm	DO2 Control P1	DO3 Control P2	DO4 Reset M.Prot P1/Error P1	DO5 Reset M.Prot P2/Error P2	DO6 Mixer/Cleaner/ Drain pump
0	* 1	* 2	** 3	** 4	* 5

* = Remote control possible.
** Type “Reset M.Prot.” and “Remote Control” allows remote write.

1.2 Pump status (P1-P2)

IO-Bit P1	IO-Bit P2	Function	Note
16	32	Pump Relay *1	Remote Control possible
17	33	Pump run indication	
18	34	Pump blocked	DI not in auto
19	35	Pump alarm blocked	Alarm ackn. required to restart
20	36	Pump fail	DI pump fail
21	37	Fallen M-protector	
22	38	Fallen temperature protector	
23	39	Leakage	
24	40	Start float On	
25	41	Hand flag	Forced pump run
26	42	Start flag	Manual start
27	43	Stop flag	Manual stop
28	44	Stop float	
29	45	Set point	
30	46	Max runtime reached	
31	47	Optional SW pump run	Tariff control, High float etc.

1.3 Digital inputs

DI1	DI2	DI3	DI4	DI5	DI6	DI7	DI8	DI9	DI10	DI11	DI12	DI13	DI14
64	65	66	67	68	69	70	71	72	73	74	75	76	77

1.4 Pump pit status

IO-Bit	Function	Note
96	Remote block	Write resets timout timer. 0=Deblock, 1=Block
97	Pressure block	
98	Low level float	
99	High level	
100	Low level	
101	High level float	
102	Unused	
103	Mixer block	
104	High inflow	
105	Low inflow	
106	Backup start	
107	High pressure	
108	Low pressure	
109	Overflow	
110	Drain pump	
111	Sensor Error	Analogue sensor

1.5 Comp. alarm status

IO-Bit	Function	Note
496	Not ackn, B-Alarm	
497	Not ackn. A-Alarm	
504	Active B-Alarm	
505	Active A-Alarm	
511	Ackn, Alarm Call	Same as ackn. to R333, 0=PC 241/242 discon/ 1=System discon

1.6 System info

IO-Bit	Function	Note
992	Ackn. Personal alarm	
993	Spare = 0	
994	Local mode	
995	Modem error	
996	Line error	

1.7 Alarm status

	IO-Bit	Octal	Hex
Alarm 0 = IO 1024 and so on	1024-1079	2000-2067	400-437

Alarm status indicate 1 if alarm is active 0 when alarm is off, independent of alarm type (A/B)
Alarm numbers, which are set “Inactive”, always show 0.

Alarm no.	IO-Bit	Description
0	1024	Unused
1	1025	Power fail
2	1026	Low supply voltage
3	1027	NV checksum error
4	1028	Personal alarm
5	1029	High level pump pit
6	1030	Low level pump pit
7	1031	High level float
8	1032	Low level float
9	1033	High inflow
10	1034	Low inflow
11	1035	Backup start
12	1036	Remote blocked
13	1037	High pressure
14	1038	Low pressure
15	1039	Overflow
16	1040	Back-Pressure block
17	1041	Drain pump run
18	1042	Sensor error
19	1043	Motor Protect. DO6 (Mixer, drain pump)
20	1044	P1 : No run confirm
21	1045	P1 : Fallen motor protector
22	1046	P1 : Motor protector reset unsuccessful
23	1047	P1 : High motor current
24	1048	P1 : Low motor current
25	1049	P1 : Leakage
26	1050	P1 : High temperature
27	1051	P1 : Low pump capacity
28	1052	P1 : Not in auto
29	1053	P1 : Pump error
30	1054	P1 : Max continuous runtime
31	1055	P1 : Alarm blocked
32	1056	P2 : No run confirm
33	1057	P2 : Fallen motor protector
34	1058	P2 : Motor protector reset unsuccessful
35	1059	P2 : High motor current
36	1060	P2 : Low motor current
37	1061	P2 : Leakage
38	1062	P2 : High temperature
39	1063	P2 : Low pump capacity
40	1064	P2 : Not in auto
41	1065	P2 : Pump error
42	1066	P2 : Max continuous runtime
43	1067	P2 : Alarm blocked
44	1068	Both Pumps Blocked
45	1069	High precipitation pulse channel 1
46	1070	High effect pulse channel 1
47	1071	High precipitation pulse channel 2
48	1072	High effect pulse channel 2
49	1073	Modem error
50	1074	Tele line error
51	1075	High alarm userAI4
52	1076	Low alarm userAI4

1.8 Latched alarm status

	IO-Bit	Octal	Hex
Alarm 0 = IO 1280 and so on	1280-1335	2400-2467	500-537

Latched alarm status is set to 1 when alarm goes active and are updated after Comli/Modbus readout with actual alarm status. This is made to not lose alarms, witch have gone inactive before the call is ready.

1.9 Acknowledged alarms

	IO-Bit	Octal	Hex
Alarm 0 = IO 1536 and so on	1536-1591	3000-3067	600-637

Status for ackn. alarm are set to 0 each time a new alarm occurs and gives the possibility for a central system to ackn. each alarm individually.
The ackn,. works the same way as local ackn. on PC 242 and is made by writing a 1 to actual alarm bit.
This ackn. is time stamped in the local alarm list. Even local ackn. in substation ackn, actual IO-bits.
You can also ackn. all alarm by write to R333 (if you have select that function).
For system that can handle the Comli/Modbus telegram for time stamped events, we recommend to use that method for readout of new alarms.

1.10 Pending alarms

	IO-Bit	Octal	Hex
Alarm 0 = IO 1792 and so on	1792-1847	3400-3467	700-737

Pending alarms bits maybe active even if alarm is set inactive.

1.11 Configurations bits

Pit flags 1 : Same as bit mapped register R1010.

