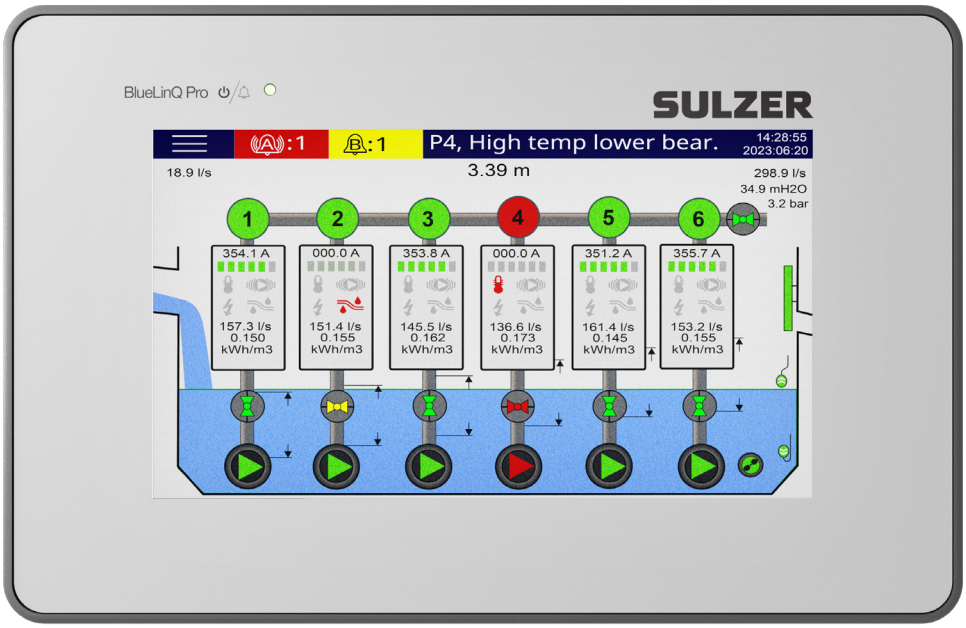
BlueLinQ Pro Controller
Modbus table from firmware version 1.06



81307188-00 (06.2024)

en

Modbus Register Manual

Modbus Register Manual (Original translation)

Contents

1 Modbus IO bits

1.1 IO signals

1.1.1 Digital outputs

DO1 Status 0 = -OFF-, 1 = -ON- RO 0 + (signal number -1) *1 + (Module number -1) *8

		Signal							
		DO1	DO2	D03	DO4	DO5	DO6	DO7	DO8
Module	1	0	1	2	3	4	5	6	7
	2	8	9	10	11	12	13	14	15
	3	16	17	18	19	20	21	22	23
	4	24	25	26	27	28	29	30	31
	5	32	33	34	35	36	37	38	39
	6	40	41	42	43	44	45	46	47
	7	48	49	50	51	52	53	54	55
	8	56	57	58	59	60	61	62	63
	9	64	65	66	67	68	69	70	71
Controller		72	73	74	75	-	-	-	-

1.1.2 Digital inputs

DI Status 0 = -OFF-, 1=-ON- RO 80 + (signal number -1) *1 + (Module number -1) *12

		Signal											
		DI1	DI2	DI3	DI4	DI5	DI6	DI7	DI8	DI9	DI10	DI11	DI12
Module	1	80	81	82	83	84	85	86	87	88	89	90	91
	2	92	93	94	95	96	97	98	99	100	101	102	103
	3	104	105	106	107	108	109	110	111	112	113	114	115
	4	116	117	118	119	120	121	122	123	124	125	126	127
	5	128	129	130	131	132	133	134	135	136	137	138	139
	6	140	141	142	143	144	145	146	147	148	149	150	151
	7	152	153	154	155	156	157	158	159	160	161	162	163
	8	164	165	166	167	168	169	170	171	172	173	174	175
	9	176	177	178	179	180	181	182	183	184	185	186	187
Controller		188	189	190	191	-	-	-	-	-	-	-	-

1.1.3 Leakage inputs

DI Status 0 = -OFF-, 1 = -ON- RO 192 + (signal number -1) *1 + (Module number -1) *6

		Signal					
		Leak input 1	Leak input 2	Leak input 3	Leak input 4	Leak input 5	Leak input 6
Module	1	192	193	194	195	196	197
	2	198	199	200	201	202	203
	3	204	205	206	207	208	209
	4	210	211	212	213	214	215
	5	216	217	218	219	220	221
	6	222	223	224	225	226	227
	7	228	229	230	231	232	233
	8	234	235	236	237	238	239
	9	240	241	242	243	244	245

1.2 Pump pit status

IO-Bit	Function	Note
248	High tariff	High tariff active
249	Main Power Monitor attached	On RS485 fieldbus
250	Low level float	
251	High level	
252	Low level	
253	High level float	
254	Drain pump float	
255		
256	High inflow	
257	Low inflow	
258	Backup start	
259	High pressure	
260	Low pressure	
261	Overflow switch	Digital input active
262	Overflow setpoint	Analogue setpoint on level sensor
263	Sensor Error	Analogue sensor error, cause in IO 264-266
264	Low Float, Analogue Sensor error	Incorrect level at low float
265	High Float, Analogue Sensor error	Incorrect level at high float
266	Level Freeze, Analogue Sensor error	Level is not changing
267		
268		
269		
270		
271		
272		
273		
274	Incoming phase missing block	Main Power Monitor pump block cause
275	Over voltage block	Main Power Monitor pump block cause
276	Under voltage block	Main Power Monitor pump block cause
277	Unbalanced voltages block	Main Power Monitor pump block cause
278		
279		
280	Remote pump block	Write resets timeout timer. 0=Unblock, 1=Block
281	Pressure pump block	
282	Mixer pump block	
283	Pump reverse seq. block	
284		
285		
286		
287		
288	Mixer Relay	Write 1 to start sequence
289	Mixer run indicator	From Digital Input
290	Drain pump relay	Write 1 to start sequence
291	Drain pump run indicator	From Digital Input
292	Cleaner Flush control	Write 1 to start sequence
293		
294		
295		
296	Mixer Motor Protector	From Digital Input

IO-Bit	Function	Note
297	Mixer High Temperature	From Digital Input
298	Mixer Leak	From Digital Input
299	Mixer Blocked	From Digital Input
300	Reset Motor Protector Mixer	Write 1 to start
301		
302		
303		
304	Drain Pump Motor Protector	From Digital Input
305	Drain Pump High Temperature	From Digital Input
306	Drain Pump Leak	From Digital Input
307	Drain Pump Blocked	From Digital Input
308	Reset Motor Protector Drain pump	Write 1 to start
312-495	User IO	Read Write

1.3 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
253	High level float	

1.4 Pump status (P1-P6)

1.4.1 General info

IO P1	IO P2	IO P3	IO P4	IO P5	IO P6	Function	Note
512	640	768	896	1024	1152	Manual	Start reason
513	641	769	897	1025	1153	Level	Start reason
514	642	770	898	1026	1154	Float switch	Start reason
515	643	771	899	1027	1155	Level Derivate	Start reason
516	644	772	900	1028	1156	Pump Reverse	Start reason
517	645	773	901	1029	1157	Tariff pump down	Start reason
518	646	774	902	1030	1158	Run timer stop	Start reason
519	647	775	903	1031	1159	Run timer alternate	Start reason
520	648	776	904	1032	1160	High Float	Start reason
521	649	777	905	1033	1161	Setpoint	Status and remote control *1
522	650	778	906	1034	1162	Pump relay	Status and remote control *1
523	651	779	907	1035	1163	Alternator started	Status
524	652	780	908	1036	1164	Run indication Digital Input	Control Status
525	653	781	909	1037	1165	Run indication Motor current	Control Status
526	654	782	910	1038	1166	Run indication Field Bus	Control Status
527	655	783	911	1039	1167	Pump run indication	Configured source
528	656	784	912	1040	1168	Motor Protector	Input Status
529	657	785	913	1041	1169	High Temperature	Any source
530	658	786	914	1042	1170	Leakage	Any source
531	659	787	915	1043	1171	Block Operation (Digital input)	Input Status

IO P1	IO P2	IO P3	IO P4	IO P5	IO P6	Function	Note
532	660	788	916	1044	1172	Reset Motor Protector	Write 1 to start
533	661	789	917	1045	1173	Remote Block	
534	662	790	918	1046	1174	Pump fail (Digital input)	
535	663	791	919	1047	1175	Power Fail (Digital input)	
536	664	792	920	1048	1176	Spare	
537	665	793	921	1049	1177	Spare	
538	666	794	922	1050	1178	Over current	If Power Monitor Attached
539	667	795	923	1051	1179	Phase Unbalance	“
540	668	796	924	1052	1180	Spare	“
541	669	797	925	1053	1181	Output Pressure Block	
542	670	798	926	1054	1182	Low float	
543	671	799	927	1055	1183	Mixer Block	
544	672	800	928	1056	1184	Manual start	
545	673	801	929	1057	1185	Manual run	
546	674	802	930	1058	1186	Manual stop	
547	675	803	931	1059	1187	Pump Reverse Relay	Relay status
548	676	804	932	1060	1188	Digital Input Run Indication	
549	677	805	933	1061	1189	Amp Run Indication	
550	678	806	934	1062	1190	Field bus Run Indication	
551	679	807	935	1063	1191	Not in Auto	
552	680	808	936	1064	1192	Pump Reverse Sequence	Write 1 to start pump reverse
553	681	809	937	1065	1193	Pump Exercise	
554	682	810	938	1066	1194	4-20 mA motor current	1=Attached
555	683	811	939	1067	1195	RS 485 Fieldbus drive	1=Attached
556	684	812	940	1068	1196	RS 485 Power Monitor	1=Attached
557	685	813	941	1069	1197	Fieldbus drive fault	
558	686	814	942	1070	1198	Fieldbus drive not ready	
559	687	815	943	1071	1199	Pump Reverse Run Indication	

1.4.2 Pump Hold Reason

Auto restart when alarm > OFF

IO P1	IO P2	IO P3	IO P4	IO P5	IO P6	Pump Hold Reason	Auto restart when alarm > OFF
560	688	816	944	1072	1200	Unused	
561	689	817	945	1073	1201	Fallen motor protector	
562	690	818	946	1074	1202	Unused	
563	691	819	947	1075	1203	Unused	
564	692	820	948	1076	1204	Leakage	
565	693	821	949	1077	1205	High temperature	
566	694	822	950	1078	1206	Unused	
567	695	823	951	1079	1207	D.IN Pump Error	
568	696	824	952	1080	1208	Phase missing	
569	697	825	953	1081	1209	Unused	
570	698	826	954	1082	1210	Unused	
571	699	827	955	1083	1211	Unused	
572	700	828	956	1084	1212	Unused	
573	701	829	957	1085	1213	Not in auto	
574	702	830	958	1086	1214	Motor drive - RS 485 com error	Modbus timeout

IO P1	IO P2	IO P3	IO P4	IO P5	IO P6	Pump Hold Reason	Auto restart when alarm > OFF
575	703	831	959	1087	1215	Drive fault	tripped VFD or soft starter
576	704	832	960	1088	1216	Leakage Oil Chamber	
577	705	833	961	1089	1217	Leakage Motor House	
578	706	834	962	1090	1218	Leakage El. Chamber	
579	707	835	963	1091	1219	Unused	
580	708	836	964	1092	1220	High temperature Stator L1	
581	709	837	965	1093	1221	High temperature Upper bearing	
582	710	838	966	1094	1222	High temperature Lower bearing	
583	711	839	967	1095	1223	High vibrations	
584	712	840	968	1096	1224	Unused	
585	713	841	969	1097	1225	High temperature stator L2	
586	714	842	970	1098	1226	High temperature stator L3	
587	715	843	971	1099	1227	High Voltage	
588	716	844	972	1100	1228	Low Voltage	
589	717	845	973	1101	1229	Unused	
590	718	846	974	1102	1230	Unused	
591	719	847	975	1103	1231	Unused	

1.4.3 Pump Block Reason

Alarm acknowledge required

IO P1	IO P2	IO P3	IO P4	IO P5	IO P6	Pump Block Reason	Alarm acknowledge required
592	720	848	976	1104	1232	No run confirm	Yes
593	721	849	977	1105	1233	Fallen motor protector	Yes
594	722	850	978	1106	1234	High motor current	Yes
595	723	851	979	1107	1235	Unused	
596	724	852	980	1108	1236	Leakage	
597	725	853	981	1109	1237	High temperature	Yes
598	726	854	982	1110	1238	Unused	
599	727	855	983	1111	1239	D.IN Pump Error	Yes
600	728	856	984	1112	1240	Unused	
601	729	857	985	1113	1241	Unused	
602	730	858	986	1114	1242	Unused	
603	731	859	987	1115	1243	Unused	
604	732	860	988	1116	1244	Unused	
605	733	861	989	1117	1245	Unused	
606	734	862	990	1118	1246	Unused	
607	735	863	991	1119	1247	Unused	
608	736	864	992	1120	1248	Leakage Oil Chamber	Yes
609	737	865	993	1121	1249	Leakage Motor House	Yes
610	738	866	994	1122	1250	Leakage El. Chamber	Yes
611	739	867	995	1123	1251	Unused	
612	740	868	996	1124	1252	High temperature Stator L1	Yes
613	741	869	997	1125	1253	High temperature Upper bearing	Yes
614	742	870	998	1126	1254	High temperature Lower bearing	Yes
615	743	871	999	1127	1255	High vibrations	Yes
616	744	872	1000	1128	1256	Spare	
617	745	873	1001	1129	1257	High temperature stator L2	Yes

IO P1	IO P2	IO P3	IO P4	IO P5	IO P6	Pump Block Reason	Alarm acknowledge required
618	746	874	1002	1130	1258	High temperature stator L3	Yes
619	747	875	1003	1131	1259	Valve error	
620	748	876	1004	1132	1260	Unused	
621	749	877	1005	1133	1261	Unused	
622	750	878	1006	1134	1262	Valve open error	
623	751	879	1007	1135	1263	Valve close error	

1.4.4 IO Summary

IO P1	IO P2	IO P3	IO P4	IO P5	IO P6	Status	Comment
624	752	880	1008	1136	1264	Floats attached	1 = Yes
625	753	881	1009	1137	1265	Start Float	1 = ON
626	754	882	1010	1138	1266	Stop Float	1 = ON
627	755	883	1011	1139	1267	Pump Blocked	Extern. or Internal
628	756	884	1012	1140	1268	Pump Error Blocked	Pump Internal Failure Block
629	757	885	1013	1141	1269	Hi Temperature EX Block	Write 0 to reset
630	758	886	1014	1142	1270		
631	759	887	1015	1143	1271		

1.4.5 Best Efficiency Point Override

Run @ Max Frequency

IO P1	IO P2	IO P3	IO P4	IO P5	IO P6	Best Efficiency Point Override	Run @ Max Frequency
632	760	888	1016	1144	1272	Pump @ Max freq.	Any of below cause
633	761	889	1017	1145	1273	Pump start counter	Pipe flush
634	762	890	1018	1146	1274	All pumps running	Maximize capacity
635	763	891	1019	1147	1275	High level alarm	Float or level setpoint

*1 = Remote Modbus control allowed when level is between start and stop, local conditions will override.

1.4.6 Valve status

P1	P2	P3	P4	P5	P6	Pit	Status
1280	1281	1282	1283	1284	1285	1286	Valve state
1296	1297	1298	1299	1300	1301	1302	Open detect
1312	1313	1314	1315	1316	1317	1318	Close detect

1.5 Time Relay IO status

	All Seq	Seq1	Seq2	Seq3	Seq4
Relay 1	1328	1329	1330	1331	1332
Relay 2	1336	1337	1338	1339	1340
Relay 3	1344	1345	1346	1347	1348
Relay 4	1352	1353	1354	1355	1356
Relay 5	1360	1361	1362	1363	1364
Relay 6	1368	1369	1370	1371	1372
Relay 7	1376	1377	1378	1379	1380
Relay 8	1384	1385	1386	1387	1388

1.6 User configurable IOs

1392-1503	User IO	Read Write

1.7 System info

IO-Bit	Function	Note
1504	Ackn. Personnel alarm	Write 0 or 1 to Reset timer
1505	Modem power	Off 2 seconds during modem hayes command init
1506	Local mode	
1507	SD card status	1 = Inserted
1508	Spare	
1509	Block remote config	Controlled by digital input (if configured)
1510	Spare	
1511	Constant Zero	Always reads 0
1512	Controller power lost	Used to flag power outage for unit
1513	Controller time lost	Unit time needs to be updated
1514	Controller time set	Used to flag changes in time history

1.8 Alarm bits

The full alarm list can be found in chapter 6.

1.8.1 Alarm status

Alarm 0 = IO 1536 and so on

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.

1.8.2 Latched alarm status

Alarm 0 = IO 2560 and so on

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, which have gone inactive before the call is ready.

1.8.3 Acknowledged alarms

Alarm 0 = IO 3584 and so on

Status for acknowledged alarm are set to 0 each time a new alarm occurs and gives the possibility for a central system to acknowledge each alarm individually.

The acknowledge works the same way as local acknowledge on PC 441 and is made by writing a 1 to actual alarm bit.

This acknowledge is time stamped in the local alarm list. Even local acknowledge in substation acknowledge, actual IO-bits.

You can also acknowledge all alarms 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.