IO-Bit	Function	Note
2048	Remote pump block	0=Off / 1=On
2049	Back pressure pump block	0=Off / 1=On
2050	Low level float pump block	0=Off / 1=On
2051	Sensor type connected	0=Analogue sensor/ 1= Start/stop floats
2052	Max No pumps running	0= 1 pump / 1= 2 pumps
2053	Type of alternation	0=Evry pump stop / 1=Last pump stop
2054	Primary pump	0=Pump 1 / 1= Pump 2
2055	Leakage pump block	0=Off / 1=On
2056	Runtime alternation	0=Off / 1=On
2057	Start pump on level change	0=Off / 1=On
2058	Stop pump on level change	0=Off / 1=On
2059	Unused	0=Off / 1=On
2060	Inflow calculation	0=Off / 1=On
2061	Calc. pump capacity	0=Off / 1=On
2062	Backup run P1	0=Off / 1= On
2063	Backup run P2	0=Off / 1= On

Pit flags 2 : Same as bit mapped register R1011.

2064	Pit shape	0=Rectangular / 1=Conical
2065	Emptying/Filling pit	0=Emptying / 1=Filling
2066	Tariff control	0=Off / 1= On
2067	High float check of level sensor	0=Off / 1= On
2068	Low float check of level sensor	0=Off / 1= On
2069	Level change check of level sensor	0=Off / 1= On
2070	Spare = 0	
2071	Spare = 0	
2072	Spare = 0	
2073	Spare = 0	
2074	Spare = 0	
2075	Spare = 0	
2076	Spare = 0	
2077	Spare = 0	
2078	Spare =0	
2079	Spare =0	

Pump 1 flags : Same as bit mapped register R1120.

IO-bit	Function	Note
2080	Relay control pump	0= No/ 1= Yes
2081	Reset of motor protector	0=Off / 1= On
2082	Control run (Pump exercise)	0=Off / 1= On
2083	Max cont. runtime stop pump	0=Off / 1= On
2084	Alarm No confirm block pump	0=No / 1=Yes
2085	Alarm fallen M.prot block pump	0=No / 1=Yes
2086	Spare = 0	
2087	Alarm high motor cur. block pump	0=No / 1=Yes
2088	Alarm low motor cur. block pump	0=No / 1=Yes
2089	Alarm leakage block pump	0=No / 1=Yes
2090	Alarm high temp. block pump	0=No / 1=Yes
2091	Alarm low capacity block pump	0=No / 1=Yes
2092	Spare = 0	
2093	Alarm pump fail block pump	0=No / 1=Yes
2094	Low current (dry run) pump stop	0=Off / 1= On
2095	Spare = 0	

Pump 2 flags : Same as bit mapped register R1150

IO-bit	Function	Note
2096	Relay control pump	0= No/ 1= Yes
2097	Reset of motor protector	0=Off / 1= On
2098	Control run (Pump exercise)	0=Off / 1= On
2099	Max cont. runtime stop pump	0=Off / 1= On
2100	Alarm No confirm block pump	0=No / 1=Yes
2101	Alarm fallen M.prot block pump	0=No / 1=Yes
2102	Spare = 0	
2103	Alarm high motor cur. block pump	0=No / 1=Yes
2104	Alarm low motor cur. block pump	0=No / 1=Yes
2105	Alarm leakage block pump	0=No / 1=Yes
2106	Alarm high temp. block pump	0=No / 1=Yes
2107	Alarm low capacity block pump	0=No / 1=Yes
2108	Spare = 0	
2109	Alarm pump fail block pump	0=No / 1=Yes
2110	Low current (dry run) pump stop	0=Off / 1= On
2111	Spare = 0	

2 Text addresses

All text addresses are given in Hex format.
All addresses below 1000H allow max 20 character string.

2.1 Analogue inputs

Address(Hex)	Description	Scale/Unit/Note
3	Analogue in 4	User text
103	Analogue in 4	User unit

2.2 Tele and alarm setup

Address(Hex)	Description
0801	Tel. no. alarm call 1
0802	Tel. no. alarm call 2
0803	Tel. no. alarm call 3
0804	Tel. no. alarm call 4
0810	Extra Hayes init. before calling
0811	Hayes init after disconnecting line
0812	PIN code for GSM modem
0813	PUK code for GSM modem
0814	SMSC number. International format (Leave blank for SIM card default)
0815	GPRS IP address
0816	GPRS apn.
0817	GPRS apn continued.
0830	Station name
0831	Id string to send on connect

2.3 Digital history time stamped events I chronological order

Event type : ALARM ON/ALARM OFF/ALARM ACKN./D.IN-D.OUT ON/OFF

Text like : Date(yymmddmmss)[TAB]Event type[TAB]Source

Address(Hex)	Description
2000	Last time stamped event
2001	Event before last
2002	And so on. Max 4096 events backwards
……	
2FFF	

3 PC 241/242 COMLI/Modbus Register

3.1 Remote/Local status

Register no	Description	Scale factor/ unit / note
0	Local Mode	1 = Local

3.2 Analogue inputs in engineering units

Register no	Description	Scale factor/ unit / note
1	AIN 1. Pit level	0.01 m (0.01ft)
2	AIN 2. Current P1	0.1 A
3	AIN 3. Current P2	0.1 A
4	AIN 4. Pressure/User	0.1 bar /User defined
5	AIN 5. Temperature P1	1 °C (°F)
6	AIN 6. Temperature P2	1 °C (°F)

3.3 Actual values in engineering units

Register no	Description	Scale factor/ unit / note	
10	Inflow	0.1 l/s	(1 GPM)
11	Outflow	0.1 l/s	(1 GPM)
12	Overflow level	1 mm	(0.001 ft)
13	Overflow flow m3/h	0.1 m3/h	(1 GPM)
14	Overflow flow l /s	0.1 l/s	(1 GPM)
15	Last pump capacity P1	0.1 l/s	(1 GPM)
16	Last pump capacity P2	0.1 l/s	(1 GPM)
17	Precipitation/Effect pulse Ch 1	0.1 l/s*ha/ 0.1 kW	(0.01 inch/h)
18	Precipitation/Effect pulse Ch 2	0.1 l/s*ha/ 0.1 kW	(0.01 inch/h)
19	Supply voltage	0.1 V	