1.8.4 Pending alarms

Alarm 0 = IO 4608

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

1.9 Time Relay weekday IO select settings

(1 = Day active)

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Relay 1 Seq 1	5632	5633	5634	5635	5636	5637	5638
Relay 1 Seq 2	5640	5641	5642	5643	5644	5645	5646
Relay 1 Seq 3	5648	5649	5650	5651	5652	5653	5654
Relay 1 Seq 4	5648	5649	5650	5651	5652	5653	5654
Relay 2 Seq 1	5656	5657	5658	5659	5660	5661	5662
Relay 2 Seq 2	5664	5665	5666	5667	5668	5669	5670
Relay 2 Seq 3	5672	5673	5674	5675	5676	5677	5678
Relay 2 Seq 4	5680	5681	5682	5683	5684	5685	5686
Relay 3 Seq 1	5688	5689	5690	5691	5692	5693	5694
Relay 3 Seq 2	5696	5697	5698	5699	5700	5701	5702
Relay 3 Seq 3	5704	5705	5706	5707	5708	5709	5710
Relay 3 Seq 4	5712	5713	5714	5715	5716	5717	5718
Relay 4 Seq 1	5720	5721	5722	5723	5724	5725	5726
Relay 4 Seq 2	5728	5729	5730	5731	5732	5733	5734
Relay 4 Seq 3	5736	5737	5738	5739	5740	5741	5742
Relay 4 Seq 4	5744	5745	5746	5747	5748	5749	5750
Relay 5 Seq 1	5752	5753	5754	5755	5756	5757	5758
Relay 5 Seq 2	5760	5761	5762	5763	5764	5765	5766
Relay 5 Seq 3	5768	5769	5770	5771	5772	5773	5774
Relay 5 Seq 4	5776	5777	5778	5779	5780	5781	5782
Relay 6 Seq 1	5784	5785	5786	5787	5788	5789	5790
Relay 6 Seq 2	5792	5793	5794	5795	5796	5797	5798
Relay 6 Seq 3	5800	5801	5802	5803	5804	5805	5806
Relay 6 Seq 4	5808	5809	5810	5811	5812	5813	5814
Relay 7 Seq 1	5816	5817	5818	5819	5820	5821	5822
Relay 7 Seq 2	5824	5825	5826	5827	5828	5829	5830
Relay 7 Seq 3	5832	5833	5834	5835	5836	5837	5838
Relay 7 Seq 4	5840	5841	5842	5843	5844	5845	5846
Relay 8 Seq 1	5848	5849	5850	5851	5852	5853	5854
Relay 8 Seq 2	5856	5857	5858	5859	5860	5861	5862
Relay 8 Seq 3	5864	5865	5866	5867	5868	5869	5870
Relay 8 Seq 4	5872	5873	5874	5875	5876	5877	5878

1.10 Time Relay month IO select settings

(1 = Month active)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Relay 1 Seq 1	5888	5889	5890	5891	5892	5893	5894	5895	5896	5897	5898	5899
Relay 1 Seq 2	5904	5905	5906	5907	5908	5909	5910	5911	5912	5913	5914	5915
Relay 1 Seq 3	5920	5921	5922	5923	5924	5925	5926	5927	5928	5929	5930	5931
Relay 1 Seq 4	5936	5937	5938	5939	5940	5941	5942	5943	5944	5945	5946	5947
Relay 2 Seq 1	5952	5953	5954	5955	5956	5957	5958	5959	5960	5961	5962	5963
Relay 2 Seq 2	5968	5969	5970	5971	5972	5973	5974	5975	5976	5977	5978	5979
Relay 2 Seq 3	5984	5985	5986	5987	5988	5989	5990	5991	5992	5993	5994	5995
Relay 2 Seq 4	6000	6001	6002	6003	6004	6005	6006	6007	6008	6009	6010	6011
Relay 3 Seq 1	6016	6017	6018	6019	6020	6021	6022	6023	6024	6025	6026	6027
Relay 3 Seq 2	6032	6033	6034	6035	6036	6037	6038	6039	6040	6041	6042	6043
Relay 3 Seq 3	6048	6049	6050	6051	6052	6053	6054	6055	6056	6057	6058	6059

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Relay 3 Seq 4	6064	6065	6066	6067	6068	6069	6070	6071	6072	6073	6074	6075
Relay 4 Seq 1	6080	6081	6082	6083	6084	6085	6086	6087	6088	6089	6090	6091
Relay 4 Seq 2	6096	6097	6098	6099	6100	6101	6102	6103	6104	6105	6106	6107
Relay 4 Seq 3	6112	6113	6114	6115	6116	6117	6118	6119	6120	6121	6122	6123
Relay 4 Seq 4	6128	6129	6130	6131	6132	6133	6134	6135	6136	6137	6138	6139
Relay 5 Seq 1	6144	6145	6146	6147	6148	6149	6150	6151	6152	6153	6154	6155
Relay 5 Seq 2	6160	6161	6162	6163	6164	6165	6166	6167	6168	6169	6170	6171
Relay 5 Seq 3	6176	6177	6178	6179	6180	6181	6182	6183	6184	6185	6186	6187
Relay 5 Seq 4	6192	6193	6194	6195	6196	6197	6198	6199	6200	6201	6202	6203
Relay 6 Seq 1	6208	6209	6210	6211	6212	6213	6214	6215	6216	6217	6218	6219
Relay 6 Seq 2	6224	6225	6226	6227	6228	6229	6230	6231	6232	6233	6234	6235
Relay 6 Seq 3	6240	6241	6242	6243	6244	6245	6246	6247	6248	6249	6250	6251
Relay 6 Seq 4	6256	6257	6258	6259	6260	6261	6262	6263	6264	6265	6266	6267
Relay 7 Seq 1	6272	6273	6274	6275	6276	6277	6278	6279	6280	6281	6282	6283
Relay 7 Seq 2	6288	6289	6290	6291	6292	6293	6294	6295	6296	6297	6298	6299
Relay 7 Seq 3	6304	6305	6306	6307	6308	6309	6310	6311	6312	6313	6314	6315
Relay 7 Seq 4	6320	6321	6322	6323	6324	6325	6326	6327	6328	6329	6330	6331
Relay 8 Seq 1	6336	6337	6338	6339	6340	6341	6342	6343	6344	6345	6346	6347
Relay 8 Seq 2	6352	6353	6354	6355	6356	6357	6358	6359	6360	6361	6362	6363
Relay 8 Seq 3	6368	6369	6370	6371	6372	6373	6374	6375	6376	6377	6378	6379
Relay 8 Seq 4	6384	6385	6386	6387	6388	6389	6390	6391	6392	6393	6394	6395

1.11 Count down timer outputs

Channel	1	2	3	4	5	6	7	8	9	10	11	12
Output signal	6400	6401	6402	6403	6404	6405	6406	6407	6408	6409	6410	6411
1sec output pulse	6416	6417	6418	6419	6420	6421	6422	6423	6424	6425	6426	6427

2 Text addresses

2.1.1 Analog inputs

Description	Max length	Access type	Decimal base address	Hex base address
Module 1-9: AI 1-6	31	RW	0 + (signal number -1) + (Module number -1) *6	0 x 0 + (signal number -0 x 1) + (Module number -0x1) *0 x 6

2.1.2 RTD temp. inputs

Description	Max length	Access type	Decimal base address	Hex base address
Module 1-9: RTD 1-6	31	RW	64 +(signal number -1) + (Module number -1)*6	0x40 +(signal number -0x1) + (Module number -0x1)*0x6

2.1.3 Analog inputs

Description	Max length	Access type	Decimal base address	Hex base address
Module 1-9 ; AI 1-6	8	RW	256 +(signal number -1) + (Module number -1)*6	0 x 100 + (signal number -0 x 1) + (Module number -0 x 1) *0 x 6

2.1.4 RTD temp. inputs

Description	Max length	Access type	Decimal address	Hex address
Module 1-9 ; RTD 1-6	8	RO	320 + (signal number -1) + (Module number -1) *6	0 x 140 + (signal number -0 x 1) + (Module number -0 x 1) *0 x 6

2.1.5 Digital inputs

Description	Max length	Access type	Decimal base address	Hex base address
Module 1-9 ; DI 1-12	31	RW	768 + (signal number -1) + (Module number -1) *12	0 x 100 + (signal number -0 x 1) + (Module number -0 x 1) *0 x 6

2.1.6 Pulse channels

Description	Max length	Access Type	Decimal base address	Hex base address
Module 1-9 ; DI 1-12	31	RW	768 + (signal number -1) + (Module number -1) *12	0 x 300 + (signal number -0 x 1) + (Module number -0 x 1) *0 x C
Module 1-9 ; DI 1-12	31	RW	768 + (signal number -1) + (Module number -1) *12	0 x 300 + (signal number -0 x 1) + (Module number -0 x 1) *0 x C
Description text	11	RO	1344	0x540 +(channel number -1)
Unit actual value	8	RO	1360	0x550+(channel number -1)
Unit ackum. value	8	RO	1376	0x560+(channel number -1)

2.1.7 Pumps

Description	Max length	Access type	Decimal base address	Hex base address
Pump 1 ; Tag name	11	RW	1424	0x590
Pump 2 ; Tag name	11	RW	1425	0x591
Pump 3 ; Tag name	11	RW	1426	0x592
Pump 4 ; Tag name	11	RW	1427	0x593
Pump 5 ; Tag name	11	RW	1428	0x594
Pump 6 ; Tag name	11	RW	1429	0x595

2.1.8 Communication

Description	Max length	Access type	Decimal address	Hex address
MAC ID Easy read format	18	RO	2047	0x7FF
MAC ID Full string, no separation	16	RO	2048	0x800
First SMS number	19	RW	2049	0x801
Second SMS number	19	RW	2050	0x802
Sim card PIN code	4	RW	2066	0x812
Server IP address	15	RW	2069	0x815
GPRS APN part 1	31	RW	2070	0x816
GPRS APN part 2	31	RW	2071	0x817
GPRS User name	31	RW	2072	0x818
GPRS Password	31	RW	2073	0x819

Ethernet port (TCP/IP)

Static IP				
Description	Max length	Access type	Decimal address	Hex address
IP address	15	RW	2096	0x830
Net Mask	15	RW	2097	0x831

Static IP				
Description	Max length	Access type	Decimal address	Hex address
Gateway	15	RW	2098	0x832

Dynamic IP				
Description	Max length	Access type	Decimal address	Hex address
IP address	15	RW	2100	0x834
Net Mask	15	RW	2101	0x835
Gateway	15	RW	2102	0x836

System

Description	Max length	Access type	Decimal address	Hex address
Station name	20	RW	2112	0x840

Timer relays

Description	Max length	Access type	Decimal base address	Hex base address
Relay 1-8 ; Tag name	30	RW	2368 + (relay number -1)	0x940 + (relay number -0x1)

Count down timers

Description	Max length	Access type	Decimal base address	Hex base address
Timer 1-12 ; Tag name	30	RW	2384 +(count down timer -1)	0x950 +(count down timer -0x1)

2.1.9 Controller version FW build info

Description	Max length	Access type	Decimal address	Hex address
Module	31	RO	2816	0xB00
Revision	31	RO	2817	0xB01
Comp.Ver: Build number:	31	RO	2818	0xB02
Src timestamp:	31	RO	2819	0xB03

3 Status registers

For the BlueLinQ Pro Controller user can select Metric or US units, in this document both units are shown for each register.

For some registers there are multiple uses or units possible. When so the actual use is determined by the selection in another associated register, often a signal type or control method.

The current function and setting of a register will always overwrite alternative ones. Make sure that all registers associated with a used function is correctly set.

For analog I/O-signals the unit corresponding to present settings can be read out as text on dedicated addresses, see chapter 2 Text addresses.

Most registers are single ones but there are also double ones, these are stated as X-Y (with Y being X+1)

When a register is declared as signed both negative and positive values are possible, to describe negative values the two complement method is used.

Range is depending on register size and whether it’s signed or not, the following base rules apply. For some registers the full span is not applicable. The range is described for integer numbers, for registers with fixed decimals the range is respectively smaller.

Date type	Bits	Size
signed single register	16 bits	-32 768 to 32 767
unsigned single register	16 bits	0 to 65 535
signed double register	32 bits	-2,147,483,648 to 2,147,483,647
unsigned double register	32 bits	0 to 4,294,967,295

Repetitive signals and units has their register number shortened to a formula, for example

Description	Access type	Data Type	Reg Number	Scale/Selection list
Current value	RO	Signed	2140 + (signal number -1) + (Module number -1) *6	Scale and units depending on input selection 0.01 m, 0.01 ft 0.1 A 0.1 bar, 0.1 PSI 0.1 mm/s2, 0.01 in/h 0.1 l/s, 1 GPM 0.1 ºC, 0.1 ºF [User defined Unit]

This would translate to add 1 for each channel above first channel and add 6 for each module above first one.

For channel 5 on module 3 the formula would look 2140 + (5 - 1) + (3 - 1) *6 = 2140 +4 +12 = 2156

Expanded for all possible channels it would look like the table below

	Ch1	Ch2	Ch3	Ch4	Ch5	Ch6
Module 1	2140	2141	2142	2143	2144	2145
Module 2	2146	2147	2148	2149	2150	2151
Module 3	2152	2153	2154	2155	2156	2157
Module 4	2158	2159	2160	2161	2162	2163
Module 5	2164	2165	2166	2167	2168	2169
Module 6	2170	2171	2172	2173	2174	2175
Module 7	2176	2177	2178	2179	2180	2181
Module 8	2182	2183	2184	2185	2186	2187
Module 9	2188	2189	2190	2191	2192	2193

3.1 Station/System status

Description	Access type	Data Type	Reg Number	Scale/Selection list
Local Mode	RW	Signed	0	1 = Local

Pump pit

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pit level	RO	Signed	1	0.01 m, 0.01 ft
Inflow	RW	Unsigned	2	0.1 l/s, 1 GPM
Outflow	RW	Unsigned	3	0.1 l/s, 1 GPM

Pump pit > Pit overflow

Description	Access type	Data Type	Reg Number	Scale/Selection list
Overflow level	RW	Unsigned	4	1 mm, 0.01 in
Overflow flow	RW	Unsigned	5	0.1 m3/h, 1 GPM
Overflow flow	RW	Unsigned	6	0.1 l/s, 1 GPM

Pump pit

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pit volume	RW	Unsigned	7-8	1 l, 1 gal
Pit level m.a.s	RO	Signed	9	0.01 m, 0.01 ft
Outlet pressure	RO	Signed	10	0.1 bar, 0.1 PSI

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total pump head	RO	Signed	11	0.01 m, 0.01 ft
2nd pit level	RO	Signed	12	0.01 m, 0.01 ft
Pit level diff	RO	Signed	13	0.01 m, 0.01 ft

Field bus modules (RS485) > Main pwr. mon.

Description	Access type	Data Type	Reg Number	Scale/Selection list
Current	RO	Signed	14	0.1 A
Line current L1	RO	Signed	15	0.1 A
Line current L2	RO	Signed	16	0.1 A
Line current L3	RO	Signed	17	0.1 A
Average LN voltage	RO	Signed	18	0.1 V
Line voltage L1	RO	Signed	19	0.1 V
Line voltage L2	RO	Signed	20	0.1 V
Line voltage L3	RO	Signed	21	0.1 V
Average LL voltage	RO	Signed	22	0.1 V
L1-L2 voltage	RO	Signed	23	0.1 V
L2-L3 voltage	RO	Signed	24	0.1 V
L3-L1 voltage	RO	Signed	25	0.1 V
Power	RO	Signed	26	0.1 kW
Current frequency	RO	Signed	27	0.01 Hz
Power factor	RO	Signed	28	0.01 [Unitless]

System

Description	Access type	Data Type	Reg Number	Scale/Selection list
Supply voltage	RO	Unsigned	29	0.1 V DC
PCB temperature	RO	Signed	30	1 °C, 1 °F

PID regulator

Description	Access type	Data Type	Reg Number	Scale/Selection list
Current setpoint	RW	Unsigned	34	0.01 m, 0.01 ft
Process value	RO	Signed	35	0.01 m, 0.01 ft
Output signal	RW	Unsigned	36	0.1 %
Setpoint flags	RW	Unsigned	37	0=Intern, 1=Extern
Output flags	RW	Unsigned	38	0=AUTO, 1=MANUAL, 2=Blocked

Pumps > Pump 1-6

Description	Access type	Data Type	Reg Number	Scale/Selection list
Motor current	RO	Signed	40 +(pump number -1)	0.1 A
Last pump capacity	RW	Unsigned	46 +(pump number -1)	0.1 l/s, 1 GPM
Efficiency total	RW	Signed	52 +(pump number -1)	0.001 kWh/m3, 1 kWh/Mgal

Pump pit > Pit overflow > Overflow volume

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	58-59	0.1 m3, 1 gal
Today	RW	Unsigned	60-61	0.1 l/s, 1 GPM
Yesterday	RW	Unsigned	62-63	0.1 m3, 1 gal
2 Days ago	RW	Unsigned	64-65	0.1 m3, 1 gal
3 Days ago	RW	Unsigned	66-67	0.1 m3, 1 gal
4 Days ago	RW	Unsigned	68-69	0.1 m3, 1 gal
5 Days ago	RW	Unsigned	70-71	0.1 m3, 1 gal
6 Days ago	RW	Unsigned	72-73	0.1 m3, 1 gal

Description	Access type	Data Type	Reg Number	Scale/Selection list
7 Days ago	RW	Unsigned	74-75	0.1 m3, 1 gal

Pump pit > Pit overflow > No. of overflows

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	76-77	1 [Unitless]
Today	RW	Unsigned	78-79	1 [Unitless]
Yesterday	RW	Unsigned	80-81	1 [Unitless]
2 Days ago	RW	Unsigned	82-83	1 [Unitless]
3 Days ago	RW	Unsigned	84-85	1 [Unitless]
4 Days ago	RW	Unsigned	86-87	1 [Unitless]
5 Days ago	RW	Unsigned	88-89	1 [Unitless]
6 Days ago	RW	Unsigned	90-91	1 [Unitless]
7 Days ago	RW	Unsigned	92-93	1 [Unitless]

Pump pit > Pit overflow > Overflow time

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	94-95	1 s, displayed as h:m:s
Today	RW	Unsigned	96-97	1 s, displayed as h:m:s
Yesterday	RW	Unsigned	98-99	1 s, displayed as h:m:s
2 Days ago	RW	Unsigned	100-101	1 s, displayed as h:m:s
3 Days ago	RW	Unsigned	102-103	1 s, displayed as h:m:s
4 Days ago	RW	Unsigned	104-105	1 s, displayed as h:m:s
5 Days ago	RW	Unsigned	106-107	1 s, displayed as h:m:s
6 Days ago	RW	Unsigned	108-109	1 s, displayed as h:m:s
7 Days ago	RW	Unsigned	110-111	1 s, displayed as h:m:s

Pump pit > Pumped volume

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	112-113	0.1 m3, 1 gal
Today	RW	Unsigned	114-115	0.1 m3, 1 gal
Yesterday	RW	Unsigned	116-117	0.1 m3, 1 gal
2 Days ago	RW	Unsigned	118-119	0.1 m3, 1 gal
3 Days ago	RW	Unsigned	120-121	0.1 m3, 1 gal
4 Days ago	RW	Unsigned	122-123	0.1 m3, 1 gal
5 Days ago	RW	Unsigned	124-125	0.1 m3, 1 gal
6 Days ago	RW	Unsigned	126-127	0.1 m3, 1 gal
7 Days ago	RW	Unsigned	128-129	0.1 m3, 1 gal

Pump pit > Pit efficiency

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	130-131	0.001 kWh/m3, 1 kWh/Mgal
Today	RW	Unsigned	132-133	0.001 kWh/m3, 1 kWh/Mgal
Yesterday	RW	Unsigned	134-135	0.001 kWh/m3, 1 kWh/Mgal
2 Days ago	RW	Unsigned	136-137	0.001 kWh/m3, 1 kWh/Mgal
3 Days ago	RW	Unsigned	138-139	0.001 kWh/m3, 1 kWh/Mgal
4 Days ago	RW	Unsigned	140-141	0.001 kWh/m3, 1 kWh/Mgal
5 Days ago	RW	Unsigned	142-143	0.001 kWh/m3, 1 kWh/Mgal
6 Days ago	RW	Unsigned	144-145	0.001 kWh/m3, 1 kWh/Mgal
7 Days ago	RW	Unsigned	146-147	0.001 kWh/m3, 1 kWh/Mgal

Pump pit > Energy consumption

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	148-149	0.1 kWh
Today	RW	Unsigned	150-151	0.1 kWh
Yesterday	RW	Unsigned	152-153	0.1 kWh
2 Days ago	RW	Unsigned	154-155	0.1 kWh
3 Days ago	RW	Unsigned	156-157	0.1 kWh
4 Days ago	RW	Unsigned	158-159	0.1 kWh
5 Days ago	RW	Unsigned	160-161	0.1 kWh
6 Days ago	RW	Unsigned	162-163	0.1 kWh
7 Days ago	RW	Unsigned	164-165	0.1 kWh

Pump pit > All pumps run #

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	166-167	1 [Unitless]
Today	RW	Unsigned	168-169	1 [Unitless]
Yesterday	RW	Unsigned	170-171	1 [Unitless]
2 Days ago	RW	Unsigned	172-173	1 [Unitless]
3 Days ago	RW	Unsigned	174-175	1 [Unitless]
4 Days ago	RW	Unsigned	176-177	1 [Unitless]
5 Days ago	RW	Unsigned	178-179	1 [Unitless]
6 Days ago	RW	Unsigned	180-181	1 [Unitless]
7 Days ago	RW	Unsigned	182-183	1 [Unitless]

Pump pit > All pumps run time

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	184-185	1 s, displayed as h:m:s
Today	RW	Unsigned	186-187	1 s, displayed as h:m:s
Yesterday	RW	Unsigned	188-189	1 s, displayed as h:m:s
2 Days ago	RW	Unsigned	190-191	1 s, displayed as h:m:s
3 Days ago	RW	Unsigned	192-193	1 s, displayed as h:m:s
4 Days ago	RW	Unsigned	194-195	1 s, displayed as h:m:s
5 Days ago	RW	Unsigned	196-197	1 s, displayed as h:m:s
6 Days ago	RW	Unsigned	198-199	1 s, displayed as h:m:s
7 Days ago	RW	Unsigned	200-201	1 s, displayed as h:m:s