3.4 Accumulated total values

Register no	Description	Scale factor/ unit / note	
40-41	Overflow count	times	
42-43	Overflow time	sec	
44-45	Overflow volume	0.1 m3	(1 gal)
46-47	Pumped volume	0.1 m3	(1 gal)
48-49	P1 runtime	sec	
50-51	P1 start count	times	
52	P1 nominal cap.	0.1 l/s	(1 GPM)
53	P2 nominal cap.	0.1 l/s	(1 GPM)
54-55	P2 runtime	sec	
56-57	P2 start count	times	
58-59	Pulse Ch 1	0.1 kWh/ mm	(0.1 inch)
60-61	Pulse Ch 2	0.1 kWh/ mm	(0.1 inch)

3.5 Accumulated values today

Register no	Description	Scale factor/ unit / note	
70-71	Overflow count	times	
72-73	Overflow time	sec	
74-55	Overflow volume	0.1 m3	(1 gal)
76-77	Pumped volume	0.1 m3	(1 gal)
78-79	P1 runtime	sec	
80-81	P1 start count	times	
82	P1 avg. cap.	0.1 l/s	(1 GPM)
83	P2 avg. cap.	0.1 l/s	(1 GPM)
84-85	P2 runtime	sec	
86-87	P2 start count	times	
88-89	Pulse Ch 1	0.1 kWh/mm	(0.1 inch)
90-91	Pulse Ch 2	0.1 kWh/mm	(0.1 inch)

3.6 Accumulated values yesterday

Register no	Description	Scale factor/ unit / note	
100-101	Overflow count	times	
102-103	Overflow time	sec	
104-105	Overflow volume	0.1 m3	(1 gal)
106-107	Pumped volume	0.1 m3	(1 gal)
108-109	P1 runtime	sec	
110-111	P1 start count	times	
112	P1 avg. cap.	0.1 l/s	(1 GPM)
113	P2 avg. cap.	0.1 l/s	(1 GPM)
114-115	P2 runtime	sec	
116-117	P2 start count	times	
118-119	Pulse Ch 1	0.1 kWh/mm	(0.1 inch)
120-121	Pulse Ch 2	0.1 kWh/mm	(0.1 inch)

3.7 Accumulated values 2 days ago

Register no	Description	Scale factor/ unit / note	
130-131	Overflow count	times	
132-133	Overflow time	sec	
134-135	Overflow volume	0.1 m3	(1 gal)
136-137	Pumped volume	0.1 m3	(1 gal)
138-139	P1 runtime	sec	
140-141	P1 start count	times	
142	P1 avg. cap.	0.1 l/s	(1 GPM)
143	P2 avg. cap.	0.1 l/s	(1 GPM)
144-145	P2 runtime	sec	
146-147	P2 start count	times	
148-149	Pulse Ch 1	0.1 kWh/mm	(0.1 inch)
150-151	Pulse Ch 2	0.1 kWh/mm	(0.1 inch)

3.8 Accumulated values 3 days ago

Register no	Description	Scale factor/ unit / note	
160-161	Overflow count	times	
162-163	Overflow time	sec	
164-165	Overflow volume	0.1 m3	(1 gal)
166-167	Pumped volume	0.1 m3	(1 gal)
168-169	P1 runtime	sec	
170-171	P1 start count	times	
172	P1 avg. cap.	0.1 l/s	(1 GPM)
173	P2 avg. cap.	0.1 l/s	(1 GPM)
174-175	P2 runtime	sec	
176-177	P2 start count	times	
178-179	Pulse Ch 1	0.1 kWh/mm	(0.1 inch)
180-181	Pulse Ch 2	0.1 kWh/mm	(0.1 inch)

3.9 Accumulated values 4 days ago

Register no	Description	Scale factor/ unit / note	
190-191	Overflow count	times	
192-193	Overflow time	sec	
194-195	Overflow volume	0.1 m3	(1 gal)
196-197	Pumped volume	0.1 m3	(1 gal)
198-199	P1 runtime	sec	
200-201	P1 start count	times	
202	P1 avg. cap.	0.1 l/s	(1 GPM)
203	P2 avg. cap.	0.1 l/s	(1 GPM)
204-205	P2 runtime	sec	
206-207	P2 start count	times	
208-209	Pulse Ch 1	0.1 kWh/mm	(0.1 inch)
210-211	Pulse Ch 2	0.1 kWh/mm	(0.1 inch)

3.10 Accumulated values 5 days ago

Register no	Description	Scale factor/ unit / note	
220-221	Overflow count	times	
222-223	Overflow time	sec	
224-225	Overflow volume	0.1 m3	(1 gal)
226-227	Pumped volume	0.1 m3	(1 gal)
228-229	P1 runtime	sec	
230-231	P1 start count	times	
232	P1 avg. cap.	0.1 l/s	(1 GPM)
233	P2 avg. cap.	0.1 l/s	(1 GPM)
234-235	P2 runtime	sec	
236-237	P2 start count	times	
238-239	Pulse Ch 1	0.1 kWh/mm	(0.1 inch)
240-241	Pulse Ch 2	0.1 kWh/mm	(0.1 inch)

3.11 Accumulated values 6 days ago

Register no	Description	Scale factor/ unit / note	
250-251	Overflow count	times	
252-253	Overflow time	sec	
254-255	Overflow volume	0.1 m3	(1 gal)
256-257	Pumped volume	0.1 m3	(1 gal)
258-259	P1 runtime	sec	
260-261	P1 start count	times	
262	P1 avg. cap.	0.1 l/s	(1 GPM)
263	P2 avg. cap.	0.1 l/s	(1 GPM)
264-265	P2 runtime	sec	
266-267	P2 start count	times	
268-269	Pulse Ch 1	0.1 kWh/mm	(0.1 inch)
270-271	Pulse Ch 2	0.1 kWh/mm	(0.1 inch)