Pump pit > Mixer > Number of starts

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	202-203	1 [Unitless]
Today	RW	Unsigned	204-205	1 [Unitless]
Yesterday	RW	Unsigned	206-207	1 [Unitless]
2 Days ago	RW	Unsigned	208-209	1 [Unitless]
3 Days ago	RW	Unsigned	210-211	1 [Unitless]
4 Days ago	RW	Unsigned	212-213	1 [Unitless]
5 Days ago	RW	Unsigned	214-215	1 [Unitless]
6 Days ago	RW	Unsigned	216-217	1 [Unitless]
7 Days ago	RW	Unsigned	218-219	1 [Unitless]

Pump pit > Mixer > Running time

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	220-221	1 s, displayed as h:m:s
Today	RW	Unsigned	222-223	1 s, displayed as h:m:s

Description	Access type	Data Type	Reg Number	Scale/Selection list
Yesterday	RW	Unsigned	224-225	1 s, displayed as h:m:s
2 Days ago	RW	Unsigned	226-227	1 s, displayed as h:m:s
3 Days ago	RW	Unsigned	228-229	1 s, displayed as h:m:s
4 Days ago	RW	Unsigned	230-231	1 s, displayed as h:m:s
5 Days ago	RW	Unsigned	232-233	1 s, displayed as h:m:s
6 Days ago	RW	Unsigned	234-235	1 s, displayed as h:m:s
7 Days ago	RW	Unsigned	236-237	1 s, displayed as h:m:s

System > Number of power on (boot)

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	238-239	1 [Unitless]
Today	RW	Unsigned	240-241	1 [Unitless]
Yesterday	RW	Unsigned	242-243	1 [Unitless]
2 Days ago	RW	Unsigned	244-245	1 [Unitless]
3 Days ago	RW	Unsigned	246-247	1 [Unitless]
4 Days ago	RW	Unsigned	248-249	1 [Unitless]
5 Days ago	RW	Unsigned	250-251	1 [Unitless]
6 Days ago	RW	Unsigned	252-253	1 [Unitless]
7 Days ago	RW	Unsigned	254-255	1 [Unitless]

System > Power on time

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	256-257	1 s, displayed as h:m:s
Today	RW	Unsigned	258-259	1 s, displayed as h:m:s
Yesterday	RW	Unsigned	260-261	1 s, displayed as h:m:s
2 Days ago	RW	Unsigned	262-263	1 s, displayed as h:m:s
3 Days ago	RW	Unsigned	264-265	1 s, displayed as h:m:s
4 Days ago	RW	Unsigned	266-267	1 s, displayed as h:m:s
5 Days ago	RW	Unsigned	268-269	1 s, displayed as h:m:s
6 Days ago	RW	Unsigned	270-271	1 s, displayed as h:m:s
7 Days ago	RW	Unsigned	272-273	1 s, displayed as h:m:s

Pump pit > Drain pump > Number of starts

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	274-275	1 [Unitless]
Today	RW	Unsigned	276-277	1 [Unitless]
Yesterday	RW	Unsigned	278-279	1 [Unitless]
2 Days ago	RW	Unsigned	280-281	1 [Unitless]
3 Days ago	RW	Unsigned	282-283	1 [Unitless]
4 Days ago	RW	Unsigned	284-285	1 [Unitless]
5 Days ago	RW	Unsigned	286-287	1 [Unitless]
6 Days ago	RW	Unsigned	288-289	1 [Unitless]
7 Days ago	RW	Unsigned	290-291	1 [Unitless]

Pump pit > Drain pump > Running time

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	292-293	1 s, displayed as h:m:s
Today	RW	Unsigned	294-295	1 s, displayed as h:m:s
Yesterday	RW	Unsigned	296-297	1 s, displayed as h:m:s
2 Days ago	RW	Unsigned	298-299	1 s, displayed as h:m:s

Description	Access type	Data Type	Reg Number	Scale/Selection list
3 Days ago	RW	Unsigned	300-301	1 s, displayed as h:m:s
4 Days ago	RW	Unsigned	302-303	1 s, displayed as h:m:s
5 Days ago	RW	Unsigned	304-305	1 s, displayed as h:m:s
6 Days ago	RW	Unsigned	306-307	1 s, displayed as h:m:s
7 Days ago	RW	Unsigned	308-309	1 s, displayed as h:m:s

Pump pit

Description	Access type	Data Type	Reg Number	Scale/Selection list
Actual pump head	RO	Signed	325	0.01 m, 0.01 ft

Real time clock

(For setting of clock use telegram type 68, formatted string)

Description	Access type	Data Type	Reg Number	Scale/Selection list
Year	RO	Unsigned	328	0-4095
Month	RO	Unsigned	329	1-12, 1 = January
Day	RO	Unsigned	330	1-31
Hour	RO	Unsigned	331	0-23
Minute	RO	Unsigned	332	0-59
Dial up ack.	RO	Unsigned	333	Write to ackn. Alarm dialup for value 1 master takes response for disconnecting

Communication

GPRS status

Description	Access type	Data Type	Reg Number	Scale/Selection list
Signal 0-31 (99=NA)	RO	Unsigned	334	1 [Unitless]

GPRS status Status counters

Description	Access type	Data Type	Reg Number	Scale/Selection list
Connect counter	RO	Unsigned	335	1 [Unitless]
Connect status	RW	Unsigned	336	0=-Not connected-, 1=-Reconnecting-, 2=-Connected-, 3=Force reconnect, 4=-TCP Server waiting-

System

Description	Access type	Data Type	Reg Number	Scale/Selection list
Station ID	RW	Unsigned	341-342	1 [Unitless]

Modem port (RS232)

Description	Access type	Data Type	Reg Number	Scale/Selection list
No. Overflows	RO	Unsigned	344	1 [Unitless]
No. Parity errors	RO	Unsigned	345	1 [Unitless]
No. Framing errors	RO	Unsigned	346	1 [Unitless]
No. Break	RO	Unsigned	347	1 [Unitless]
No. Error messages	RO	Unsigned	348	1 [Unitless]
No. OK messages	RO	Unsigned	349	1 [Unitless]
No. Checksum errors	RO	Unsigned	350	1 [Unitless]

RS485 port 1

Description	Access type	Data Type	Reg Number	Scale/Selection list
No. Overflows	RO	Unsigned	352	1 [Unitless]
No. Parity errors	RO	Unsigned	353	1 [Unitless]

Description	Access type	Data Type	Reg Number	Scale/Selection list
No. Framing errors	RO	Unsigned	354	1 [Unitless]
No. Break	RO	Unsigned	355	1 [Unitless]
No. Error messages	RO	Unsigned	356	1 [Unitless]
No. OK messages	RO	Unsigned	357	1 [Unitless]
No. Checksum errors	RO	Unsigned	358	1 [Unitless]

RS485 port 2

Description	Access type	Data Type	Reg Number	Scale/Selection list
No. Overflows	RO	Unsigned	360	1 [Unitless]
No. Parity errors	RO	Unsigned	361	1 [Unitless]
No. Framing errors	RO	Unsigned	362	1 [Unitless]
No. Break	RO	Unsigned	363	1 [Unitless]
No. Error messages	RO	Unsigned	364	1 [Unitless]
No. OK messages	RO	Unsigned	365	1 [Unitless]
No. Checksum errors	RO	Unsigned	366	1 [Unitless]

GPRS status > Status counters

Description	Access type	Data Type	Reg Number	Scale/Selection list
No. Error messages	RO	Unsigned	372	1 [Unitless]
No. OK messages	RO	Unsigned	373	1 [Unitless]
No. Checksum errors	RO	Unsigned	374	1 [Unitless]

USB port

Description	Access type	Data Type	Reg Number	Scale/Selection list
No. Error messages	RO	Unsigned	380	1 [Unitless]
No. OK messages	RO	Unsigned	381	1 [Unitless]
No. Checksum errors	RO	Unsigned	382	1 [Unitless]

Ethernet port (TCP/IP)

Description	Access type	Data Type	Reg Number	Scale/Selection list
No. Error messages	RO	Unsigned	388	1 [Unitless]
No. OK messages	RO	Unsigned	389	1 [Unitless]
No. Checksum errors	RO	Unsigned	390	1 [Unitless]

Pulse channels > Pulse ch. 1-4

Description	Access type	Data Type	Reg Number	Scale/Selection list
Current value	RO	Signed	400 +(channel number-1)	Scale and units depending on input selection
Precipitation	-	-	-	0.1 l/s/ha, 0.01 in/h
Energy	-	-	-	0.1 kW
Flow	-	-	-	0.1 m3/h, 1 GPM
Number of Pulses	RO	Unsigned	404-405 +(channel number -1)*2	1 [Unitless]

System > Controller version

Description	Access type	Data Type	Reg Number	Scale/Selection list
HW version	RO	Unsigned	442	1 [Unitless]
FW version	RO	Unsigned	443	0.01 [Unitless]
Option	RO	Unsigned	444	1 [Unitless]

Pulse channels > Pulse ch. 1-4 > Accumulated values

Scale and units depending on input selection per channel

Description	Access type	Data Type	Reg Number	Scale/Selection list
Precipitation	-	Unsigned	-	0.1 l/s/ha, 0.01 in/h
Energy	-	Unsigned	-	0.1 kW
Flow	-	Unsigned	-	0.1 m3/h, 1 GPM
Total	RW	Unsigned	448-449 +(channel number -1)*18	-
Today	RW	Unsigned	450-451 +(channel number -1)*18	-
Yesterday	RW	Unsigned	452-453 +(channel number -1)*18	-
2 Days ago	RW	Unsigned	454-455 +(channel number -1)*18	-
3 Days ago	RW	Unsigned	456-457 +(channel number -1)*18	-
4 Days ago	RW	Unsigned	458-459 +(channel number -1)*18	-
5 Days ago	RW	Unsigned	460-461 +(channel number -1)*18	-
6 Days ago	RW	Unsigned	462-463 +(channel number -1)*18	-
7 Days ago	RW	Unsigned	464-465 +(channel number -1)*18	-

3.2 Station ID

Description	Access type	Data Type	Reg Number	Scale/Selection list
Station ID	RW	Unsigned	583-584	1 [Unitless]

3.3 Pump status

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pump 1 register set	-	-	700 - 879	-
Pump 2 register set	-	-	880 - 1059	-
Pump 3 register set	-	-	1060 - 1239	-
Pump 4 register set	-	-	1240 - 1419	-
Pump 5 register set	-	-	1420 - 1599	-
Pump 6 register set	-	-	1600 - 1779	-
Run indication	RO	Signed	700 + (pump number -1)*180	0 = OFF, 1 = Ready to run, 2 = Running, 3 = Error run, 4 = Blocked, 5 = Error blocked, 6 = Pump reversing
State of M-0-A switch	RW	Signed	701 + (pump number -1)*180	0 = MANUAL, 1 = Pump not in auto, 2 = AUTO
Reverse status	RW	Signed	702 + (pump number -1) *180	0 = -OK-, 1 = Timer blocked, 2 = Alarm blocked

Temperature

Description	Access type	Data Type	Reg Number	Scale/Selection list
Stator L1	RO	Signed	703 + (pump number -1) *180	0.1 ºC, 0.1 ºF
Stator L2	RO	Signed	704 + (pump number -1) *180	0.1 ºC, 0.1 ºF
Stator L3	RO	Signed	705 + (pump number -1) *180	0.1 ºC, 0.1 ºF
Upper bearing	RO	Signed	706 + (pump number -1) *180	0.1 ºC, 0.1 ºF
Lower bearing	RO	Signed	707 + (pump number -1) *180	0.1 ºC, 0.1 ºF
Generic	RO	Signed	708 + (pump number -1) *180	0.1 ºC, 0.1 ºF
Vibration	RO	Signed	713 + (pump number -1) *180	0.1 mm/s2, 0.01 in/h

Errr blocked

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pump holding	RW	Unsigned	714 + (pump number -1) *180	0=NO, 1=YES
Pump blocking	RW	Unsigned	715 + (pump number -1) *180	0=NO, 1=YES
Externally blocked	RW	Unsigned	716 + (pump number -1) *180	0=NO, 1=YES

Best efficiency point

Description	Access type	Data Type	Reg Number	Scale/Selection list
Energy efficiency	RW	Signed	718 + (pump number -1) *180	0.0001 kWh/m3, 0.0001 kWh/Mgal
BEP frequency	RW	Unsigned	719 + (pump number -1) *180	0.01 Hz
BEP step	RW	Unsigned	720 + (pump number -1) *180	0.01 Hz
BEP last step direction	RW	Unsigned	721 + (pump number -1) *180	0=-Decrease-, 1=-Increase-, 2=Retune
Filtered effic. index	RO	Signed	722 + (pump number -1) *180	1e-06 [Unitless]
Last raw effic. index	RO	Signed	723 + (pump number -1) *180	1e-06 [Unitless]
Drive start ramp	RO	Unsigned	724 + (pump number -1) *180	1 s

Logs > Pump capacity

Description	Access type	Data Type	Reg Number	Scale/Selection list
Reference head	RO	Unsigned	725 +(pump number -1)*180	0.01 m, 0.01 ft

Pwr.mon.

Description	Access type	Data Type	Reg Number	Scale/Selection list
Current	RO	Signed	726 + (pump number -1) *180	0.1 A
Line current L1	RO	Signed	727 + (pump number -1) *180	0.1 A
Line current L2	RO	Signed	728 + (pump number -1) *180	0.1 A
Line current L3	RO	Signed	729 + (pump number -1) *180	0.1 A
Average LN voltage	RO	Signed	730 + (pump number -1) *180	0.1 A
Line voltage L1	RO	Signed	731 + (pump number -1) *180	0.1 A
Line voltage L2	RO	Signed	732 + (pump number -1) *180	0.1 A
Line voltage L3	RO	Signed	733 + (pump number -1) *180	0.1 A
Average LL voltage	RO	Signed	734 + (pump number -1) *180	0.1 A
L1-L2 voltage	RO	Signed	735 + (pump number -1) *180	0.1 A
L2-L3 voltage	RO	Signed	736 + (pump number -1) *180	0.1 A
L3-L1 voltage	RO	Signed	737 + (pump number -1) *180	0.1 A
Motor power	RO	Signed	738 + (pump number -1) *180	0.1 kW
Current frequency	RO	Signed	739 + (pump number -1) *180	0.01 Hz
Power factor	RO	Signed	740 + (pump number -1) *180	0.01 [Unitless]

M.Drive

Description	Access type	Data Type	Reg Number	Scale/Selection list
Drive status	RO	Unsigned	742 + (pump number -1)*180	0=OFF, 1=Running, 2=Disabled, 3=Dummy string, 4=Fault, 5=Dummy string, 6=Dummy string, 7=Dummy string, 8=Dummy, 9=Dummy string, 10=Dummy string, 11=Dummy string, 12=Dummy string, 13=Dummy string, 14=Dummy string, 15=Dummy string, 16=Tune in
VFD frequency	RO	Signed	744 + (pump number -1) *180	0.01 Hz
Rotation speed	RO	Signed	745 + (pump number -1) *180	1 rpm
Motor voltage	RO	Signed	746 + (pump number -1) *180	0.1 V
Motor power	RO	Signed	747 + (pump number -1) *180	0.1 kW
Current	RO	Signed	748 + (pump number -1) *180	0.1 A
Torque Nm	RO	Signed	749 + (pump number -1) *180	1 Nm, 1 lbf.ft
Torque %	RO	Signed	750 + (pump number -1) *180	0.1 %
Starts since pump rev.	RO	Unsigned	755 + (pump number -1)*180	1 [Unitless]
Calc. Pump flow	RO	Signed	756-757 + (pump number -1) *180	0.01 l/s, 1 GPM
Vol. Pump flow	RO	Signed	758-759 + (pump number -1) *180	0.01 l/s, 1 GPM
Ext meter Pump flow	RO	Signed	760-761 + (pump number -1) *180	0.01 l/s, 1 GPM

Pumped volume log

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	772-773 + (pump number -1) *180	1 l, 0.1 gal
Today	RW	Unsigned	774-775 + (pump number -1) *180	1 l, 0.1 gal
Yesterday	RW	Unsigned	776-777 + (pump number -1) *180	1 l, 0.1 gal
2 Days ago	RW	Unsigned	778-779 + (pump number -1) *180	1 l, 0.1 gal
3 Days ago	RW	Unsigned	780-781 + (pump number -1) *180	1 l, 0.1 gal
4 Days ago	RW	Unsigned	782-783 + (pump number -1) *180	1 l, 0.1 gal
5 Days ago	RW	Unsigned	784-785 + (pump number -1) *180	1 l, 0.1 gal
6 Days ago	RW	Unsigned	786-787 + (pump number -1) *180	1 l, 0.1 gal
7 Days ago	RW	Unsigned	788-789 + (pump number -1) *180	1 l, 0.1 gal

Pump efficiency log

Description	Access type	Data Type	Reg Number	Scale/Selection list
Average	RW	Unsigned	790-791 + (pump number -1) *180	0.001 kWh/m3, 1 kWh/Mgal
Today	RW	Unsigned	792-793 + (pump number -1) *180	0.001 kWh/m3, 1 kWh/Mgal
Yesterday	RW	Unsigned	794-795 + (pump number -1) *180	0.001 kWh/m3, 1 kWh/Mgal
2 Days ago	RW	Unsigned	796-797 + (pump number -1) *180	0.001 kWh/m3, 1 kWh/Mgal
3 Days ago	RW	Unsigned	798-799 + (pump number -1) *180	0.001 kWh/m3, 1 kWh/Mgal
4 Days ago	RW	Unsigned	800-801 + (pump number -1) *180	0.001 kWh/m3, 1 kWh/Mgal
5 Days ago	RW	Unsigned	802-803 + (pump number -1) *180	0.001 kWh/m3, 1 kWh/Mgal
6 Days ago	RW	Unsigned	804-805 + (pump number -1) *180	0.001 kWh/m3, 1 kWh/Mgal
7 Days ago	RW	Unsigned	806-807 + (pump number -1) *180	0.001 kWh/m3, 1 kWh/Mgal

Energy consumption log

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	808-809 + (pump number -1) *180	0.1 kWh
Today	RW	Unsigned	810-811 + (pump number -1) *180	0.1 kWh
Yesterday	RW	Unsigned	812-813 + (pump number -1) *180	0.1 kWh
2 Days ago	RW	Unsigned	814-815 + (pump number -1) *180	0.1 kWh
3 Days ago	RW	Unsigned	816-817 + (pump number -1) *180	0.1 kWh
4 Days ago	RW	Unsigned	818-819 + (pump number -1) *180	0.1 kWh
5 Days ago	RW	Unsigned	820-821 + (pump number -1) *180	0.1 kWh
6 Days ago	RW	Unsigned	822-823 + (pump number -1) *180	0.1 kWh
7 Days ago	RW	Unsigned	824-825 + (pump number -1) *180	0.1 kWh

Number of starts log

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	826-827 + (pump number -1) *180	1 [Unitless]
Today	RW	Unsigned	828-829 + (pump number -1) *180	1 [Unitless]
Yesterday	RW	Unsigned	830-831 + (pump number -1) *180	1 [Unitless]
2 Days ago	RW	Unsigned	832-833 + (pump number -1) *180	1 [Unitless]
3 Days ago	RW	Unsigned	834-835 + (pump number -1) *180	1 [Unitless]
4 Days ago	RW	Unsigned	836-837 + (pump number -1) *180	1 [Unitless]
5 Days ago	RW	Unsigned	838-839 + (pump number -1) *180	1 [Unitless]
6 Days ago	RW	Unsigned	840-841 + (pump number -1) *180	1 [Unitless]
7 Days ago	RW	Unsigned	842-843 + (pump number -1) *180	1 [Unitless]

Running time log

Description	Access type	Data Type	Reg Number	Scale/Selection list
Total	RW	Unsigned	844-845 + (pump number -1) *180	1 s, displayed as h:m:s
Today	RW	Unsigned	846-847 + (pump number -1) *180	1 s, displayed as h:m:s

Description	Access type	Data Type	Reg Number	Scale/Selection list
Yesterday	RW	Unsigned	848-849 + (pump number -1) *180	1 s, displayed as h:m:s
2 Days ago	RW	Unsigned	850-851 + (pump number -1) *180	1 s, displayed as h:m:s
3 Days ago	RW	Unsigned	852-853 + (pump number -1) *180	1 s, displayed as h:m:s
4 Days ago	RW	Unsigned	854-855 + (pump number -1) *180	1 s, displayed as h:m:s
5 Days ago	RW	Unsigned	856-857 + (pump number -1) *180	1 s, displayed as h:m:s
6 Days ago	RW	Unsigned	858-859 + (pump number -1) *180	1 s, displayed as h:m:s
7 Days ago	RW	Unsigned	860-861 + (pump number -1) *180	1 s, displayed as h:m:s

Pump capacity log

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pump capacity nom.	RW	Unsigned	862-863 + (pump number -1) *180	0.1 l/s, 1 GPM
Today	RW	Unsigned	864-865 + (pump number -1) *180	0.1 l/s, 1 GPM
Yesterday	RW	Unsigned	866-867 + (pump number -1) *180	0.1 l/s, 1 GPM
2 Days ago	RW	Unsigned	868-869 + (pump number -1) *180	0.1 l/s, 1 GPM
3 Days ago	RW	Unsigned	870-871 + (pump number -1) *180	0.1 l/s, 1 GPM
4 Days ago	RW	Unsigned	872-873 + (pump number -1) *180	0.1 l/s, 1 GPM
5 Days ago	RW	Unsigned	874-875 + (pump number -1) *180	0.1 l/s, 1 GPM
6 Days ago	RW	Unsigned	876-877 + (pump number -1) *180	0.1 l/s, 1 GPM
7 Days ago	RW	Unsigned	878-879 + (pump number -1) *180	0.1 l/s, 1 GPM

3.4 IO Module CAN connection status

Digital inputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1780 + (module number -1)	0=-Not connected-, 1=-Reconnecting-, 2=-Not connected-, 3=-Connected-, 4=-Error-, 5=-Error-, 6=-Not connected-, 7=CAN ID error, 8=CAN ID error

Digital outputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1789 + (module number -1)	0=-Not connected-, 1=-Reconnecting-, 2=-Not connected-, 3=-Connected-, 4=-Error-, 5=-Error-, 6=-Not connected-, 7=CAN ID error, 8=CAN ID error

Analog inputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1798 + (module number -1)	0=-Not connected-, 1=-Reconnecting-, 2=-Not connected-, 3=-Connected-, 4=-Error-, 5=-Error-, 6=-Not connected-, 7=CAN ID error, 8=CAN ID error

RTD temp. inputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1807 + (module number -1)	0=-Not connected-, 1=-Reconnecting-, 2=-Not connected-, 3=-Connected-, 4=-Error-, 5=-Error-, 6=-Not connected-, 7=CAN ID error, 8=CAN ID error

Analog outputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1816 +(module number -1)	0=-Not connected-, 1=-Reconnecting-, 2=-Not connected-, 3=-Connected-, 4=-Error-, 5=-Error-, 6=-Not connected-, 7=CAN ID error, 8=CAN ID error

Leakage inputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1825 +(module number -1)	0=-Not connected-, 1=-Reconnecting-, 2=-Not connected-, 3=-Connected-, 4=-Error-, 5=-Error-, 6=-Not connected-, 7=CAN ID error, 8=CAN ID error

3.5 IO Module HW status

Digital inputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1843 + (module number -1)	1 [Unitless]

Digital outputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1852 + (module number -1)	1 [Unitless]

Analog inputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1861 + (module number -1)	1 [Unitless]

RTD temp. inputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1870 + (module number -1)	1 [Unitless]

Analog outputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1879 + (module number -1)	1 [Unitless]

Leakage inputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1888 + (module number -1)	1 [Unitless]

3.6 IO Module SW version

Digital inputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1906 + (module number -1)	0.01 [Unitless]

Digital outputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1915 + (module number -1)	0.01 [Unitless]

Analog inputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1924 + (module number -1)	0.01 [Unitless]

RTD temp. inputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1933 + (module number -1)	0.01 [Unitless]

Analog outputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1942 + (module number -1)	0.01 [Unitless]

Leakage inputs

Description	Access type	Data Type	Reg Number	Scale/Selection list
Module 1-9	RO	Unsigned	1951 + (module number -1)	0.01 [Unitless]

CA 8xx version > I/O module SW versions

Looks for first instance, presence of deviant versions will be marked with minus sign

Description	Access type	Data Type	Reg Number	Scale/Selection list
CA 811	RW	Signed	1969	0.01 [Unitless]
CA 821	RW	Signed	1970	0.01 [Unitless]
CA 831	RW	Signed	1971	0.01 [Unitless]
CA 832	RW	Signed	1972	0.01 [Unitless]
CA 841	RW	Signed	1973	0.01 [Unitless]
CA 861	RW	Signed	1974	0.01 [Unitless]

CA 8xx version > I/O module HW versions

Looks for first instance, presence of deviant versions will be marked with minus sign

Description	Access type	Data Type	Reg Number	Scale/Selection list
CA 811	RW	Signed	1977	1 [Unitless]
CA 821	RW	Signed	1978	1 [Unitless]
CA 831	RW	Signed	1979	1 [Unitless]
CA 832	RW	Signed	1980	1 [Unitless]
CA 841	RW	Signed	1981	1 [Unitless]
CA 861	RW	Signed	1982	1 [Unitless]

Communication > IO Modules (CAN bus)

Description	Access type	Data Type	Reg Number	Scale/Selection list
NO. Tx OK messages	RO	Unsigned	1985-1986	1 [Unitless]
NO. Rx OK messages	RO	Unsigned	1987-1988	1 [Unitless]
No. Error messages	RO	Unsigned	1989-1990	1 [Unitless]
Online	RO	Unsigned	1991	1 [Unitless]

3.7 Analog IOs

Analog inputs > Module 1-9 > AI 1-6

Description	Access type	Data Type	Reg Number	Scale/Selection list
Current	RO	Signed	2030 + (signal number -1) + (Module number -1) *6	0.01 mA

Analog outputs > Module 1-9 > AO 1-6

Description	Access type	Data Type	Reg Number	Scale/Selection list
Current	RO	Signed	2085 + (signal number -1) + (Module number -1) *6	0.01 mA

Analog inputs > Module 1-9 > AI 1-6

Description	Access type	Data Type	Reg Number	Scale/Selection list
Current value	RO	Signed	2140 + (signal number -1) + (Module number -1) *6	Scale and units depending on input selection 0.01 m, 0.01 ft 0.1 A 0.1 bar, 0.1 PSI 0.1 mm/s2, 0.01 in/h 0.1 l/s, 1 GPM 0.1 ºC, 0.1 ºF [User defined Unit]

RTD temp. inputs > Module 1-9 > RTD 1-6

Description	Access type	Data Type	Reg Number	Scale/Selection list
Current value	RO	Signed	2195 + (signal number -1) + (Module number -1) *6	Scale and units depending on input selection 0.1 ºC, 0.1 ºF 0 = -OK-, 1 = -Tripped-

3.8 Time relay 1 -8

Time until next relay event

Description	Access type	Data Type	Reg Number	Scale/Selection list
Time relay 1	RO	Signed	2250-2251	1 s, displayed as h:m:s
Time relay 2	RO	Signed	2260-2261	1 s, displayed as h:m:s
Time relay 3	RO	Signed	2270-2271	1 s, displayed as h:m:s
Time relay 4	RO	Signed	2280-2281	1 s, displayed as h:m:s
Time relay 5	RO	Signed	2290-2291	1 s, displayed as h:m:s
Time relay 6	RO	Signed	2300-2201	1 s, displayed as h:m:s
Time relay 7	RO	Signed	2310-2211	1 s, displayed as h:m:s
Time relay 8	RO	Signed	2320-2321	1 s, displayed as h:m:s

Time until next sequence event

Description	Access type	Data Type	Reg Number	Scale/Selection list
Sequence 1-4	RO	Signed	2252-2253 + (sequence number -1) *2 + (Relay number -1) *10	1 s, displayed as h:m:s

Count down timers

Description	Access type	Data Type	Reg Number	Scale/Selection list
Status	RO	Unsigned	2350 + (timer number -1) *6	0=OFF, 1=ON, 2=Manual off, 3=Rep. count expired (retrig)
Repetition(s)	RO	Unsigned	2351 + (timer number -1) *6	1 [Unitless]
Delay time	RO	Unsigned	2352-2353 + (timer number -1) *6	1 s, displayed as h:m:s
Manual control	RO	Unsigned	11406 + (timer number -1) *8	0=AUTO, 1=ON, 2=OFF

4 Configuration registers

For the BlueLinQ Pro Controller user can select Metric or US units, in this document both units are shown for each register.

For some registers there are multiple uses or units possible. When so the actual use is determined by the selection in another associated register, often a signal type or control method.

The current function and setting of a register will always overwrite alternative ones. Make sure that all registers associated with a used function is correctly set.

For analog I/O-signals the unit corresponding to present settings can be read out as text on dedicated addresses, see chapter 2 Text addresses.

Most registers are single ones but there are also double ones, these are stated as X-Y (with Y being X+1)

When a register is declared as signed both negative and positive values are possible, to describe negative values the two complement method is used.

Range is depending on register size and whether it's signed or not, the following base rules apply. For some registers the full span is not applicable. The range is described for integer numbers, for registers with fixed decimals the range is respectively smaller.

Date type	Bits	Size
signed single register	16 bits	-32 768 to 32 767
unsigned single register	16 bits	0 to 65 535
signed double register	32 bits	-2,147,483,648 to 2,147,483,647
unsigned double register	32 bits	0 to 4,294,967,295

Repetitive signals and units has their register number shortened to a formula, for example DI input type

Description	Access type	Data Type	Reg Number	Scale/Selection list
Signal function	RW	Unsigned	6475 +(signal number -1)*8 +(Module number -1)*96	0=OFF, 1=Run indication, 2=Manual start, 3=Set manual, 4=Set auto, 5=Start float, 6=Pump failure, 7=Motor protector, 8=High motor temp. pump, 9=Leakage pump, 10=Stop float, 11=Low level float, 12=Overflow sensor, 13=High level float, 14=Start float drain pump, 15=Local mode, 16=Alarm reset, 17=Power fail, 18=DI pulse channel 1-4, 19=Block PID controller, 20=Alarm input, 21=Block operation, 22=Leakage mixer-drain pump, 23=High temp. mixer-drain p., 24=Emergency power mode, 25=Block remote data, 26=Ackn. Pump alarms, 27=Valve open, 28=Valve close

i.e. 6475 for first channel on first module, add 96 for each module step and 8 for each signal step

Expanded for all possible channels it would look like the table below:

	Ch1	Ch2	Ch3	Ch4	Ch5	Ch6	Ch7	Ch8	Ch9	Ch10	Ch11	Ch12
Module 1	6475	6483	6491	6499	6507	6515	6523	6531	6539	6547	6555	6563
Module 2	6571	6579	6587	6595	6603	6611	6619	6627	6635	6643	6651	6659
Module 3	6667	6675	6683	6691	6699	6707	6715	6723	6731	6739	6747	6755
Module 4	6763	6771	6779	6787	6795	6803	6811	6819	6827	6835	6843	6851
Module 5	6859	6867	6875	6883	6891	6899	6907	6915	6923	6931	6939	6947
Module 6	6955	6963	6971	6979	6987	6995	7003	7011	7019	7027	7035	7043
Module 7	7051	7059	7067	7075	7083	7091	7099	7107	7115	7123	7131	7139
Module 8	7147	7155	7163	7171	7179	7187	7195	7203	7211	7219	7227	7235
Module 9	7243	7251	7259	7267	7275	7283	7291	7299	7307	7315	7323	7331

4.1 Common Pump settings

Description	Access type	Data Type	Reg Number	Scale/Selection list
Min relay interval	RW	Unsigned	5121	1 s
Max No. pumps running	RW	Unsigned	5122	0=1, 1=2, 2=3, 3=4, 4=5, 5=6
Min no pumps available	RW	Unsigned	5123	0=1, 1=2, 2=3, 3=4, 4=5, 5=6

Alternation

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alternation after	RW	Unsigned	5124	0=Each pump stop, 1=All pumps stopped
Alt. function	RW	Unsigned	5125	0=OFF, 1=Normal, 2=Asymmetrical
After cont. Runtime	RW	Unsigned	5127	1 min, displayed as hh:mm

Start on fast change

Description	Access type	Data Type	Reg Number	Scale/Selection list
Start on fast change	RW	Unsigned	5128	0=OFF, 1=ON
Min No. pumps running	RW	Unsigned	5129	0=0, 1=1, 2=2, 3=3, 4=4, 5=5, 6=6
Max No. pumps running	RW	Unsigned	5130	0=0, 1=1, 2=2, 3=3, 4=4, 5=5, 6=6

Description	Access type	Data Type	Reg Number	Scale/Selection list
Start level change	RW	Unsigned	5131	0.01 m, 0.01 ft
Per	RW	Unsigned	5132	1 min

Stop on fast change

Description	Access type	Data Type	Reg Number	Scale/Selection list
Stop on fast change	RW	Unsigned	5133	0=OFF, 1=ON
Min No. pumps running	RW	Unsigned	5134	0=0, 1=1, 2=2, 3=3, 4=4, 5=5, 6=6
Max No. pumps running	RW	Unsigned	5135	0=0, 1=1, 2=2, 3=3, 4=4, 5=5, 6=6
Stop level change	RW	Unsigned	5136	0.01 m, 0.01 ft
Per	RW	Unsigned	5137	1 min

Pump pit > Station flow > Meas. parameters

Description	Access type	Data Type	Reg Number	Scale/Selection list
Inflow calc. interval	RW	Unsigned	5138	1 s
Calculate inflow	RW	Unsigned	5139	0=OFF, 1=ON

Calc. pump capacity

Description	Access type	Data Type	Reg Number	Scale/Selection list
Static head	RW	Unsigned	5140	0.01 m, 0.01 ft
Press. sens. inlet offset	RW	Unsigned	5143	0.01 m, 0.01 ft

Pump pit > Station flow > Meas. parameters

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pit shape	RW	Unsigned	5147	0=Rectangular, 1=Conical

Pump pit > Station flow > Pit area

Description	Access type	Data Type	Reg Number	Scale/Selection list
Level 0	RW	Signed	5148	0.01 m, 0.01 ft
Area 0	RW	Unsigned	5149	0.01 m2, 0.01 ft2
Level 1	RW	Signed	5150	0.01 m, 0.01 ft
Area 1	RW	Unsigned	5151	0.01 m2, 0.01 ft2
Level 2	RW	Signed	5152	0.01 m, 0.01 ft
Area 2	RW	Unsigned	5153	0.01 m2, 0.01 ft2
Level 3	RW	Signed	5154	0.01 m, 0.01 ft
Area 3	RW	Unsigned	5155	0.01 m2, 0.01 ft2
Level 4	RW	Signed	5156	0.01 m, 0.01 ft
Area 4	RW	Unsigned	5157	0.01 m2, 0.01 ft2
Level 5	RW	Signed	5158	0.01 m, 0.01 ft
Area 5	RW	Unsigned	5159	0.01 m2, 0.01 ft2
Level 6	RW	Signed	5160	0.01 m, 0.01 ft
Area 6	RW	Unsigned	5161	0.01 m2, 0.01 ft2
Level 7	RW	Signed	5162	0.01 m, 0.01 ft
Area 7	RW	Unsigned	5163	0.01 m2, 0.01 ft2
Level 8	RW	Signed	5164	0.01 m, 0.01 ft
Area 8	RW	Unsigned	5165	0.01 m2, 0.01 ft2
Level 9	RW	Signed	5166	0.01 m, 0.01 ft
Area 9	RW	Unsigned	5167	0.01 m2, 0.01 ft2

Calc. pump capacity

Description	Access type	Data Type	Reg Number	Scale/Selection list
Auto set warning thresh. @	RW	Unsigned	5168	1%
Function	RW	Unsigned	5169	0=OFF, 1=ON
Min level p.cap.calc.	RW	Unsigned	5170	0.01 m, 0.01 ft
Max level p.cap calc	RW	Unsigned	5171	0.01 m, 0.01 ft
No. pump starts to alarm	RW	Unsigned	5172	1 [Unitless]

Description	Access type	Data Type	Reg Number	Scale/Selection list
Start delay	RW	Unsigned	5173	1 s
Calculation time	RW	Unsigned	5174	1 s
Stop delay	RW	Unsigned	5175	1 s
Auto set alarm thresh. @	RW	Unsigned	5176	1%

Pump blocking > Remote blocking

Description	Access type	Data Type	Reg Number	Scale/Selection list
Remote blocking	RW	Unsigned	5177	0 = OFF, 1 = ON
Block timeout	RW	Unsigned	5178	1 s

Pump blocking > Pressure blocking

Description	Access type	Data Type	Reg Number	Scale/Selection list
Block pressure	RW	Unsigned	5179	0.1 bar, 0.1 PSI
Block timeout	RW	Unsigned	5180	1 s
Block delay	RW	Unsigned	5181	1 s
Pressure blocking	RW	Unsigned	5182	0 = OFF, 1 = ON

Backup running

Description	Access type	Data Type	Reg Number	Scale/Selection list
Running time	RW	Unsigned	5183	1 s

Pump pit > Level-sensor check

Description	Access type	Data Type	Reg Number	Scale/Selection list
At high-level float	RW	Signed	5185	0 = OFF, 1 = ON
Level at high float	RW	Unsigned	5186	0.01 m, 0.01 ft
Max deviation +/-	RW	Signed	5187	0.01 m, 0.01 ft
At low-level float	RW	Unsigned	5189	0 = OFF, 1 = ON
Level at low float	RW	Signed	5190	0.01 m, 0.01 ft
Max deviation +/-	RW	Unsigned	5191	0.01 m, 0.01 ft

Pump blocking > Low-level float

Description	Access type	Data Type	Reg Number	Scale/Selection list
Low-level float	RW	Unsigned	5192	0=OFF, 1=ON

Pump pit > Level sensor check

Description	Access type	Data Type	Reg Number	Scale/Selection list
Level change check	RW	Signed	5194	0=OFF, 1=ON
Level change time	RW	Unsigned	5195	1 s
Min level change +/-	RW	Unsigned	5196	0.01 m, 0.01 ft

Pump pit > Tariff control

Description	Access type	Data Type	Reg Number	Scale/Selection list
Tariff control	RW	Unsigned	5197	0=OFF, 1=ON
Lead time	RW	Unsigned	5198	1 min
Pump down level	RW	Signed	5199	0.01 m, 0.01 ft

Pump pit > Tariff control > Peak Monday - Sunday

Description	Access type	Data Type	Reg Number	Scale/Selection list
Peak time 1 ON	RW	Unsigned	5200 + (Weekday Monday = 0, Tuesday =1 …)*4	1 min, displayed as hh:mm
Peak time 1 OFF	RW	Unsigned	5201 + (Weekday Monday = 0, Tuesday =1 …)*4	1 min, displayed as hh:mm
Peak time 2 ON	RW	Unsigned	5202 + (Weekday Monday = 0, Tuesday =1 …)*4	1 min, displayed as hh:mm
Peak time 2 OFF	RW	Unsigned	5203 + (Weekday Monday = 0, Tuesday =1 …)*4	1 min, displayed as hh:mm

Pump pit > Level above sea

Description	Access type	Data Type	Reg Number	Scale/Selection list
Set level	RW	Unsigned	5228	0.01 m, 0.01 ft

Alternat. stop level

Description	Access type	Data Type	Reg Number	Scale/Selection list
After No. starts	RW	Unsigned	5230	1 [Unitless]
Stop level	RW	Signed	5231	0.01 m, 0.01 ft
Stop delay	RW	Unsigned	5232	1 s