3.12 Accumulated values 7 days ago

Register no	Description	Scale factor/ unit / note	
280-281	Overflow count	times	
282-283	Overflow time	sec	
284-285	Overflow volume	0.1 m3	(1 gal)
286-287	Pumped volume	0.1 m3	(1 gal)
288-289	P1 runtime	sec	
290-291	P1 start count	times	
292	P1 avg. cap.	0.1 l/s	(1 GPM)
293	P2 avg. cap.	0.1 l/s	(1 GPM)
294-295	P2 runtime	sec	
296-297	P2 start count	times	
298-299	Pulse Ch 1	0.1 kWh/mm	(0.1 inch)
300-301	Pulse Ch 2	0.1 kWh/mm	(0.1 inch)

3.13 Acknowledge alarm dialup

Register no	Description	Scale factor/ unit / note
333	Write to ackn. alarm dialup	for value 1 master takes response for disconnecting
34	“ “ “ “ “	

3.14 Raw AD values

Register no	Description	Scale factor/ unit / note
399	Factory reserved	
400	Factory reserved	
401	Factory reserved	
402-403	AI 1	Level
404-405	AI 2	Current P1
406-407	AI 3	Current P2
408-409	AI 4	Back-pressure/User
410-411	AI 5	Pt100 P1 temperature
412-413	AI 6	Pt100 P2 temperature

3.15 Unfiltered AI values

414	AI 1	Level	0.01%
415	AI 2	Current P1	0.01%
416	AI 3	Current P2	0.01%
417	AI 4	Back-pressure/User	0.01%
418	AI 5	Pt100 P1 temperature	0.01% (20-100 °C)
419	AI 6	Pt100 P2 temperature	0.01% (20-100 °C)

3.16 Communication status

Register no	Description	Scale factor/ unit / note
Service port		
420	Overflow counter	
421	Parity error counter	
422	Framing error counter	
423	Break counter	
424	Error messages counter	
425	Ok Messages counter	
426	Checksum error counter	
Com port		
430	Overflow counter	
431	Parity error counter	
432	Framing error counter	
433	Break counter	
434	Error messages counter	
435	Ok Messages counter	
436	Checksum error counter	

3.17 General info

Register no	Description	Scale factor/ unit / note
443	Program version	100 = 1.00
444	Special version	0 = Standard version
445	Station type	30=PC 241 / 31= PC 242
446	CPU clock frequency	1/1000 in MHz and three decimals
447	Program version in hex	1.00 = 0x100
449	GSM-GPRS signalstyrka	0-31, 99=unknown
584	Station number	Station identification for monitoring systems
32	“ “	“ “ “ “ “

3.18 No decimals for flow values. default 1 dec. (us = 0)

Register no	Description	Scale factor/ unit / note
990	Inflow decimals	0-4
991	Outflow decimals	0-4
992	Pump capacity P1/P2	0-4
993	Overflow flow	0-4
994	Pulse flow channel 1-2	0-4

3.19 System configuration

Register no	Description	Scale factor/ unit / note
1000	Menu language	0=Swe/1=Eng/2=Ger/3=Fre ……..
1001	Date format	0=YY:MM:DD / 1=DD:MM/YY/ 2=MM:DD:YY
1002	Units	0=Metric / 1= Us Units (Only metric support in V.1.xx
1003	LCD Back light time	min 0= always On
1004	Pit fill graphics range	centimetre (0.01 ft)

3.20 Pit configuration

Register no	Description	Scale factor/ unit / note		
1010	Pit flags 1	Bit mapped register, See IO-bits.		
1011	Pit flags 2	" " " " "		
1013	Min time between relay changes	s		
1015	Pump alternation	0=Off/1=Normal/2=Asymmetrical		
1016	No stop to alternation	Asymmetrical alternation		
1017	Runtime to alternation	min. Runtime alternation		
1020	Level change to start	0.01 m	(0.01 ft)	Level change start/stop
1021	/ time unit	min		
1024	Level change to stop			
1025	/ time unit	min		
1030	Calculation interval inflow	s	Inflow	
1031	Flow compensation 2 pumps	1 %		
1036	Pit level 0	0.01 m	(0.01 ft)	Pit area
1037	Pit area 0	0.1 m2	(1 ft2)	
1038	Pit level 1	0.01 m	(0.01 ft)	
1039	Pit area 1	0.1 m2	(1 ft2)	
1040	Pit level 2	0.01m	(0.01 ft)	
1041	Pit area 2	0.1 m2	(1 ft2)	
1042	Pit level 3	0.01 m	(0.01 ft)	
1043	Pit area 3	0.1 m2	(1 ft2)	
1044	Pit level 4	0.01 m	(0.01 ft)	
1045	Pit area 4	0.1 m2	(1 ft2)	
1046	Pit level 5	0.01m	(0.01 ft)	
1047	Pit area 5	0.1 m2	(1 ft2)	
1048	Pit level 6	0.01 m	(0.01 ft)	
1049	Pit area 6	0.1 m2	(1 ft2)	
1050	Pit level 7	0.01 m	(0.01 ft)	
1051	Pit area 7	0.1 m2	(1 ft2)	
1052	Pit level 8	0.01m	(0.01 ft)	
1053	Pit area 8	0.1 m2	(1 ft2)	
1054	Pit level 9	0.01m	(0.01 ft)	
1055	Pit area 9	0.1 m2		
1060	Min level calc. pump capacity	0.01 m	(0.01 ft)	Pump capacity
1061	Start delay	s		
1062	Calculation time	s		
1063	Stop delay	s		
1065	Leakage block delay	s		
1066	Remote block timeout	s	0 = No timeout	
1067	Pressure block set-point	0.1 bar	(0.1 ft)	
1068	Pressure block timeout	s	0 = No timeout	
1069	Pressure block delay	s		
1070	Backup runtime	s	High float run on time	
1072	Sensor level at high float	0.01 m	(0.01 ft)	Sensor check
1073	Max difference at high float	+/-0.01 m	(0.01 ft)	
1074	Sensor level at low float	0.01 m	(0.01 ft)	
1075	Max difference at low float	+/-0.01 m	(0.01 ft)	
1076	Sensor control time	s		
1077	Min level change	0.01m	(0.01 ft)	