Pump blocking > Power

Description	Access type	Data Type	Reg Number	Scale/Selection list
Phase missing	RW	Unsigned	5235	0 = NO, 1 = YES
Over voltage	RW	Unsigned	5236	0 = NO, 1 = YES
Under voltage	RW	Unsigned	5237	0 = NO, 1 = YES
Unbalanced voltage	RW	Unsigned	5238	0 = NO, 1 = YES

Pump blocking

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pwr mon. block off delay	RW	Unsigned	5239	1 s
Manual rst on hi p temp	RW	Unsigned	5242	0 = NO, 1 = YES

Pump pit > Pit alarms > High-level float

Description	Access type	Data Type	Reg Number	Scale/Selection list
Block alarm high float	RW	Unsigned	5243	0=Never block, 1=1 pump running, 2=2 pumps running, 3=3 pumps running, 4=4 pumps running, 5=5 pumps running, 6=6 pumps running

Max No. pumps running > Emergency power mode

Description	Access type	Data Type	Reg Number	Scale/Selection list
Max No. pumps running	RW	Unsigned	5245	0=1, 1=2, 2=3, 3=4, 4=5, 5=6

Pump pit > Overflow

Description	Access type	Data Type	Reg Number	Scale/Selection list
Overflow detect	RW	Unsigned	5250	0=OFF, 1=Overflow sensor, 2=Level limit
Overflow calculation	RW	Unsigned	5251	0=Exp. & constant, 1=Lock on inflow
Exponent 1	RW	Signed	5252-5253	0.0001 [Unitless]
Constant 1	RW	Signed	5254-5255	0.0001 [Unitless]
Exponent 2	RW	Signed	5256-5257	0.0001 [Unitless]
Constant 2	RW	Signed	5258-5259	0.0001 [Unitless]
High level limit	RW	Signed	5260	0.0001 [Unitless]

Pump pit > Mixer control

Description	Access type	Data Type	Reg Number	Scale/Selection list
Stop pump during mix	RW	Unsigned	5262	0=NO, 1=YES
Mixer time	RW	Unsigned	5263	1 s
Start count interval	RW	Unsigned	5264	1 [Unitless]
Timer interval	RW	Unsigned	5265	1 min, displayed as hh:mm
Max level	RW	Unsigned	5266	0.01 m, 0.01 ft
Min level	RW	Unsigned	5267	0.01 m, 0.01 ft
Select run indication	RW	Unsigned	5268	0=OFF, 1=Digital inputs

Pump pit > Cleaning control

Description	Access type	Data Type	Reg Number	Scale/Selection list
Flush at:	RW	Unsigned	5272	0=At pump start, 1=At pump stop
Running time	RW	Unsigned	5273	1 s
Start count interval	RW	Unsigned	5274	1 [Unitless]

Pump pit > Drain pump control

Description	Access type	Data Type	Reg Number	Scale/Selection list
Start delay	RW	Unsigned	5277	1 s
Stop delay	RW	Unsigned	5278	1 s
Select run indication	RW	Unsigned	5279	0 = OFF, 1 = Digital inputs

Pump pit > Station flow > Meas. parameters

Description	Access type	Data Type	Reg Number	Scale/Selection list
Flow compen. 2 pumps	RW	Unsigned	5300	1%
Flow compen. 3 pumps	RW	Unsigned	5301	1%
Flow compen. 4 pumps	RW	Unsigned	5302	1%
Flow compen. 5 pumps	RW	Unsigned	5303	1%
Flow compen. 6 pumps	RW	Unsigned	5304	1%

PID regulator

Description	Access type	Data Type	Reg Number	Scale/Selection list
Setpoint	RW	Signed	5400	0.01 m, 0.01 ft
Setpoint high tariff	RW	Signed	5401	0.01 m, 0.01 ft
AI Module	RW	Unsigned	5404	0=1, 1=2, 2=3, 3=4, 4=5, 5=6, 6=7, 7=8, 8=9
Extern setpoint input	RW	Unsigned	5405	0=OFF, 1=AI1, 2=AI2, 3=AI3, 4=AI4, 5=AI5, 6=AI6
Max setpoint	RW	Signed	5406	0.01 m, 0.01 ft
Min setpoint	RW	Signed	5407	0.01 m, 0.01 ft
Start setpoint	RW	Signed	5408	0.01 m, 0.01 ft
Max output	RW	Signed	5409	0.1 %
Min output	RW	Signed	5410	0.1 %
Block output	RW	Signed	5411	0.1 %
Zero dev. output	RW	Signed	5412	0.1 %
Start output	RW	Signed	5413	0.1 %
Max output change	RW	Unsigned	5414	0.1 %/s
Direct/Reverse effect	RW	Unsigned	5415	0=Reverse, 1=Direct
Setpoint tracking	RW	Unsigned	5416	0=NO, 1=YES
Output when blocked	RW	Unsigned	5417	0=Freeze output, 1=Setup block signal
Setpoint when start	RW	Unsigned	5418	0=Last, 1=Setup start, 2=Extern
Output state when start	RW	Unsigned	5419	0=Last state, 1=AUTO, 2=MANUAL, 3=Internally blocked
Calc. pump cap. at max speed	RW	Unsigned	5420	0=NO, 1=YES
P-Band	RW	Unsigned	5422-5423	0.001 [Unitless]
I-Time	RW	Unsigned	5424-5425	0.01 s
D-Time	RW	Unsigned	5426-5427	0.01 s
Min speed	RW	Signed	5429	0.1 %
Locked speed pumping out	RW	Signed	5430	0.1 %
Lock speed delay	RW	Signed	5431	1 s

Pump pit valve

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pump open delay	RW	Unsigned	5490	1 s

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pump close delay	RW	Unsigned	5491	1 s
Max time to open	RW	Unsigned	5492	1 s
Max time to close	RW	Unsigned	5493	1 s
Max time to reopen	RW	Unsigned	5494	1 s
Close retry delay time	RW	Unsigned	5495	1 s

Pump blocking

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pit valve open err	RW	Unsigned	5496	0=NO, 1=YES
Pit valve close err	RW	Unsigned	5497	0=NO, 1=YES
Pit valve error	RW	Unsigned	5498	0=NO, 1=YES

4.2 Common P1-P6

Description	Access type	Data Type	Reg Number	Scale/Selection list
Log pump events	RW	Unsigned	5500	0=NO, 1=YES

Pump pit > Motor prot. auto reset

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pulse time	RW	Unsigned	5502	1 s
Delay time	RW	Unsigned	5503	1 s
Max No. Attempts	RW	Unsigned	5504	0=0, 1=1, 2=2, 3=3

Pump exercising

Description	Access type	Data Type	Reg Number	Scale/Selection list
Max standstill time	RW	Unsigned	5510	1 min, displayed as hh:mm
Running time	RW	Unsigned	5511	1 s
Start if level >	RW	Signed	5512	0.01 m, 0.01 ft
Start if level <	RW	Signed	5513	0.01 m, 0.01 ft

Pump reversing

Description	Access type	Data Type	Reg Number	Scale/Selection list
Start rev. delay	RW	Unsigned	5514	1 s
Rev. run time	RW	Unsigned	5515	1 s
Max No. Attempts	RW	Unsigned	5516	0=0, 1=1, 2=2, 3=3, 4=4, 5=5
Pump relay when rev.	RW	Unsigned	5517	0=OFF, 1=ON
Stop other pumps	RW	Unsigned	5518	0=NO, 1=YES
Rev. on fallen m.prot.	RW	Unsigned	5519	0=NO, 1=YES
Rev. on pump fail	RW	Unsigned	5520	0=NO, 1=YES
Rev. on low p.cap.	RW	Unsigned	5521	0=NO, 1=YES
Rev. on overcurrent	RW	Unsigned	5522	0=NO, 1=YES
After No. starts	RW	Unsigned	5523	0=NO, 1=YES
Max attempts reset time	RW	Unsigned	5524	1 min
Max attempts block time	RW	Unsigned	5525	1 h
Manual reverse reset	RW	Unsigned	5526	0=NO, 1=YES

Field bus modules (RS485) Main pwr. mon.

Description	Access type	Data Type	Reg Number	Scale/Selection list
Manufacturer	RW	Unsigned	5330	0=None, 1=Accuenergy, 2=Schneider, 3=Lumel, 4=Carlo Gavazzi
Model	RW	Unsigned	5331	0=None, 1=Acuvim II, 0=None, 1=PM 710, 2=PM 5110, 0=None, 1=ND 10, 0=None, 1=EM210

Description	Access type	Data Type	Reg Number	Scale/Selection list
Slave ID	RW	Unsigned	5332	1 [Unitless]
Bus selection	RW	Unsigned	5334	0=RS485 port 1, 1=RS485 port 2
Use P1 PM for main pwr data	RW	Unsigned	5535	0=NO, 1=YES

4.3 Pump 1-6 Pump control

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pump1 register set	-	-	5725-5849	
Pump2 register set	-	-	5850-5971	
Pump3 register set	-	-	5975-6099	
Pump4 register set	-	-	6100-6224	
Pump5 register set	-	-	6225-6349	
Pump5 register set			6350-6474	
Type of pump control	RW	Unsigned	5727+(pump number -1)*125	0=Pump disabled, 1=On/Off control, 2=VFD manual speed, 3=VFD PID control, 4=VFD Best effic. point

Start/stop levels

Description	Access type	Data Type	Reg Number
Start level	RW	Signed	5728 +(pump number -1)*125 0.01 m, 0.01 ft
Stop level	RW	Signed	5729 +(pump number -1)*125 0.01 m, 0.01 ft
Random start range+-	RW	Signed	5730 +(pump number -1)*125 0.01 m, 0.01 ft
Start level h. tariff	RW	Signed	5731 +(pump number -1)*125 0.01 m, 0.01 ft
Stop level h. tariff	RW	Signed	5732 +(pump number -1)*125 0.01 m, 0.01 ft
Random start range+-	RW	Signed	5733 +(pump number -1)*125 0.01 m, 0.01 ft

Time settings

Description	Access type	Data Type	Reg Number	Scale/Selection list
Threshold-on delay	RW	Unsigned	5734 +(pump number -1)*125	1 s
Threshold-off delay	RW	Unsigned	5735 +(pump number -1)*125	1 s

Backup running

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pump 1 backup start	RW	Unsigned	5736 +(pump number -1)*125	0=OFF, 1=ON

Pump control

Description	Access type	Data Type	Reg Number	Scale/Selection list
Select run indication	RW	Unsigned	5737 +(pump number -1)*125	0=Any discrete source, 1=Output signal, 2=Digital inputs, 3=Motor current, 4=Field bus modules (RS485)
Current threshold (if apl.)	RW	Unsigned	5738 +(pump number -1)*125	0.1 A

Start/stop levels

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alternat. Stop level	RW	Unsigned	5739 +(pump number -1)*125	0=OFF, 1=ON

Time settings

Description	Access type	Data Type	Reg Number	Scale/Selection list
Max cont. Runtime	RW	Unsigned	5740 +(pump number -1)*125	1 min, displayed as hh:mm

Alternation

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pump alternation	RW	Unsigned	5741 +(pump number -1)*125	0=NO, 1=YES
Run time ratio	RW	Unsigned	5742 +(pump number -1)*125	1% Pump curve (QH)
Point 1 head (max)	RW	Unsigned	5745 +(pump number -1)*125	0.01 m, 0.01 ft
Point 1 flow (min)	RW	Unsigned	5746 +(pump number -1)*125	0.1 l/s, 1 GPM
Point 2 head (mid)	RW	Unsigned	5747 +(pump number -1)*125	0.01 m, 0.01 ft
Point 2 flow (mid)	RW	Unsigned	5748 +(pump number -1)*125	0.1 l/s, 1 GPM
Point 3 head (min)	RW	Unsigned	5749 +(pump number -1)*125	0.01 m, 0.01 ft
Point 3 flow (max)	RW	Unsigned	5750 +(pump number -1)*125	0.1 l/s, 1 GPM
Total head	RW	Unsigned	5751 +(pump number -1)*125	0.01 m, 0.01 ft

Pump alarms > Low pump capacity

Description	Access type	Data Type	Reg Number	Scale/Selection list
Auto-set low cap. threshold	RW	Unsigned	5752 +(pump number -1)*125	0=Inactive, 1=Trig auto-set, 2=Auto-set running
Auto-set calc. counter	RO	Unsigned	5753 +(pump number -1)*125	1 [Unitless]

Pump reversing

Description	Access type	Data Type	Reg Number	Scale/Selection list
Reverse attempt cnt	RO	Unsigned	5754 +(pump number -1)*125	1 [Unitless]
Reversing Pump	RW	Unsigned	5755 +(pump number -1)*125	0=NO, 1=YES
No of starts before pump reverse	RW	Unsigned	5756 +(pump number -1)*125	1 [Unitless]

Pump curve (QH)

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pump curve Q-H exponent	RO	Signed	5757 +(pump number -1)*125	0.0001 [Unitless]

Low pump capacity alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Auto seq. options	RW	Unsigned	5758 +(pump number -1)*125	0=Inactive, 1=Detect ramp-up time, 2=Forced auto sequence, 3=Both options
Pump cap. calc. start dly.	RW	Unsigned	5759 +(pump number -1)*125	1 s

Pump exercising

Description	Access type	Data Type	Reg Number	Scale/Selection list
Exercise P1	RW	Unsigned	5760 +(pump number -1)*125	0=NO, 1=YES

Hold pump on alarm > Temperature

Description	Access type	Data Type	Reg Number	Scale/Selection list
Generic	RW	Unsigned	5761 +(pump number -1)*125	0=NO, 1=YES
Stator L1	RW	Unsigned	5762 +(pump number -1)*125	0=NO, 1=YES
Stator L2	RW	Unsigned	5763 +(pump number -1)*125	0=NO, 1=YES
Stator L3	RW	Unsigned	5764 +(pump number -1)*125	0=NO, 1=YES
Upper bearing	RW	Unsigned	5765 +(pump number -1)*125	0=NO, 1=YES
Lower bearing	RW	Unsigned	5766 +(pump number -1)*125	0=NO, 1=YES

Hold pump on alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Vibration	RW	Unsigned	5767 +(pump number -1)*125	0=NO, 1=YES

Hold pump on alarm > Leakage

Description	Access type	Data Type	Reg Number	Scale/Selection list
Generic	RW	Unsigned	5768 +(pump number -1)*125	0=NO, 1=YES
Oil chamber	RW	Unsigned	5769 +(pump number -1)*125	0=NO, 1=YES
Motor housing	RW	Unsigned	5770 +(pump number -1)*125	0=NO, 1=YES
Electr. Con. Box	RW	Unsigned	5771 +(pump number -1)*125	0=NO, 1=YES

Block pump on alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
High motor current	RW	Unsigned	5772 +(pump number -1)*125	0=NO, 1=YES
Fallen motor protect	RW	Unsigned	5773 +(pump number -1)*125	0=NO, 1=YES
No run indication	RW	Unsigned	5774 +(pump number -1)*125	0=NO, 1=YES
Pump error	RW	Unsigned	5775 +(pump number -1)*125	0=NO, 1=YES
Vibration	RW	Unsigned	5776 +(pump number -1)*125	0=NO, 1=YES

Block pump on alarm > High temperature

Description	Access type	Data Type	Reg Number	Scale/Selection list
Generic	RW	Unsigned	5777 +(pump number -1)*125	0=NO, 1=YES
Stator L1	RW	Unsigned	5778 +(pump number -1)*125	0=NO, 1=YES
Stator L2	RW	Unsigned	5779 +(pump number -1)*125	0=NO, 1=YES
Stator L3	RW	Unsigned	5780 +(pump number -1)*125	0=NO, 1=YES
Upper bearing	RW	Unsigned	5781 +(pump number -1)*125	0=NO, 1=YES
Lower bearing	RW	Unsigned	5782 +(pump number -1)*125	0=NO, 1=YES

Block pump on alarm > Leakage

Description	Access type	Data Type	Reg Number	Scale/Selection list
Generic	RW	Unsigned	5783 +(pump number -1)*125	0=NO, 1=YES
Oil chamber	RW	Unsigned	5784 +(pump number -1)*125	0=NO, 1=YES
Motor housing	RW	Unsigned	5785 +(pump number -1)*125	0=NO, 1=YES
Electr. Con. Box	RW	Unsigned	5786 +(pump number -1)*125	0=NO, 1=YES

Best efficiency point

Description	Access type	Data Type	Reg Number	Scale/Selection list
Start at max, every n start	RW	Unsigned	5789 +(pump number -1)*125	1 [Unitless]

Pump

Description	Access type	Data Type	Reg Number	Scale/Selection list
Max freq. run time	RW	Unsigned	5790 +(pump number -1)*125	1 s
Max freq. if all pump run	RW	Unsigned	5791 +(pump number -1)*125	0=NO, 1=YES
All pumps max freq. delay	RW	Unsigned	5792 +(pump number -1)*125	1 s
Max freq. on hi lvl alarm	RW	Unsigned	5793 +(pump number -1)*125	0=NO, 1=YES

M.Drive

Description	Access type	Data Type	Reg Number	Scale/Selection list
Manufacturer	RW	Unsigned	5795 +(pump number -1)*125	0=None, 1=Invertek, 2=Schneider, 3=Danfoss, 4=ABB, 5=Emotron, 6=NFO drives, 7=Vacon, 8=YASKAWA

Description	Access type	Data Type	Reg Number	Scale/Selection list
Model	RW	Unsigned	5796 +(pump number -1)*125	Selection is depending on manufacturer setting; 1 0=None, 1=Optidrive 2 0=None, 1=ATV 61, 2=ATS 48, 3=ATV 600 series, 4=ATV 12, 5=ATS 22 3 0=None, 1=FC 200, 2=MCD 200, 3=MCD 500 4 0=None, 1=ACQ 810, 2=ACS 580, 3=ACS 550, 4=PSTX 5 0=None, 1=TSA Softstarter, 2=FDU 2 6 0=None, 1=Sinus 7 0=None, 1=Vacon 100, 2=Vacon 20 8 0=None, 1=P1000 <= 11KW, 2=P1000 > 11KW
Slave ID	RW	Unsigned	5797 +(pump number -1)*125	1 [Unitless]
Modbus control	RW	Unsigned	5798 +(pump number -1)*125	0=Monitor, 1=& Control on/off, 2=& Manual speed, 3=& Auto speed
Bus selection	RW	Unsigned	5799 +(pump number -1)*125	0=RS485 port 1, 1=RS485 port 2

M.Drive > Drive fault alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Ackn. Alarm reset drive	RW	Unsigned	5800 +(pump number -1)*125	0=NO, 1=YES

M.Drive

Description	Access type	Data Type	Reg Number	Scale/Selection list
Min set frequency VFD	RW	Unsigned	5801 +(pump number -1)*125	0.01 Hz
Max set frequency VFD	RW	Unsigned	5802 +(pump number -1)*125	0.01 Hz
Set manual frequency	RW	Unsigned	5803 +(pump number -1)*125	0.01 Hz
Set reverse frequency	RW	Unsigned	5804 +(pump number -1)*125	0.01 Hz
Control frequency	RW	Unsigned	5805 +(pump number -1)*125	0.01 Hz
A-0 switch blocks Modbus com.	RW	Unsigned	5806 +(pump number -1)*125	0=NO, 1=YES

M.Drive > Drive fault alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Enable auto reset	RW	Unsigned	5807 +(pump number -1)*125	0=NO, 1=YES

M.Drive

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pump cap at min freq.	RW	Unsigned	5808 +(pump number -1)*125	0.1 %

Pump control > Pwr.mon.1

Description	Access type	Data Type	Reg Number	Scale/Selection list
Manufacturer	RW	Unsigned	5810 +(pump number -1)*125	0=None, 1=Accuenergy, 2=Schneider, 3=Lumel, 4=Carlo Gavazzi
Model	RW	Unsigned	5811 +(pump number -1)*125	0=None, 1=Acuvim II
Model	RW	Unsigned	5811 +(pump number -1)*125	0=None, 1=PM 710, 2=PM 5110
Model	RW	Unsigned	5811 +(pump number -1)*125	0=None, 1=ND 10
Model	RW	Unsigned	5811 +(pump number -1)*125	0=None, 1=EM210
Slave ID	RW	Unsigned	5812 +(pump number -1)*125	1 [Unitless]
Bus selection	RW	Unsigned	5814 +(pump number -1)*125	0=RS485 port 1, 1=RS485 port 2