Register no	Description	Scale factor/ unit / note		
1080	Hi tariff pump pre-start	min	Tariff control	
1081	Pump down level	0.01 m	(0.01 ft)	
1082	Monday peak 1 On	min	0-1440 min	
1083	Monday peak 1 Off	min		
1084	Monday peak 2 On	min		
1085	Monday peak 2 Off	min		
1086	Tuesday peak 1 On	min		
1087	Tuesday peak 1 Off	min		
1088	Tuesday peak 2 On	min		
1089	Tuesday peak 2 Off	min		
1090	Wednesday peak 1 On	min		
1091	Wednesday peak 1 Off	min		
1092	Wednesday peak 2 On	min		
1093	Wednesday peak 2 Off	min		
1094	Thursday peak 1 On	min		
1095	Thursday peak 1 Off	min		
1096	Thursday peak 2 On	min		
1097	Thursday peak 2 Off	min		
1098	Friday peak 1 On	min		
1099	Friday peak 1 Off	min		
1100	Friday peak 2 On	min		
1101	Friday peak 2 Off	min		
1102	Saturday peak 1 On	min		
1103	Saturday peak 1 Off	min		
1104	Saturday peak 2 On	min		
1105	Saturday peak 2 Off	min		
1106	Sunday peak 1 On	min		
1107	Sunday peak 1 Off	min		
1108	Sunday peak 2 On	min		
1109	Sunday peak 2 Off	min		
1112	Relative level m.a.s	0.01 m	(0.01 ft)	

3.21 Pump 1 configuration

Register no	Description	Scale factor/ unit / note		
1120	Pump 1 flags	Bit mapped register, See IO-bits.		
1122	Normal start level	0.01 m	(0.01 ft)	Start/Stop levels
1123	Normal stop level	0.01 m	(0.01 ft)	
1124	High tariff start level	0.01 m	(0.01 ft)	
1125	High tariff stop level	0.01 m	(0.01 ft)	
1126	Random start range	+/- 0.01m	(0.01 ft)	
1128	Start delay	s		
1129	Stop delay	s		
1132	Running indicator	0=Off/1=Digtal input/2=Current		
1133	Min run current	0.1 A		
1135	Max continuous runtime	min		
1143	Dry run current set-point	0.1 A		
1144	Dry run block timeout	s		
1145	Dry run block delay	s		

3.22 Pump 2 configuration

Register no	Description	Scale factor/ unit / note		
1150	Pump 2 flags	Bit mapped register, See IO-bits.		
1152	Normal start level	0.01 m	(0.01 ft)	Start/Stop levels
1153	Normal stop level	0.01 m	(0.01 ft)	
1154	High tariff start level	0.01 m	(0.01 ft)	
1155	High tariff stop level	0.01 m	(0.01 ft)	
1156	Random start range	+/- 0.01m	(0.01 ft)	
1158	Start delay	s		
1159	Stop delay	s		
1162	Running indicator	0=Off/1=Digtal input/2=Current		
1163	Min run current	0.1 A		
1165	Max continuous runtime	min		
1173	Dry run current set-point	0.1 A		
1174	Dry run block timeout	s		
1175	Dry run block delay	s		

3.23 Pump 1 and 2 common configuration

Register no	Description	Scale factor/ unit / note	
1180	Log pump events	0=Timestamp off, 1=on.	
1182	Pulse time	s	Reset motor protector
1183	Pause time	s	
1184	Max no attempts	Max 3	
1186	Max stand still time	min	Control run
1187	Control runtime	s	
1188	Start if level >	0.01 m	(0.01 ft)
1189	Start if level <	0.01 m	(0.01 ft)

3.24 Overflow configuration

Register no	Description	Scale factor/ unit / note
1190	Overflow measuring	0=Off /1=Sensor /2=Level
1191	Overflow calculation	0=Exp+Const / 1=Lock on inflow
1192-1193	Exponent 1	0.0001
1194-1195	Constant 1	0.0001
1196-1297	Exponent 2	0.0001
1198-1199	Constant 2	0.0001
1200	Level at overflow	0.001 m (0.001ft)

3.25 Digital inputs configuration

Register no	Description	Scale factor/ unit / note
1210	DI 1. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1211	DI 1. NO/NC	0=NO / 1=NC
1212	DI 2. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1213	DI 2. NO/NC	0=NO / 1=NC
1214	DI 3. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1215	DI 3. NO/NC	0=NO / 1=NC
1216	DI 4. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1217	DI 4. NO/NC	0=NO / 1=NC
1218	DI 5. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1219	DI 5. NO/NC	0=NO / 1=NC
1220	DI 6. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1221	DI 6. NO/NC	0=NO / 1=NC
1222	DI 7. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1223	DI 7. NO/NC	0=NO / 1=NC
1224	DI 8. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1225	DI 8. NO/NC	0=NO / 1=NC
1226	DI 9. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1227	DI 9. NO/NC	0=NO / 1=NC
1228	DI 10. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1229	DI 10 NO/NC	0=NO / 1=NC
1230	DI 11. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1231	DI 11. NO/NC	0=NO / 1=NC
1232	DI 12. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1233	DI 12. NO/NC	0=NO / 1=NC
1234	DI 13. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1235	DI 13. NO/NC	0=NO / 1=NC
1236	DI 14. Function	0=Off/ 1=Run ind. P1 /2=Run ind. P2 …….
1237	DI 14. NO/NC	0=NO / 1=NC

3.26 Digital outputs configuration

Register no	Description	Scale factor/ unit / note
1240	DO 1. Function	3=Not ackn. alarm/ 4= Active alarm
1241	DO 1. NO/NC	0=NO / 1=NC
1242	DO 2. Function	Always pump 1 control
1243	DO 2. NO/NC	0=NO / 1=NC
1244	DO 3. Function	Always pump 2 control
1245	DO 3. NO/NC	0=NO / 1=NC
1246	DO 4. Function	15=Reset m. prot. P1+P2/ 8=Reset m. protect. P1/ 9=P1 fail/ 12=Modem control / 13=Rem. Control / 14=Pers. al. ind.
1247	DO 4. NO/NC	0=NO / 1=NC
1248	DO 5. Function	10=Reset m. protect. P2/ 11=P2 fail/ 12=Modem control / 13=Rem. Control / 14=Pers. al. ind.
1249	DO 5. NO/NC	0=NO / 1=NC
1250	DO 6. Function	5=Mixer control/ 6=Cleaner control/ 7=Drain pump control
1251	DO 6. NO/NC	0=NO / 1=NC