Graphical display > Info pump1

Description	Access type	Data Type	Reg Number	Scale/Selection list
Hide electrical current	RW	Unsigned	5815 +(pump number -1)*125	0=OFF, 1=ON
Temp. symb. Override enable	RW	Unsigned	5816 +(pump number -1)*125	0=NO, 1=YES
Leak. Symb. Override enable	RW	Unsigned	5817 +(pump number -1)*125	0=NO, 1=YES
Electr. Symb. Override en.	RW	Unsigned	5818 +(pump number -1)*125	0=NO, 1=YES
Vibrat. Symb. Override en.	RW	Unsigned	5819 +(pump number -1)*125	0=NO, 1=YES
Temp. symb. Override I/O	RW	Unsigned	5820 +(pump number -1)*125	1 [Unitless]
Leak. Symb. Override I/O	RW	Unsigned	5821 +(pump number -1)*125	1 [Unitless]
Electr. Symb. Override I/O	RW	Unsigned	5822 +(pump number -1)*125	1 [Unitless]
Vibrat. Symb. Override I/O	RW	Unsigned	5823 +(pump number -1)*125	1 [Unitless]

Pump

Description	Access type	Data Type	Reg Number	Scale/Selection list
Copy pump setup from	RW	Unsigned	5824 +(pump number -1)*125	0=None, 1=Pump 1, 2=Pump 2, 3=Pump 3, 4=Pump 4, 5=Pump 5, 6=Pump 6, 7=Default

Emergency power mode

Description	Access type	Data Type	Reg Number	Scale/Selection list
Block Pump in emgcy. Pwr. Mode	RW	Unsigned	5825 +(pump number -1)*125	0=NO, 1=YES

Pump valve

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pump open delay	RW	Unsigned	5827 +(pump number -1)*125	1 s
Pump close delay	RW	Unsigned	5828 +(pump number -1)*125	1 s
Max time to open	RW	Unsigned	5829 +(pump number -1)*125	1 s
Max time to close	RW	Unsigned	5830 +(pump number -1)*125	1 s
Max time to reopen	RW	Unsigned	5831 +(pump number -1)*125	1 s
Close retry delay time	RW	Unsigned	5832 +(pump number -1)*125	1 s

Block pump on alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Pmp valve open err.	RW	Unsigned	5833 +(pump number -1)*125	0=NO, 1=YES
Pmp valve close err.	RW	Unsigned	5834 +(pump number -1)*125	0=NO, 1=YES
Pmp valve error	RW	Unsigned	5835 +(pump number -1)*125	0=NO, 1=YES

4.4 Digital inputs Module 1-9:DI 1-12

Local inputs are treated as Module 10 with DI 1-4

Description	Access type	Data Type	Reg Number	Scale/Selection list
Signal function	RW	Unsigned	6475 +(signal number -1)*8 +(Module number -1)*96	0=OFF, 1=Run indication, 2=Manual start, 3=Set manual, 4=Set auto, 5=Start float, 6=Pump failure, 7=Motor protector, 8=High motor temp. pump, 9=Leakage pump, 10=Stop float, 11=Low level float, 12=Overflow sensor, 13=High level float, 14=Start float drain pump, 15=Local mode, 16=Alarm reset, 17=Power fail, 18=DI pulse channel 1-4, 19=Block PID controller, 20=Alarm input, 21=Block operation, 22=Leakage mixer-drain pump, 23=High temp. mixer-drain p., 24=Emergency power mode, 25=Block remote data, 26=Ackn. Pump alarms, 27=Valve open, 28=Valve close
Object	RW	Unsigned	6476 +(signal number -1)*8 +(Module number -1)*96	0=Pump 1, 1=Pump 2, 2=Pump 3, 3=Pump 4, 4=Pump 5, 5=Pump 6, 6=Mixer, 7=Drain pump, 8=All
Object	RW	Unsigned	6476 +(signal number -1)*8 +(Module number -1)*96	0=Pump 1, 1=Pump 2, 2=Pump 3, 3=Pump 4, 4=Pump 5, 5=Pump 6

Description	Access type	Data Type	Reg Number	Scale/Selection list
Object	RW	Unsigned	6476 +(signal number -1)*8 +(Module number -1)*96	0=Pump 1, 1=Pump 2, 2=Pump 3, 3=Pump 4, 4=Pump 5, 5=Pump 6, 6=Pump pit
Object	RW	Unsigned	6476 +(signal number -1)*8 +(Module number -1)*96	0=Pulse channel 1, 1=Pulse channel 2, 2=Pulse channel 3, 3=Pulse channel 4
Object	RW	Unsigned	6476 +(signal number -1)*8 +(Module number -1)*96	0=Mixer, 1=Drain pump
Object	RW	Unsigned	6476 +(signal number -1)*8 +(Module number -1)*96	0=Pump 1, 1=Pump 2, 2=Pump 3, 3=Pump 4, 4=Pump 5, 5=Pump 6, 6=All
Normally open/ closed	RW	Unsigned	6477 +(signal number -1)*8 +(Module number -1)*96	0=OFF, 1=ON
Event Trig	RW	Unsigned	6478 +(signal number -1)*8 +(Module number -1)*96	0=Generic, 1=Stator L1, 2=Stator L2, 3=Stator L3, 4=Upper bearing, 5=Lower bearing
Measure point	RW	Unsigned	6479 +(signal number -1)*8 +(Module number -1)*96	0=Generic, 1=Oil chamber, 2=Motor housing, 3=Electr. Con. Box
Allow set clock	RW	Unsigned	6479 +(signal number -1)*8 +(Module number -1)*96	0=NO, 1=YES
Alarm reset delay	RW	Unsigned	6480 +(signal number -1)*8 +(Module number -1)*96	1 s
IO number	RW	Unsigned	6481 +(signal number -1)*8 +(Module number -1)*96	1 [Unitless]

4.5 Leakage inputsModule 1-9:DI 1-6

Description	Access type	Data Type	Reg Number	Scale/Selection list
Signal function	RW	Unsigned	7375 +(signal number -1)*4 +(Module number -1)*24	0=OFF, 1=Leakage pump, 2=Leakage mixer-drain pump
Object	RW	Unsigned	7376 +(signal number -1)*4 +(Module number -1)*24	0=Pump 1, 1=Pump 2, 2=Pump 3, 3=Pump 4, 4=Pump 5, 5=Pump 6
Object	RW	Unsigned	7376 +(signal number -1)*4 +(Module number -1)*24	0=Mixer, 1=Drain pump
Measure point	RW	Unsigned	7378 +(signal number -1)*4 +(Module number -1)*24	0=Generic, 1=Oil chamber, 2=Motor housing, 3=Electr. Con. Box

4.6 Digital outputs Module 1-9:DO 1-8

Local outputs are treated as Module 10 with DO 1-4

Description	Access type	Data Type	Reg Number	Scale/Selection list
Signal function	RW	Unsigned	7595 +(signal number -1)*12 +(Module number -1)*96	0=OFF, 1=Pump control, 2=Reset motor protector, 3=Pump fail, 4=Not enough pumps avail., 5=One pump fail, 6=Mixer control, 7=Drain pump control, 8=Cleaner control, 9=Com timeout pulse, 10=Remote control, 11=Personnel alarm, 12=High level, 13=Alarm alert, 14=Not ackn. Alarm, 15=Active alarm, 16=Pump reversing, 17=Logic IO, 18=Data register setpoint, 19=Auto reset alert, 20=Valve control, 21=Valve open, 22=Valve close, 23=Time relay
Object	RW	Unsigned	7596 +(signal number -1)*12 +(Module number -1)*96	0=Pump 1, 1=Pump 2, 2=Pump 3, 3=Pump 4, 4=Pump 5, 5=Pump 6
Object	RW	Unsigned	7596 +(signal number -1)*12 +(Module number -1)*96	0=Pump 1, 1=Pump 2, 2=Pump 3, 3=Pump 4, 4=Pump 5, 5=Pump 6, 6=Mixer, 7=Drain pump, 8=All
Communication port	RW	Unsigned	7596 +(signal number -1)*12 +(Module number -1)*96	0=Modem port (RS232), 1=RS485 port 1, 2=RS485 port 2, 3=USB port, 4=GPRS data, 5=Ethernet port (TCP/IP)
Object	RW	Unsigned	7596 +(signal number -1)*12 +(Module number -1)*96	0=B-Alarm, 1=A-Alarm, 2=All alarms

Description	Access type	Data Type	Reg Number	Scale/Selection list
Object	RW	Unsigned	7596 +(signal number -1)*12 +(Module number -1)*96	0=1, 1=2, 2=3, 3=4, 4=5, 5=6, 6=7, 7=8
Normally open/ closed	RW	Unsigned	7597 +(signal number -1)*12 +(Module number -1)*96	0=NO Normally open, 1=NC Normally closed
Event Trig	RW	Unsigned	7598 +(signal number -1)*12 +(Module number -1)*96	0=OFF, 1=ON
Pulse time	RW	Unsigned	7599 +(signal number -1)*12 +(Module number -1)*96	1 s
IO signal 1	RW	Unsigned	7599 +(signal number -1)*12 +(Module number -1)*96	0=OFF, 1=True OR, 2=Inverse OR, 3=True AND, 4=Inverse AND
Data register	RW	Unsigned	7599 +(signal number -1)*12 +(Module number -1)*96	1 [Unitless]
Communication timeout	RW	Unsigned	7600 +(signal number -1)*12 +(Module number -1)*96	1 s
IO number 1	RW	Unsigned	7600 +(signal number -1)*12 +(Module number -1)*96	1 [Unitless]
Alert source	RW	Unsigned	7601 +(signal number -1)*12 +(Module number -1)*96	0=Unackn. Alarms, 1=Active alarms, 2=Unackn. + active alarms
IO signal 2	RW	Unsigned	7601 +(signal number -1)*12 +(Module number -1)*96	0=OFF, 1=True OR, 2=Inverse OR, 3=True AND, 4=Inverse AND
Setpoint off	RW	Unsigned	7601 +(signal number -1)*12 +(Module number -1)*96	1 [Unitless]
IO number 2	RW	Unsigned	7602 +(signal number -1)*12 +(Module number -1)*96	1 [Unitless]
Setpoint delay	RW	Unsigned	7602 +(signal number -1)*12 +(Module number -1)*96	1 s
IO signal 3	RW	Unsigned	7603 +(signal number -1)*12 +(Module number -1)*96	0=OFF, 1=True OR, 2=Inverse OR, 3=True AND, 4=Inverse AND
IO number 3	RW	Unsigned	7604 +(signal number -1)*12 +(Module number -1)*96	1 [Unitless]
IO signal 4	RW	Unsigned	7605 +(signal number -1)*12 +(Module number -1)*96	0=OFF, 1=True OR, 2=Inverse OR, 3=True AND, 4=Inverse AND
IO number 4	RW	Unsigned	7606 +(signal number -1)*12 +(Module number -1)*96	1 [Unitless]

4.7 Analog inputs Module 1-9:AI 1-6

Description	Access type	Data Type	Reg Number	Scale/Selection list
Signal function	RW	Unsigned	8510 +(signal number -1)*14 +(Module number -1)*84	0=OFF, 1=Pit level, 2=Motor current, 3=Outlet pressure, 4=Vibrations, 5=Outflow meter, 6=Motor temperature, 7=Secondary pit level, 8=Free choice
Scaling 0%	RW	Unsigned	8512 +(signal number -1)*14 +(Module number -1)*84	Scale and units depending on input selection 0.01 m, 0.01 ft 0.1 A 0.1 bar, 0.1 PSI 0.1 mm/s2, 0.01 in/h 0.1 l/s, 1 GPM 0.1 ºC, 0.1 ºF [User defined Unit]

Description	Access type	Data Type	Reg Number	Scale/Selection list
Scaling 100%	RW	Signed	8513 +(signal number -1)*14 +(Module number -1)*84	Scale and units depending on input selection 0.01 m, 0.01 ft 0.1 A 0.1 bar, 0.1 PSI 0.1 mm/s2, 0.01 in/h 0.1 l/s, 1 GPM 0.1 °C, 0.1 °F [User defined Unit]
Dead band	RW	Unsigned	8514 +(signal number -1)*14 +(Module number -1)*84	0.1 %
Zero offset	RW	Signed	8515 +(signal number -1)*14 +(Module number -1)*84	Scale and units depending on input selection 0.01 m, 0.01 ft 0.1 A 0.1 bar, 0.1 PSI 0.1 mm/s2, 0.01 in/h 0.1 l/s, 1 GPM 0.1 °C, 0.1 °F [User defined Unit]
Filter constant	RW	Unsigned	8516 +(signal number -1)*14 +(Module number -1)*84	1 s
Measure point	RW	Unsigned	8517 +(signal number -1)*14 +(Module number -1)*84	0=Generic, 1=Stator L1, 2=Stator L2, 3=Stator L3, 4=Upper bearing, 5=Lower bearing
No. of decimals	RW	Unsigned	8517 +(signal number -1)*14 +(Module number -1)*84	1 [Unitless]
Object	RW	Unsigned	8518 +(signal number -1)*14 +(Module number -1)*84	0=Pump 1, 1=Pump 2, 2=Pump 3, 3=Pump 4, 4=Pump 5, 5=Pump 6
Object	RW	Unsigned	8518 +(signal number -1)*14 +(Module number -1)*84	0=Pump pit, 1=Pump 1, 2=Pump 2, 3=Pump 3, 4=Pump 4, 5=Pump 5, 6=Pump 6

4.8 RTD temp. inputs > Module 1-9:RTD 1-6

Description	Access type	Data Type	Reg Number	Scale/Selection list
Signal function	RW	Unsigned	9270 +(signal number -1)*10 +(Module number -1)*60	0=OFF, 1=Motor temperature, 2=Free choice
Signal type	RW	Unsigned	9271 +(signal number -1)*10 +(Module number -1)*60	0=Pt100 (temp. sensor), 1=PTC/Bimetal switch
Zero offset	RW	Signed	9275 +(signal number -1)*10 +(Module number -1)*60	0.1 °C, 0.1 °F
Filter constant	RW	Unsigned	9276 +(signal number -1)*10 +(Module number -1)*60	1 s
Measure point	RW	Unsigned	9278 +(signal number -1)*10 +(Module number -1)*60	0=Generic, 1=Stator L1, 2=Stator L2, 3=Stator L3, 4=Upper bearing, 5=Lower bearing
Object	RW	Unsigned	9278 +(signal number -1)*10 +(Module number -1)*60	0=Pump 1, 1=Pump 2, 2=Pump 3, 3=Pump 4, 4=Pump 5, 5=Pump 6

4.9 Analog outputsModule 1-9:AO 1-6

Description	Access type	Data Type	Reg Number	Scale/Selection list
Signal function	RW	Unsigned	9815 +(signal number -1)*8 +(Module number -1)*48	0=OFF, 1=Pit level, 2=Pit inflow, 3=Pit outflow, 4=Pit overflow, 5=Pulse channel 1, 6=Pulse channel 2, 7=Pulse channel 3, 8=Pulse channel 4, 9=PID Ctrl output, 10=Data register, 11=Data register 2 compl., 12=Set

Description	Access type	Data Type	Reg Number	Scale/Selection list
Scaling 0%	RW	Signed	9817 +(signal number -1)*8 +(Module number -1)*48	Scale and units depending on output selection 0.01 m, 0.01 ft 0.1 l/s, 1 GPM 0.1 m3/h, 1 GPM 0.1 l/s/ha, 0.1 in/h 0.1 kW 1 [Unitless] 0.01 Hz
Scaling 100%	RW	Signed	9818 +(signal number -1)*8 +(Module number -1)*48	Scale and units depending on output selection 0.01 m, 0.01 ft 0.1 l/s, 1 GPM 0.1 m3/h, 1 GPM 0.1 l/s/ha, 0.1 in/h 0.1 kW 1 [Unitless] 0.01 Hz

4.10 Pulse channels Pulse ch. 1-4

Description	Access type	Data Type	Reg Number	Scale/Selection list
Function	RW	Unsigned	10250 +(channel number -1)*4	0=Precipitation, 1=Energy, 2=Flow
1 Pulse	RW	Signed	10251-10252 +(channel number -1)*4	Scale and units depending on input selection Precipitation 0.0001 mm, 0.0001 in Energy 0.0001 kWh Flow 0.0001 m3, 0.0001 gal

4.11 Analog logging Log channel 1-32

Description	Access type	Data Type	Reg Number	Scale/Selection list
Log signal	RW	Unsigned	10300 +(channel number -1)*5	0=OFF, 1=Level pit, 2=Inflow pit, 3=Outflow pit, 4=Overflow level, 5=Overflow flow, 6=Outlet pressure, 7=Motor current, 8=Pump capacity, 9=Power factor, 10=Temperature motor, 11=Temp. stator wiring L1, 12=Temp. stator wiring L2, 13=Temp. stator wiring L3, 14=Temp. upper bearing, 15=Temp. lower bearing, 16=Vibration, 17=Main voltage, 18=Main frequency, 19=Free choice AI, 20=Free choice RTD, 21=Power supply, 22=Pulse channel 1-4, 23=PID controller output, 24=Data register, 25=Data register 2 compl., 26=Set frequency, 27=Actual frequency, 28=Motor power, 29=Motor voltage, 30=Torque, 31=Outflow meter, 32=Total head, 33=PCB temperature controller, 34=BEP frequency, 35=BEP efficiency, 36=Mains power, 37=Actual head, 38=Secondary pit level, 39=Pit level difference
Log function	RW	Unsigned	10301 +(channel number -1)*5	0=Closed, 1=Actual value, 2=Average value, 3=Min value, 4=Max value
AI Module	RW	Unsigned	10302 +(channel number -1)*5	0=1, 1=2, 2=3, 3=4, 4=5, 5=6, 6=7, 7=8, 8=9 Selection available depends type of log signal for channel
Object	RW	Unsigned	10303 +(channel number -1)*5	0=Pump 1, 1=Pump 2, 2=Pump 3, 3=Pump 4, 4=Pump 5, 5=Pump 6
Analog input number (1-6)	RW	Unsigned	10303 +(channel number -1)*5	0=1, 1=2, 2=3, 3=4, 4=5, 5=6
Object	RW	Unsigned	10303 +(channel number -1)*5	0=Pulse channel 1, 1=Pulse channel 2, 2=Pulse channel 3, 3=Pulse channel 4
Data register number	RW	Unsigned	10303 +(channel number -1)*5	1 [Unitless]
Log interval	RW	Unsigned	10304 +(channel number -1)*5	1 min

4.12 Communication

Modem port (RS232)

Description	Access type	Data Type	Reg Number	Scale/Selection list
Baud rate	RW	Unsigned	10500	0=None, 1=300, 2=600, 3=1200, 4=2400, 5=4800, 6=9600, 7=19200, 8=38400, 9=57600, 10=115200, 11=230400
Parity	RW	Unsigned	10501	0=None, 1=Odd, 2=Even, 3=Mark
Application protocol	RW	Signed	10502	0=GPRS Hayes enable, 1=Transparent
Protocol type	RW	Unsigned	10503	0=Modbus RTU, 1=Modbus TCP
Protocol ID	RW	Unsigned	10504	1 [Unitless]
Message timeout	RW	Unsigned	10505	1 s
Cross reference	RW	Unsigned	10506	0=OFF, 1=ON
Modem type	RW	Unsigned	10507	0=OFF, 1=CA 521, 2=CA 523, 3=CA 524, 4=Generic SMS
Heart beat timeout	RW	Unsigned	10508	1 min
Alarm OFF heart beat	RW	Unsigned	10509	0=NO, 1=YES