3.27 DO6 Mixer configuration (if selected)

Register no	Description	Scale factor/ unit / note	
1260	Stop pump when mixer run	0=No / 1= Yes	
1261	Mixer runtime	s	
1262	Start count interval	times	0=disabled
1263	Timer interval	min	0=disabled
1264	Max level for start	0.01 m	(0.01 ft)
1265	Min level for start	0.01 m	(0.01 ft)

3.28 DO6 Cleaner configuration (if selected)

Register no	Description	Scale factor/ unit / note
1260	Spool on pump start/stop	0=Start / 1=Stop
1261	Spool time	s
1262	No start/stop to spool	time

3.29 DO6 Drain pump configuration (if selected)

Register no	Description	Scale factor/ unit / note
1261	Start delay	s
1262	Stop delay	s

3.30 Analogue inputs configuration

Register no	Description	Scale factor/ unit / note	
1270	AI 1. Function	Always sensor input (1)	
1271	AI 1. Signal range	0=4-20mA / 1=0-20mA	
1272	AI 1. Scale 0%=	0.01 m/ 0.1 bar	(0.01 ft)
1273	AI 1. Scale 100%=	0.01 m / 0.1 bar	(0.01 ft)
1274	AI 1. Zero offset	0.01 m / 0.1 bar	(0.01 ft)
1275	AI 1. Filter constant	s	
1280	AI 2. Function	Always current sensor P1 (2)	
1281	AI 2. Signal range	0=4-20mA / 1=0-20mA	
1282	AI 2. Scale 0%=	0.1 A	
1283	AI 2. Scale 100%=	0.1 A	
1284	AI 2. Dead band	0.1 %	
1285	AI 2. Filter constant	s	
1290	AI 3. Function	Always current sensor P2 (3)	
1291	AI 3. Signal range	0=4-20mA / 1=0-20mA	
1292	AI 3. Scale 0%=	0.1 A	
1293	AI 3. Scale 100%=	0.1 A	
1294	AI 3. Dead band	0.1 %	
1295	AI 3. Filter constant	s	
1300	AI 4. Function	4=Back-pressure / 5= Free Choice	
1301	AI 4. Signal range	0=4-20mA / 1=0-20mA	
1302	AI 4. Scale 0%=	0.1 bar / User select	(0.1 ft)
1303	AI 4. Scale 100%=	0.1 bar / User select	(0.1 ft)
1304	Not used		
1305	AI 4. Filter constant	s	
1306	AI 4. No decimals	If free choice	

Register no	Description	Scale factor/ unit / note
1310	AI 5. Function	Temperature P1. 0=OFF/ 6=PTC P1/ 7= Pt100 P1
1311	Not used	
1312	Not used	
1313	Not used	
1314	Temperature offset	1 °C (°F)
1315	AI 5. Filter constant	s
1320	AI 6. Function	Temperature P2. 0=OFF/ 8=PTC P2/ 9= Pt100 P2
1321	Not used	
1322	Not used	
1323	Not used	
1324	Temperature offset	1 °C (°F)
1325	AI 6. Filter constant	s

3.31 Pulse channels configuration

Register no	Description	Scale factor/ unit / note
1331	Ch 1. Function	0=Precipitation/ 1= Energy
1332-1333	Ch 1. Scale 1 pulse =	0.0001 mm / 0.0001 kW
1335	Ch 2. Function	0=Precipitation/ 1= Energy
1336-1337	Ch 2. Scale 1 pulse =	0.0001 mm / 0.0001 kW

3.32 Log channels configuration

Register no	Description	Scale factor/ unit / note
1340	Ch 1. Log signal	0= Closed/1=Level / 2=Inflow /3=Ouflow ……
1341	Ch 1. Log interval	min
1342	Ch 1. Function	0=Closed/1=Act. value/2=Average val/3=Min/4=Max
1345	Ch 2. Log signal	0=Closed/ 1=Level / 2=Inflow /3=Ouflow ……
1346	Ch 2. Log interval	min
1347	Ch 2. Function	0=Closed/1=Act. value/2=Average val/3=Min/4=Max
1350	Ch 3. Log signal	0=Closed/ 1=Level / 2=Inflow /2=Ouflow ……
1351	Ch 3. Log interval	min
1352	Ch 3. Function	0=Closed/1=Act. value/2=Average val/3=Min/4=Max
1355	Ch 4. Log signal	0=Closed/1=Level / 2=Inflow /3=Ouflow ……
1356	Ch 4. Log interval	min
1357	Ch 4. Function	0=Closed/1=Act. value/2=Average val/3=Min/4=Max
1360	Ch 5. Log signal	0=Closed/1=Level / 2=Inflow /3=Ouflow ……
1361	Ch 5. Log interval	min
1362	Ch 5. Function	0=Closed/1=Act. value/2=Average val/3=Min/4=Max
1365	Ch 6. Log signal	0=Closed/1=Level / 2=Inflow /3=Ouflow ……
1366	Ch 6. Log interval	min
1367	Ch 6. Function	0=Closed/1=Act. value/2=Average val/3=Min/4=Max
1370	Ch 7. Log signal	0=Closed /1=Level / 2=Inflow /3=Ouflow ……
1371	Ch 7. Log interval	min
1372	Ch 7. Function	0=Closed/1=Act. value/2=Average val/3=Min/4=Max
1375	Ch 8. Log signal	0=Closed/1=Level / 2=Inflow /3=Ouflow ……
1376	Ch 8. Log interval	min
1377	Ch 8. Function	0=Closed/1=Act. value/2=Average val/3=Min/4=Max

3.33 Trend curves configuration

Register no	Description	Scale factor/ unit / note
1380	Sample time	s
1381	Tr. 1 Signal	0=Off/1=Level/2=Inflow/3=Outflow ……
1382-1383	Tr. 1 Signal max value	0.0001
1384-1385	Tr. 1 Signal min value	0.0001
1391	Tr. 2 Signal	0=Off/1=Level/2=Inflow/3=Outflow ……
1392-1393	Tr. 2 Signal max value	0.0001
1394-1395	Tr. 2 Signal min value	0.0001
1401	Tr. 3 Signal	0=Off/1=Level/2=Inflow/3=Outflow ……
1402-1403	Tr. 3 Signal max value	0.0001
1404-1405	Tr. 3 Signal min value	0.0001
1411	Tr. 4 Signal	0=Off/1=Level/2=Inflow/3=Outflow ……
1412-1413	Tr. 4 Signal max value	0.0001
1414-1415	Tr. 4 Signal min value	0.0001

3.34 System alarms configuration

Register no	Description	Scale factor/ unit / note
Power fail :		
1420	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1421	Delay	s
Low supply voltage :		
1425	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1426	Delay	s
1427	Limit	0.1 V
1428	Hysteresis	0.1 V
NV Checksum error :		
1430	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1431	Delay	s

Register no	Description	Scale factor/ unit / note
Personal alarm		
1435	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1436	Delay	s
1437	Max time to reset	min

3.35 Pit alarms configuration

Register no	Description	Scale factor/ unit / note
High level :		
1440	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1441	Delay	s
1442	Limit	0.01 m (0.01 ft)
1443	Hysteresis	0.01 m (0.01 ft)
Low level :		
1445	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1446	Delay	s
1447	Limit	0.01 m (0.01 ft)
1448	Hysteresis	0.01 m (0.01 ft)
High level float :		
1450	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1451	Delay	s
Low level float :		
1455	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1456	Delay	s
High inflow :		
1460	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1461	Delay	s
1462	Limit	0.1 l/s (1 GPM)
1463	Hysteresis	0.1 l/s (1 GPM)
Low inflow :		
1465	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1466	Delay	s
1467	Limit	0.1 l/s (1 GPM)
1468	Hysteresis	0.1 l/s (1 GPM)
Backup running :		
1470	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1471	Delay	s
Remote block :		
1475	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1476	Delay	s
High presure :		
1480	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1481	Delay	s
1482	Limit	0.1 bar (0.1 ft)
1483	Hysteresis	0.1 bar (0.1 ft)
Low presure :		
1485	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1486	Delay	s
1487	Limit	0.1 bar
1488	Hysteresis	0.1 bar
Overflow float :		
1490	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1491	Delay	s

Register no	Description	Scale factor/ unit / note
High Back-Presure block:		
1495	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1496	Delay	s
Drain pump float:		
1500	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1501	Delay	s
Sensor error :		
1505	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1506	Delay	s
Motor protector DO6 :		
1510	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1511	Delay	s

3.36 Pump alarms configuration

Register no	Description	Scale factor/ unit / note
No run confirm P1 :		
1515	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1516	Delay	s
Motor protector On P1 :		
1520	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1521	Delay	s
Motor protector reset error P1 :		
1525	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1526	Delay	s
High Motor current P1 :		
1530	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1531	Delay	s
1532	Limit	0.1 A
1533	Hysteresis	0.1 A
Low Motor current P1 :		
1535	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1536	Delay	s
1537	Limit	0.1 A
1538	Hysteresis	0.1 A
Leakage P1 :		
1540	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1541	Delay	s
High temperature P1 :		
1545	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1546	Delay	s
1547	Limit	1 °C (°F)
1548	Hysteresis	1 °C (°F)

Register no	Description	Scale factor/ unit / note
Low pump capacity P1 :		
1550	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1551	Delay	s
1552	Limit	0.1 l/s (1 GPM)
1553	Hysteresis	0.1 l/s (1 GPM)
P1 not in AUTO:		
1555	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1556	Delay	s
Pump error P1 :		
1560	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1561	Delay	s
Max runtime P1 :		
1565	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1566	Delay	s
P1 Alarm blocked :		
1570	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1571	Delay	s
No run confirm P2 :		
1575	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1576	Delay	s
Motor protector On P2 :		
1580	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1581	Delay	s
Motor protector reset error P2 :		
1585	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1586	Delay	s
High Motor current P2 :		
1590	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1591	Delay	s
1592	Limit	0.1 A
1593	Hysteresis	0.1 A
Low Motor current P2 :		
1595	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1596	Delay	s
1597	Limit	0.1 A
1598	Hysteresis	0.1 A
Leakage P2 :		
1600	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1601	Delay	s
High temperature P2 :		
1605	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1606	Delay	s
1607	Limit	1 °C (°F)
1608	Hysteresis	1 °C (°F)

Register no	Description	Scale factor/ unit / note
Low pump capacity P2 :		
1610	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1611	Delay	s
1612	Limit	0.1 l/s (1 GPM)
1613	Hysteresis	0.1 l/s (1 GPM)
P2 not in AUTO:		
1615	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1616	Delay	s
Pump error P2 :		
1620	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1621	Delay	s
Max runtime P2 :		
1625	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1626	Delay	s
P2 Alarm blocked :		
1630	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1631	Delay	s
Both pumps blocked :		
1635	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1636	Delay	s

3.37 Pulse channels alarms configuration

Register no	Description	Scale factor/ unit / note
Ch 1 if precipitation selected :		
1640	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1641	Delay	s
1642	Limit	0.1 l/s*ha (0.01 inch/h)
1643	Hysteresis	0.1 l/s*ha (0.01 inch/h)
Ch 1 if energy selected :		
1645	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1646	Delay	s
1647	Limit	0.1 kW
1648	Hysteresis	0.1 kW
Ch 2 if precipitation selected :		
1650	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1651	Delay	s
1652	Limit	0.1 l/s*ha (0.01 inch/h)
1653	Hysteresis	0.1 l/s*ha (0.01 inch/h)
Ch 1 if energy selected :		
1655	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1656	Delay	s
1657	Limit	0.1 kW
1658	Hysteresis	0.1 kW