RS485 port 1

Description	Access type	Data Type	Reg Number	Scale/Selection list
Baud rate	RW	Unsigned	10510	0=None, 1=300, 2=600, 3=1200, 4=2400, 5=4800, 6=9600, 7=19200, 8=38400, 9=57600, 10=115200, 11=230400, 12=460800
Parity	RW	Unsigned	10511	0=None, 1=Odd, 2=Even, 3=Mark
Application protocol	RW	Signed	10512	1=Modbus slave, 2=Modbus master
Protocol type	RW	Unsigned	10513	0=Modbus RTU, 1=Modbus TCP
Protocol ID	RW	Unsigned	10514	1 [Unitless]
Message timeout	RW	Unsigned	10515	1 s
Cross reference	RW	Unsigned	10516	0=OFF, 1=ON
Poll interval	RW	Unsigned	10517	1 s

RS485 port 2

Description	Access type	Data Type	Reg Number	Scale/Selection list
Baud rate	RW	Unsigned	10520	0=None, 1=300, 2=600, 3=1200, 4=2400, 5=4800, 6=9600, 7=19200, 8=38400, 9=57600, 10=115200, 11=230400, 12=460800
Parity	RW	Unsigned	10521	0=None, 1=Odd, 2=Even, 3=Mark
Application protocol	RW	Unsigned	10522	1=Modbus slave, 2=Modbus master
Protocol type	RW	Unsigned	10523	0=Modbus RTU, 1=Modbus TCP
Protocol ID	RW	Unsigned	10524	1 [Unitless]
Message timeout	RW	Unsigned	10525	1 s
Cross reference	RW	Unsigned	10526	0=OFF, 1=ON
Poll interval	RW	Unsigned	10527	1 s

USB port

Description	Access type	Data Type	Reg Number	Scale/Selection list
Protocol type	RW	Unsigned	10533	0=Modbus RTU, 1=Modbus TCP
Protocol ID	RO	Unsigned	10534	Always Modbus ID 1
Message timeout	RW	Unsigned	10535	1 s
Cross reference	RW	Unsigned	10536	0=OFF, 1=ON

Modem port (RS232) > Settings GPRS

Description	Access type	Data Type	Reg Number	Scale/Selection list
TCP type	RW	Unsigned	10541	0=Aquaweb client, 1=TCP server (fixed IP), 2=TCP server + heart beat
Protocol type	RW	Unsigned	10543	0=Modbus RTU, 1=Modbus TCP

Description	Access type	Data Type	Reg Number	Scale/Selection list
Protocol ID	RW	Unsigned	10544	1 [Unitless]
Message timeout	RW	Unsigned	10545	1 s
Cross reference	RW	Unsigned	10546	0=OFF, 1=ON
Server TCP port number	RW	Unsigned	10547	1 [Unitless]

Ethernet port (TCP/IP)

Description	Access type	Data Type	Reg Number	Scale/Selection list
Protocol type	RW	Unsigned	10553	0=Modbus RTU, 1=Modbus TCP
Protocol ID	RW	Unsigned	10554	1 [Unitless]
Message timeout	RW	Unsigned	10555	1 s
Cross reference	RW	Unsigned	10556	0=OFF, 1=ON
Port number	RW	Unsigned	10557	1 [Unitless]
Static/Dynamic IP	RW	Unsigned	10566	0=Static IP, 1=Dynamic IP (DHCP)
Hardware	RW	Unsigned	10574	0=OFF, 1=ON

Modem port (RS232) > Settings SMS

Description	Access type	Data Type	Reg Number	Scale/Selection list
SMS alarm enable	RW	Unsigned	10576	0=Disabled, 1=A-ON, 2=A-ON/OFF, 3=A+B-ON, 4=A+B-ON/OFF
Second SMS number	RW	Unsigned	10577	0=Backup only, 1=Send always

4.13 System

Description	Access type	Data Type	Reg Number	Scale/Selection list
Ackn. All alarms w reg 333	RW	Unsigned	10776	0=NO, 1=YES
Main nominal voltage	RW	Unsigned	10778	1 V
Main nominal frequency	RW	Unsigned	10779	1 Hz
Select language	RW	Unsigned	10781	0=English, 1=French, 2=German, 3=Spanish, 4=Danish, 5=Dutch, 6=Italic, 7=Norwegian, 8=Polish, 9=Portuguese (Brazil), 10=Swedish, 11=Turkish
Date format	RW	Unsigned	10784	0=YYYY.MM.DD, 1=DD.MM.YYYY, 2=MM.DD.YYYY
Select units	RW	Unsigned	10785	0=Metric units, 1=US units

SD card settings

Description	Access type	Data Type	Reg Number	Scale/Selection list
Auto load FW from SD card	RW	Unsigned	10790	0=Never, 1=Ask if file found, 2=Always if higher version
Auto load cfg from SD card	RW	Unsigned	10791	0=Never, 1=Ask if file found, 2=Always if file found
Copy AI log to SD daily	RW	Unsigned	10792	0=OFF, 1=To .txt file, 2=To .xls file
Save crash log to SD	RW	Unsigned	10794	0=Ready, 1=Last crash log, 2=All crash logs
Copy event list to SD	RW	Unsigned	10795	0=Ready, 1=To .txt file
Copy cfg. Data to SD card	RW	Unsigned	10796	0=Ready, 1=Configuration, 2=Cfg. And reg. logs
Copy AI log to SD card	RW	Unsigned	10797	0=Ready, 1=Today's log data, 2=All log data

Graphical display

Description	Access type	Data Type	Reg Number	Scale/Selection list
Header line source	RW	Unsigned	10798	0=AUTO, 1=None, 2=AI1, 3=AI2, 4=AI3, 5=AI4, 6=AI5, 7=AI6
AI Module	RW	Unsigned	10799	0=1, 1=2, 2=3, 3=4, 4=5, 5=6, 6=7, 7=8, 8=9
Scaling 100%	RW	Unsigned	10800	0.01 m, 0.01 ft
Start/stop levels	RW	Unsigned	10801	0=OFF, 1=ON
Show overflow outlet	RW	Unsigned	10802	0=OFF, 1=ON
Mixer	RW	Unsigned	10805	0=OFF, 1=ON
Backlight timeout	RW	Unsigned	10808	1 min
Backlight strength	RW	Unsigned	10809	1%
Touch screen sensitivity	RW	Unsigned	10810	1%

4.14 Time relays

Time relay 1-8

Description	Access type	Data Type	Reg Number	Scale/Selection list
Active	RW	Unsigned	11000+(Relay number -1)*1	0=OFF, 1=ON

Time relay 1-8, Sequence 1-4

Description	Access type	Data Type	Reg Number	Scale/Selection list
Interval base	RW	Unsigned	11020 +(Sequence number -1)*10 +(Relay number -1)*40	0=OFF, 1=Day, 2=Week, 3=Month-date, 4=1st week of month, 5=2nd week of month, 6=3rd week of month, 7=4th week of month, 8=5th week of month
Repeat every	RW	Unsigned	11021 +(Sequence number -1)*10 +(Relay number -1)*40	0=day, 1=2nd day, 2=3rd day, 3=4th day, 4=5th day, 5=6th day, 6=7th day, 0=week, 1=2nd week, 2=3rd week, 3=4th week, 4=5th week Or weekday/month handled by I/O bit mask, e.g. if “Interval base” is set to “Month-date” and the user wants to select January, February and March then decimal 7 should be wrote to this register (0b000000000111 = 7)
Turn on day	RW	Unsigned	11022 +(Sequence number -1)*10 +(Relay number -1)*40	1 [Unitless]
Turn on time	RW	Unsigned	11023-11024 +(Sequence number -1)*10 +(Relay number -1)*40	1 s, displayed as h:m:s
Duration	RW		1025 +(Sequence number -1)*10 +(Relay number -1)*40	1 d
Duration			11026-11027 +(Sequence number -1)*10 +(Relay number -1)*40	1 s, displayed as h:m:s

Count down timer 1-12

Description	Access type	Data Type	Reg Number	Scale/Selection list
Trig source	RW	Unsigned	11400 +(timer number -1)*8	0=OFF, 1=DI on, 2=DI off, 3=IO on, 4=IO off, 5=Reg not equal (!=), 6=Reg less than (<), 7=Reg less or equal to (<=), 8=Reg equal to (==), 9=Reg more or equal to (>=), 10=Reg more than (>)
Trig source	RW	Unsigned	11400 +(timer number -1)*8	0=OFF, 1=DI on, 2=DI off, 3=IO on, 4=IO off, 5=Reg not equal (!=), 6=Reg less than (<), 7=Reg less or equal to (<=), 8=Reg equal to (==), 9=Reg more or equal to (>=), 10=Reg more than (>)

Description	Access type	Data Type	Reg Number	Scale/Selection list
Config 0	RW	Unsigned	11401 +(timer number -1)*8	Selection available depends on type of trig source Module 0=1, 1=2, 2=3, 3=4, 4=5, 5=6, 6=7, 7=8, 8=9 IO number 1 [Unitless] Data register 1 [Unitless]
Config 1	RW	Unsigned	11402 +(timer number -1)*8	Selection available depends on type of trig source Signal source 0=1, 1=2, 2=3, 3=4, 4=5, 5=6, 6=7, 7=8, 8=9, 9=10, 10=11, 11=12 Threshold value 1 [Unitless]
Repetition(s)	RW	Unsigned	11403 +(timer number -1)*8	0=Continuous, 1=1, 2=2, 3=3, 4=4, 5=5, 6=6, 7=7, 8=8, 9=9
Duration	RW	Unsigned	11404-11405 +(timer number -1)*8	1 s, displayed as h:m:s

4.15 IO-bit controlled data 1-32

Description	Access type	Data Type	Reg Number	Scale/Selection list
Register control	RW	Unsigned	11500 +(unit number -1)*8	11500 +(unit number -1)*8
IO number	RW	Unsigned	11501 +(unit number -1)*8	1 [Unitless]
Controls data register	RW	Unsigned	11502 +(unit number -1)*8	1 [Unitless]
Source data when IO off (0)	RW	Unsigned	11503 +(unit number -1)*8	0=Data value, 1=Data register
Data when IO off (0)	RW	Unsigned	11504 +(unit number -1)*8	1 [Unitless]
Source data when IO on (1)	RW	Unsigned	11505 +(unit number -1)*8	0=Data value, 1=Data register
Data when IO on (1)	RW	Unsigned	11506 +(unit number -1)*8	1 [Unitless]

4.16 64 Free user 16 bit data registers

Description	Access type	Data Type	Reg Number	Scale/Selection list
First	RW	Unsigned	11776	1 [Unitless]
	RW	Unsigned	…	1 [Unitless]
Last	RW	Unsigned	11839	1 [Unitless]

4.17 32 Free user 32 bit data registers

Description	Access type	Data Type	Reg Number	Scale/Selection list
First	RW	Unsigned	11840-11841	1 [Unitless]
…	RW	Unsigned	…	1 [Unitless]
Last	RW	Unsigned	11902-11903	1 [Unitless]

5 Alarm configuration registers

5.1 Station/system alarms

Power fail

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14336	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14337	1 s
Crash log trigger	RW	Unsigned	14340	0=NO, 1=YES

Low supply voltage

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14341	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14342	1 s
Alarm limit	RW	Unsigned	14343	0.1 V DC
Hysteresis	RW	Unsigned	14344	0.1 V
Crash log trigger	RW	Unsigned	14345	0=NO, 1=YES

High PCB temp. controller

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14346	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14347	1 s
Alarm limit	RW	Unsigned	14348	1 °C, 1 °F
Hysteresis	RW	Unsigned	14349	1 °C, 1 °F
Crash log trigger	RW	Unsigned	14350	0=NO, 1=YES

Personnel alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14351	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14352	1 s
Max time to reset	RW	Signed	14353	1 min
Crash log trigger	RW	Unsigned	14355	0=NO, 1=YES

Pump pit > High level

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14356	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14357	1 s
Alarm limit	RW	Signed	14358	0.01 m, 0.01 ft
Hysteresis	RW	Unsigned	14359	0.01 m, 0.01 ft
Crash log trigger	RW	Unsigned	14360	0=NO, 1=YES

Pump pit > Low level

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14361	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14362	1 s
Alarm limit	RW	Signed	14363	0.01 m, 0.01 ft
Hysteresis	RW	Unsigned	14364	0.01 m, 0.01 ft
Crash log trigger	RW	Unsigned	14365	0=NO, 1=YES

Pump pit > High-level float

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14366	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14367	1 s
Crash log trigger	RW	Unsigned	14370	0=NO, 1=YES

Pump pit > Low-level float

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14371	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14372	1 s
Crash log trigger	RW	Unsigned	14375	0=NO, 1=YES

Pump pit > High inflow

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14376	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14377	1 s
Alarm limit	RW	Signed	14378	0.1 l/s, 1 GPM
Hysteresis	RW	Unsigned	14379	0.1 l/s, 1 GPM
Crash log trigger	RW	Unsigned	14380	0=NO, 1=YES

Pump pit > Low inflow

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14381	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14382	1 s
Alarm limit	RW	Signed	14383	0.1 l/s, 1 GPM
Hysteresis	RW	Unsigned	14384	0.1 l/s, 1 GPM
Crash log trigger	RW	Unsigned	14385	0=NO, 1=YES

Pump pit > Backup start

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14386	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14387	1 s
Crash log trigger	RW	Unsigned	14390	0=NO, 1=YES

Pump pit > Remote blocking

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14391	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14392	1 s
Crash log trigger	RW	Unsigned	14395	0=NO, 1=YES

Pump pit > High pressure

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14396	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14397	1 s
Alarm limit	RW	Signed	14398	0.1 bar, 0.1 PSI
Hysteresis	RW	Unsigned	14399	0.1 bar, 0.1 PSI
Crash log trigger	RW	Unsigned	14400	0=NO, 1=YES

Pump pit > Low pressure

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14401	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14402	1 s

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm limit	RW	Signed	14403	0.1 bar, 0.1 PSI
Hysteresis	RW	Unsigned	14404	0.1 bar, 0.1 PSI
Crash log trigger	RW	Unsigned	14405	0=NO, 1=YES

Pump pit > Overflow alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14406	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14407	1 s
Crash log trigger	RW	Unsigned	14410	0=NO, 1=YES

Pump pit > Pressure blocking

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14411	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14412	1 s
Crash log trigger	RW	Unsigned	14415	0=NO, 1=YES

Pump pit > Drain pump running

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14416	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14417	1 s
Crash log trigger	RW	Unsigned	14420	0=NO, 1=YES

Pump pit > Sensor error

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14421	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14422	1 s
Crash log trigger	RW	Unsigned	14425	0=NO, 1=YES

Pump pit No run ind. Mixer

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14426	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14427	1 s
Crash log trigger	RW	Unsigned	14430	0=NO, 1=YES

Pump pit Motor protect. Mixer

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14431	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14432	1 s
Crash log trigger	RW	Unsigned	14435	0=NO, 1=YES

Pump pit No run ind. Drain pump

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14436	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14437	1 s
Crash log trigger	RW	Unsigned	14440	0=NO, 1=YES

Pump pit Mprot. Drain pump

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14441	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14442	1 s
Crash log trigger	RW	Unsigned	14445	0=NO, 1=YES

Pump pitto few pumps available

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14446	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14447	1 s
Crash log trigger	RW	Unsigned	14450	0=NO, 1=YES

Pump pit Mprot. Rst err drain/mixer

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14451	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14452	1 s
Crash log trigger	RW	Unsigned	14455	0=NO, 1=YES

Pump pit Emergency power mode

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14456	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14457	1 s
Crash log trigger	RW	Unsigned	14460	0=NO, 1=YES

Main pwr. Mon. Phase missing

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14461	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14462	1 s
Crash log trigger	RW	Unsigned	14465	0=NO, 1=YES

Main pwr. Mon. Over voltage

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14466	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14467	1 s
Alarm limit	RW	Signed	14468	0.1 %
Hysteresis	RW	Unsigned	14469	0.1 %
Crash log trigger	RW	Unsigned	14470	0=NO, 1=YES

Main pwr. Mon. Under voltage

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14471	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14472	1 s
Alarm limit	RW	Signed	14473	0.1 %
Hysteresis	RW	Unsigned	14474	0.1 %
Crash log trigger	RW	Unsigned	14475	0=NO, 1=YES

Main pwr. Mon. Unbalanced voltage

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14476	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14477	1 s
Alarm limit	RW	Signed	14478	0.1 %
Hysteresis	RW	Unsigned	14479	0.1 %
Crash log trigger	RW	Unsigned	14480	0=NO, 1=YES

Main pwr. Mon. High frequency

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14481	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14482	1 s

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm limit	RW	Signed	14483	0.1 %
Hysteresis	RW	Signed	14484	0.1 %
Crash log trigger	RW	Unsigned	14485	0=NO, 1=YES

Main pwr. Mon. Low frequency

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14486	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14487	1 s
Alarm limit	RW	Signed	14488	0.1 %
Hysteresis	RW	Unsigned	14489	0.1 %

Description	Access type	Data Type	Reg Number	Scale/Selection list
Crash log trigger	RW	Unsigned	14490	0=NO, 1=YES

Pump pit Leakage mixer

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14491	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14492	1 s
Crash log trigger	RW	Unsigned	14495	0=NO, 1=YES

Pump pit High temp. mixer

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14496	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14497	1 s
Crash log trigger	RW	Unsigned	14500	0=NO, 1=YES

Pump pit Leakage drain pump

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14501	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14502	1 s
Crash log trigger	RW	Unsigned	14505	0=NO, 1=YES

Pump pit High temp. drain pump

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14506	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14507	1 s
Crash log trigger	RW	Unsigned	14510	0=NO, 1=YES

Main pwr. Mon. PM Com. Error

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14511	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14512	1 s
Crash log trigger	RW	Unsigned	14515	0=NO, 1=YES

Pump pit Max pit level diff

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14521	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14522	1 s
Alarm limit	RW	Signed	14523	0.01 m, 0.01 ft
Hysteresis	RW	Unsigned	14524	0.01 m, 0.01 ft
Crash log trigger	RW	Unsigned	14525	0=NO, 1=YES

Pit valve error

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14531	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14532	1 s
Crash log trigger	RW	Unsigned	14535	0=NO, 1=YES

Pit valve open err

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14536	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14537	1 s
Crash log trigger	RW	Unsigned	14540	0=NO, 1=YES

Pit valve close err

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14541	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14542	1 s
Crash log trigger	RW	Unsigned	14545	0=NO, 1=YES

Controller 541 time lost

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14556	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14557	1 s
Crash log trigger	RW	Unsigned	14560	0=NO, 1=YES

Controller power lost

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14561	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14562	1 s
Crash log trigger	RW	Unsigned	14565	0=NO, 1=YES

5.2 Pump alarms

Pump # No run indication

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14651 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14652 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14655 +(pump number -1)*160	0=NO, 1=YES

Pump # Fallen motor protect

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14656 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14657 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14660 +(pump number -1)*160	0=NO, 1=YES

Pump # High motor current

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14661 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14662 +(pump number -1)*160	1 s
Alarm limit	RW	Unsigned	14663 +(pump number -1)*160	0.1 A
Hysteresis	RW	Unsigned	14664 +(pump number -1)*160	0.1 A
Crash log trigger	RW	Unsigned	14665 +(pump number -1)*160	0=NO, 1=YES

Pump # Low motor current

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14666 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14667 +(pump number -1)*160	1 s
Alarm limit	RW	Unsigned	14668 +(pump number -1)*160	0.1 A
Hysteresis	RW	Unsigned	14669 +(pump number -1)*160	0.1 A
Crash log trigger	RW	Unsigned	14670 +(pump number -1)*160	0=NO, 1=YES

Pump # Leakage Generic

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14671 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14672 +(pump number -1)*160	1 s

Description	Access type	Data Type	Reg Number	Scale/Selection list
Crash log trigger	RW	Unsigned	14675 +(pump number -1)*160	0=NO, 1=YES