3.38 Communication alarms configuration

Register no	Description	Scale factor/ unit / note
Modem error :		
1660	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1661	Delay	s
Line error :		
1665	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1666	Delay	s

3.39 AI4 user alarms

High alarm :		
1670	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1671	Delay	s
1672	Limit	User unit and decimals
1673	Hysteresis	
Low alarm :		
1675	Priority	0=Inactive, 1=B-alarm, 2=A-alarm
1676	Delay	s
1677	Limit	User unit and decimals
1678	Hysteresis	

3.40 Com port configuration

Register no	Description	Scale factor/ unit / note
Service port:		
1700	Baudrate	0=Off/ 1= 300/2=600 ….10=115200
Com port:		
1702	Baudrate	0=Off/ 1= 300/2=600 ….10=115200
1703	Parity	0=None/1=Odd/2=Even
1704	Protocol	0=Modbus/ 1=Comli
1705	Handshake	0=Off/1=On
1706	Protocol id	
1707	Message timeout	s

3.41 Modem configuration

Register no	Description	Scale factor/ unit / note
1710	Modem connected to port	0=None / 1=Dial up/ 2=GPRS Siemens
1711	No signal to answer	
1712	GPRS TCP/IP port	
1713	GPRS Heart Beat	min

3.42 Alarm call configuration

Register no	Description	Scale factor/ unit / note
1720	No call attempts/alarm	
1721	Ackn. call function	0=No ackn./1=Ring sign/2=Write to R333/3=All com
1722	Ackn. alarm R333	0=No / 1=Yes
1723	Interval between call attempts	s

3.43 Call attempts configuration

Register no	Description	Scale factor/ unit / note
Call attempts 1 :		
1730	Alarm receiver	0=Off /1=Central System/2=SMS GSM
1731	Condition for alarm call	0=A-alarm On/1=A-alarm On/Off /2=A+B On /3=A+B On/Off
1732	Send ID-String on connect	0=No / 1=Yes
1733	Timeout alarm ackn.	s
1734	ID–String transmit delay	s
Call attempts 2 :		
1740	Alarm receiver	0=Off /1=Central System/2=SMS GSM
1741	Condition for alarm call	0=A-alarm On/1=A-alarm On/Off /2=A+B On /3=A+B On/Off
1742	Send ID-String on connect	0=No / 1=Yes
1743	Timeout alarm ackn.	s
1744	ID–String transmit delay	s
Call attempts 3 :		
1750	Alarm receiver	0=Off /1=Central System/2=SMS GSM
1751	Condition for alarm call	0=A-alarm On/1=A-alarm On/Off /2=A+B On /3=A+B On/Off
1752	Send ID-String on connect	0=No / 1=Yes
1753	Timeout alarm ackn.	s
1754	ID–String transmit delay	s
Call attempts 4 :		
1760	Alarm receiver	0=Off /1=Central System/2=SMS GSM
1761	Condition for alarm call	0=A-alarm On/1=A-alarm On/Off /2=A+B On /3=A+B On/Off
1762	Send ID-String on connect	0=No / 1=Yes
1763	Timeout alarm ackn.	s
1764	ID–String transmit delay	s

3.44 Get log data ch1-ch8

Ch1 start at base address R16384 (4000H)
Ch2 start at base address R18432 (4800H)
Ch3 start at base address R20480 (5000H)
Ch4 start at base address R22528 (5800H)
Ch5 start at base address R24576 (6000H)
Ch6 start at base address R26624 (6800H)
Ch7 start at base address R28672 (7000H)
Ch8 start at base address R30720 (7800H)

Register no	Description	Scale factor/ unit / note
Base + 0	Day (block) select	0-15, 0=Today,1=Yesterday/2=2 days ago ….15
Base + 1	No logged days	0-16
Base + 2	No logged values in block	
Base + 3	Log signal in block	0=Level/1=Inflow …….
Base + 4	No decimals	0 - 4
Base + 5	Log interval in block	min
Base + 6	Log function in block	0=Closed/1=Act. value/2=Average val/3=Min/4=Max
Base + 7	Year in block	
Base + 8	Month in block	1-12
Base + 9	Date in block	1-32
Base +10	Time for activate block	0 = 00:00/1=00:01/2=00:02…1439=23:59 (Interval=1min)
Base +11	First logged value	00:00-00:01 (1 min interval)
Base +12	Second logged value	00:01-00:02
.		
.		
Base + 1450	Last logged value	23:59-24:00 (1 min interval)

4 Appendics

4.1 Digital input types

Type no.	Function	
0	DI Off	
1	Run indication P1	
2	Run indication P2	
3	Manuel start P1	
4	Manuel start P2	
5	P1 Not in auto	
6	P2 Not in auto	
7	Start float P1	
8	Start float P2	
9	Stop float P1/P2	
10	Pump failure P1	
11	Pump failure P2	
12	Low level float	
13	Power fail	
14	Start float drain pump	
15	Local mode	
16	Alarm reset	
17	High level float	
18	Overflow float	
19	Motor protector P1	
20	Motor protector P2	
21	Motor protector DO6	
22	DI pulse channel 1	**Only DI 13/14**
23	DI pulse channel 2	**Only DI 13/14**

4.2 Log and Trend signals

Default =unsigned (0-65535) data. Possible negative data as 2-complement.

Type no.	Function	Scale/Note	
0	Closed		
1	Level pit	0.01m	2-complement
2	Inflow	0.1 l/s	
3	Outflow	0.1 l/s	
4	P1 Motor current	0.1 A	
5	P2 Motor current	0.1 A	
6	Pressure/Free choice	0.1 bar/User choice	2-compement
7	P1 Temperature	1 °C	2-complement
8	P2 Temperature	1 °C	2-complement
9	Overflow level	mm	
10	Overflow flow	0.1 l/s	
11	P1 Pump capacity	0.1 l/s	
12	P2 Pump capacity	0.1 l/s	
13	Pulse channel 1	0.1 l/s*ha / 0. 1kW	**Only Log channels.**
14	Pulse channel 2	0.1 l/s*ha / 0. 1kW	**Only Log channels**
15	Power supply	0.1 V	**Only Log channels**

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