Pump # High temperature Generic

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14676 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14677 +(pump number -1)*160	1 s
Alarm limit	RW	Signed	14678 +(pump number -1)*160	0.1 °C, 0.1 °F
Hysteresis	RW	Unsigned	14679 +(pump number -1)*160	0.1 °C, 0.1 °F
Crash log trigger	RW	Unsigned	14680 +(pump number -1)*160	0=NO, 1=YES

Pump # Low pump capacity Alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14681 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14682 +(pump number -1)*160	1 s
Alarm limit	RW	Unsigned	14683 +(pump number -1)*160	0.1 l/s, 1 GPM
Hysteresis	RW	Unsigned	14684 +(pump number -1)*160	0.1 l/s, 1 GPM
Crash log trigger	RW	Unsigned	14685 +(pump number -1)*160	0=NO, 1=YES

Pump # Pump error

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14686 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14687 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14690 +(pump number -1)*160	0=NO, 1=YES

Pump # Phase missing

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14691 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14692 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14695 +(pump number -1)*160	0=NO, 1=YES

Pump # Motor prot. Reset err

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14696 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14697 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14700 +(pump number -1)*160	0=NO, 1=YES

Pump # Max cont. Runtime

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14701 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14702 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14705 +(pump number -1)*160	0=NO, 1=YES

Pump # Alarm blocked

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14706 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14707 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14710 +(pump number -1)*160	0=NO, 1=YES

Pump # Pump not in auto

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14716 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14717 +(pump number -1)*160	1 s

Description	Access type	Data Type	Reg Number	Scale/Selection list
Crash log trigger	RW	Unsigned	14720 +(pump number -1)*160	0=NO, 1=YES

M.Drive # Alarm com. Error (RS 485 Module)

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14721 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14722 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14725 +(pump number -1)*160	0=NO, 1=YES

M.Drive # Drive fault alarm (RS 485 Module)

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14726 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14727 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14730 +(pump number -1)*160	0=NO, 1=YES

Pump # Leakage Oil chamber

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14731 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14732 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14735 +(pump number -1)*160	0=NO, 1=YES

Pump # Leakage > Electr. Con. Box

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14736 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14737 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14740 +(pump number -1)*160	0=NO, 1=YES

Pump # Leakage > Motor housing

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14741 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14742 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14745 +(pump number -1)*160	0=NO, 1=YES

Pwr.mon. # > Alarm com. Error

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14746 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14747 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14750 +(pump number -1)*160	0=NO, 1=YES

Pump # High temperature > Stator L1

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14751 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14752 +(pump number -1)*160	1 s

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm limit	RW	Signed	14753 +(pump number -1)*160	0.1 °C, 0.1 °F
Hysteresis	RW	Unsigned	14754 +(pump number -1)*160	0.1 °C, 0.1 °F
Crash log trigger	RW	Unsigned	14755 +(pump number -1)*160	0=NO, 1=YES

Pump # High temperature > Upper bearing

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14756 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14757 +(pump number -1)*160	1 s

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm limit	RW	Signed	14758 +(pump number -1)*160	0.1 °C, 0.1 °F
Hysteresis	RW	Unsigned	14759 +(pump number -1)*160	0.1 °C, 0.1 °F
Crash log trigger	RW	Unsigned	14760 +(pump number -1)*160	0=NO, 1=YES

Pump # High temperature > Lower bearing

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14761 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14762 +(pump number -1)*160	1 s
Alarm limit	RW	Signed	14763 +(pump number -1)*160	0.1 °C, 0.1 °F
Hysteresis	RW	Unsigned	14764 +(pump number -1)*160	0.1 °C, 0.1 °F
Crash log trigger	RW	Unsigned	14765 +(pump number -1)*160	0=NO, 1=YES

Pump # Vibration

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14766 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14767 +(pump number -1)*160	1 s
Alarm limit	RW	Signed	14768 +(pump number -1)*160	0.1 mm/s2, 0.01 in/h
Hysteresis	RW	Unsigned	14769 +(pump number -1)*160	0.1 mm/s2, 0.01 in/h
Crash log trigger	RW	Unsigned	14770 +(pump number -1)*160	0=NO, 1=YES

Pump # High temperature > Stator L2

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14776 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14777 +(pump number -1)*160	1 s
Alarm limit	RW	Signed	14778 +(pump number -1)*160	0.1 °C, 0.1 °F
Hysteresis	RW	Unsigned	14779 +(pump number -1)*160	0.1 °C, 0.1 °F
Crash log trigger	RW	Unsigned	14780 +(pump number -1)*160	0=NO, 1=YES

Pump # High temperature > Stator L3

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14781 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14782 +(pump number -1)*160	1 s
Alarm limit	RW	Signed	14783 +(pump number -1)*160	0.1 °C, 0.1 °F
Hysteresis	RW	Unsigned	14784 +(pump number -1)*160	0.1 °C, 0.1 °F
Crash log trigger	RW	Unsigned	14785 +(pump number -1)*160	0=NO, 1=YES

Pump # Valve error

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14786 +(unit or pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14787 +(unit or pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14790 +(unit or pump number -1)*160	0=NO, 1=YES

Pump # Max reverse attempts

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14791 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14792 +(pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14795 +(pump number -1)*160	0=NO, 1=YES

Pump # Low pump capacity > Warning

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14796 +(pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14797 +(pump number -1)*160	1 s

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm limit	RW	Unsigned	14798 +(pump number -1)*160	0.1 l/s, 1 GPM
Hysteresis	RW	Unsigned	14799 +(pump number -1)*160	0.1 l/s, 1 GPM
Crash log trigger	RW	Unsigned	14800 +(pump number -1)*160	0=NO, 1=YES

Pump # Valve open error

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14801 +(unit or pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14802 +(unit or pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14805 +(unit or pump number -1)*160	0=NO, 1=YES

Pump # Valve close error

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	14806 +(unit or pump number -1)*160	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	14807 +(unit or pump number -1)*160	1 s
Crash log trigger	RW	Unsigned	14810 +(unit or pump number -1)*160	0=NO, 1=YES

5.3 IO Module input alarms

Digital inputs > Module 1-9:DI 1-12

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	15611 +(signal number -1)*5 +(Module number -1)*60	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	15612 +(signal number -1)*5 +(Module number -1)*60	1 s
Crash log trigger	RW	Unsigned	15615 +(signal number -1)*5 +(Module number -1)*60	0=NO, 1=YES

Pulse channels > Pulse ch. 1-4 > Set high alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	16171 +(channel number -1)*20	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	16172 +(channel number -1)*20	1 s
Alarm limit	RW	Signed	16173 +(channel number -1)*20	0.1 l/s/ha, 0.01 in/h
Hysteresis	RW	Unsigned	16174 +(channel number -1)*20	0.1 l/s/ha, 0.01 in/h
Crash log trigger	RW	Unsigned	16175 +(channel number -1)*20	0=NO, 1=YES

Pulse channels > Pulse ch. 1-4 > Set high alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	16176 +(channel number -1)*20	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	16177 +(channel number -1)*20	1 s
Alarm limit	RW	Signed	16178 +(channel number -1)*20	0.1 kW
Hysteresis	RW	Unsigned	16179 +(channel number -1)*20	0.1 kW
Crash log trigger	RW	Unsigned	16180 +(channel number -1)*20	0=NO, 1=YES

Pulse channels > Pulse ch. 1-4 > Set high alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	16181 +(channel number -1)*20	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	16182 +(channel number -1)*20	1 s
Alarm limit	RW	Signed	16183 +(channel number -1)*20	0.1 m3/h, 1 GPM
Hysteresis	RW	Unsigned	16184 +(channel number -1)*20	0.1 m3/h, 1 GPM
Crash log trigger	RW	Unsigned	16185 +(channel number -1)*20	0=NO, 1=YES

Pulse channels > Pulse ch. 1-4 > Set low alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	16186 +(channel number -1)*20	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	16187 +(channel number -1)*20	1 s
Alarm limit	RW	Signed	16188 +(channel number -1)*20	0.1 m3/h, 1 GPM
Hysteresis	RW	Unsigned	16189 +(channel number -1)*20	0.1 m3/h, 1 GPM
Crash log trigger	RW	Unsigned	16190 +(channel number -1)*20	0=NO, 1=YES

Analog inputs > Module 1-9:AI 1-6 > Set high alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	16251 +(signal number -1)*25 +(Module number -1)*150	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	16252 +(signal number -1)*25 +(Module number -1)*150	1 s
Alarm limit	RW	Signed	16253 +(signal number -1)*25 +(Module number -1)*150	[User defined Unit]
Hysteresis	RW	Unsigned	16254 +(signal number -1)*25 +(Module number -1)*150	[User defined Unit]
Crash log trigger	RW	Unsigned	16255 +(signal number -1)*25 +(Module number -1)*150	0=NO, 1=YES

Analog inputs > Module 1-9:AI 1-6 > Set low alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	16256 +(signal number -1)*25 +(Module number -1)*150	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	16257 +(signal number -1)*25 +(Module number -1)*150	1 s
Alarm limit	RW	Signed	16258 +(signal number -1)*25 +(Module number -1)*150	[User defined Unit]
Hysteresis	RW	Unsigned	16259 +(signal number -1)*25 +(Module number -1)*150	[User defined Unit]

Analog inputs > Module 1-9:AI 1-6 > Set sensor/cable alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	16261 +(signal number -1)*25 +(Module number -1)*150	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	16262 +(signal number -1)*25 +(Module number -1)*150	1 s
Crash log trigger	RW	Unsigned	16265 +(signal number -1)*25 +(Module number -1)*150	0=NO, 1=YES

Analog inputs > Module 1-9:AI 1-6 > Set hi-high alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	16266 +(signal number -1)*25 +(Module number -1)*150	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	16267 +(signal number -1)*25 +(Module number -1)*150	1 s
Alarm limit	RW	Signed	16268 +(signal number -1)*25 +(Module number -1)*150	[User defined Unit]
Hysteresis	RW	Unsigned	16269 +(signal number -1)*25 +(Module number -1)*150	[User defined Unit]
Crash log trigger	RW	Unsigned	16270 +(signal number -1)*25 +(Module number -1)*150	0=NO, 1=YES

Analog inputs > Module 1-9:AI 1-6 > Set low-low alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	16271 +(signal number -1)*25 +(Module number -1)*150	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	16272 +(signal number -1)*25 +(Module number -1)*150	1 s
Alarm limit	RW	Signed	16273 +(signal number -1)*25 +(Module number -1)*150	[User defined Unit]
Hysteresis	RW	Unsigned	16274 +(signal number -1)*25 +(Module number -1)*150	[User defined Unit]
Crash log trigger	RW	Unsigned	16275 +(signal number -1)*25 +(Module number -1)*150	0=NO, 1=YES

RTD temp. inputs > Module 1-9:RTD 1-6 > Set high alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	17611 +(signal number -1)*20 +(Module number -1)*120	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	17612 +(signal number -1)*20 +(Module number -1)*120	1 s
Alarm limit	RW	Signed	17613 +(signal number -1)*20 +(Module number -1)*120	[User defined Unit]
Hysteresis	RW	Unsigned	17614 +(signal number -1)*20 +(Module number -1)*120	[User defined Unit]
Crash log trigger	RW	Unsigned	17615 +(signal number -1)*20 +(Module number -1)*120	0=NO, 1=YES

RTD temp. inputs > Module 1-9:RTD 1-6 > Set low alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	17616 +(signal number -1)*20 +(Module number -1)*120	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	17617 +(signal number -1)*20 +(Module number -1)*120	1 s
Alarm limit	RW	Signed	17618 +(signal number -1)*20 +(Module number -1)*120	0.1 ºC, 0.1 ºF
Hysteresis	RW	Unsigned	17619 +(signal number -1)*20 +(Module number -1)*120	0.1 ºC, 0.1 ºF
Crash log trigger	RW	Unsigned	17620 +(signal number -1)*20 +(Module number-1)*120	0=NO, 1=YES

RTD temp. inputs > Module 1-9:RTD 1-6 > Set sensor/cable alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	17621 +(signal number -1)*20 +(Module number -1)*120	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	17622 +(signal number -1)*20 +(Module number -1)*120	1 s
Crash log trigger	RW	Unsigned	17625 +(signal number -1)*20 +(Module number -1)*120	0=NO, 1=YES

RTD temp. inputs > Module 1-9:RTD 1-6 > Set hi-high alarm

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	17626 +(signal number -1)*20 +(Module number -1)*120	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	17627 +(signal number -1)*20 +(Module number -1)*120	1 s

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm limit	RW	Signed	17628 +(signal number -1)*20 +(Module number -1)*120	0.1 °C, 0.1 °F
Hysteresis	RW	Unsigned	17629 +(signal number -1)*20 +(Module number -1)*120	0.1 °C, 0.1 °F
Crash log trigger	RW	Unsigned	17630 +(signal number -1)*20 +(Module number -1)*120	0=NO, 1=YES

5.4 IO module lost alarms

IO Module lost alarms > CA 811 > ID:1-9

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	18731 +(ID -1)*5	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	18732 +(ID -1)*5	1 s
Crash log trigger	RW	Unsigned	18735 +(ID -1)*5	0=NO, 1=YES

IO Module lost alarms > CA 821 > ID:1-9

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	18776 +(ID -1)*5	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	18777 +(ID -1)*5	1 s
Crash log trigger	RW	Unsigned	18780 +(ID -1)*5	0=NO, 1=YES

IO Module lost alarms > CA 831 > ID:1-9

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	18821 +(ID -1)*5	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	18822 +(ID -1)*5	1 s
Crash log trigger	RW	Unsigned	18825 +(ID -1)*5	0=NO, 1=YES

IO Module lost alarms > CA 841 > ID:1-9

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	18866 +(ID -1)*5	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	18867 +(ID -1)*5	1 s
Crash log trigger	RW	Unsigned	18870 +(ID -1)*5	0=NO, 1=YES

IO Module lost alarms > CA 832 > ID:1-9

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	18911 +(ID -1)*5	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	18912 +(ID -1)*5	1 s
Crash log trigger	RW	Unsigned	18915 +(ID -1)*5	0=NO, 1=YES

IO Module lost alarms > CA 861 > ID:1-9

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	18956 +(ID -1)*5	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	18957 +(ID -1)*5	1 s
Crash log trigger	RW	Unsigned	18960 +(ID -1)*5	0=NO, 1=YES

IO Module address error alarms

Description	Access type	Data Type	Reg Number	Scale/Selection list
Alarm type	RW	Unsigned	19046	0=Inactive, 1=B-Alarm, 2=A-Alarm
Alarm delay	RW	Unsigned	19047	1 s
Crash log trigger	RW	Unsigned	19050	0=NO, 1=YES

6 Alarm number list

6.1.1 Station/system alarms

0	Reserved/Not Used
1	Power fail
2	Low supply voltage
3	High PCB temp. controller
4	Personnel
5	High level
6	Low level
7	High float
8	Low float
9	High inflow
10	Low inflow
11	Backup run
12	Remote block
13	High pressure
14	Low pressure
15	Overflow
16	Pressure block
17	Drain pump
18	Sensor
19	No run ind. mixer
20	MProt. mixer
21	No run ind. drain pump

22	MProt. drain pump
23	To few pumps available
24	MProt. reset drain/mix
25	Emergency power mode
26	Phase missing
27	Over voltage
28	Under voltage
29	Unbalanced voltage
30	High frequency
31	Low frequency
32	Leakage mixer
33	High temp. mixer
34	Leakage drain pump
35	High temp. drain pump
36	COM fail master PM
37	Spare position
38	High pit level diff
39	Spare position
40	Pit valve error
41	Pit valve error
42	Pit valve open err
43	Spare position

44	Spare position
45	Controller time lost
46	Controller power lost
47	Spare position
48	Spare position
49	Spare position
50	Spare position
51	Spare position
52	Spare position
53	Spare position
54	Spare position
55	Spare position
56	Spare position
57	Spare position
58	Spare position
59	Spare position
60	Spare position
61	Spare position
62	Spare position
61	Spare position
62	Spare position
63	Spare position

6.1.2 Pump alarms

64	P1, No run ind.
65	P1, Fallen motor prot.
66	P1, High motor current
67	P1, Low motor current
68	P1, Leakage
69	P1, High motor temp.
70	P1, Low capacity alarm
71	P1, DI pump error
72	P1, Phase missing
73	P1, Mprot. reset error
74	P1, Max run time
75	P1, Alarm blocked
76	P1, Dry run
77	P1, Not in auto
78	P1, M.Drive com error
79	P1, M.Drive error
80	P1, Leak. oil chamber
81	P1, Leak. el. chamber
82	P1, Leak. motor house
83	P1, PM com error
84	P1, High temp stator L1
85	P1, High temp upper bear.
86	P1, High temp lower bear.
87	P1, High vibrations
88	P1, Spare position
89	P1, High temp stator L2
90	P1, High temp stator L3
91	P1, Pmp valve error
92	P1, Max reverse attempts
93	P1, Low capacity warn.
94	P1, Pmp valve open err.
95	P1, Pmp valve close err.
96	P2, No run ind.
97	P2, Fallen motor prot.
98	P2, High motor current
99	P2, Low motor current
100	P2, Leakage
101	P2, High motor temp.
102	P2, Low capacity alarm
103	P2, DI pump error
104	P2, Phase missing
105	P2, Mprot. reset error
106	P2, Max run time
107	P2, Alarm blocked
108	P2, Dry run
109	P2, Not in auto
110	P2, M.Drive com error
111	P2, M.Drive error
112	P2, Leak. oil chamber
113	P2, Leak. el. chamber
114	P2, Leak. motor house
115	P2, PM com error
116	P2, High temp stator L1
117	P2, High temp upper bear.
118	P2, High temp lower bear.
119	P2, High vibrations
120	P2, Spare position
121	P2, High temp stator L2
122	P2, High temp stator L3
123	P2, Pmp valve error
124	P2, Max reverse attempts
125	P2, Low capacity warn.
126	P2, Pmp valve open err.
127	P2, Pmp valve close err.
128	P3, No run ind.
129	P3, Fallen motor prot.
130	P3, High motor current
131	P3, Low motor current
132	P3, Leakage
133	P3, High motor temp.
134	P3, Low capacity alarm
135	P3, DI pump error
136	P3, Phase missing
137	P3, Mprot. reset error
138	P3, Max run time
139	P3, Alarm blocked
140	P3, Dry run
141	P3, Not in auto
142	P3, M.Drive com error
143	P3, M.Drive error
144	P3, Leak. oil chamber
145	P3, Leak. el. chamber
146	P3, Leak. motor house
147	P3, PM com error
148	P3, High temp stator L1
149	P3, High temp upper bear.
150	P3, High temp lower bear.
151	P3, High vibrations
152	P3, Spare position
153	P3, High temp stator L2
154	P3, High temp stator L3
155	P3, Pmp valve error
156	P3, Max reverse attempts
157	P3, Low capacity warn.
158	P3, Pmp valve open err.
159	P3, Pmp valve close err.
160	P4, No run ind.
161	P4, Fallen motor prot.
162	P4, High motor current
163	P4, Low motor current
164	P4, Leakage
165	P4, High motor temp.
166	P4, Low capacity alarm
167	P4, DI pump error
168	P4, Phase missing
169	P4, Mprot. reset error
170	P4, Max run time
171	P4, Alarm blocked
172	P4, Dry run
173	P4, Not in auto
174	P4, M.Drive com error
175	P4, M.Drive error
176	P4, Leak. oil chamber
177	P4, Leak. el. chamber
178	P4, Leak. motor house
179	P4, PM com error
180	P4, High temp stator L1
181	P4, High temp upper bear.
182	P4, High temp lower bear.
183	P4, High vibrations
184	P4, Spare position
185	P4, High temp stator L2
186	P4, High temp stator L3
187	P4, Pmp valve error
188	P4, Max reverse attempts
189	P4, Low capacity warn.
190	P4, Pmp valve open err.
191	P4, Pmp valve close err.
192	P5, No run ind.
193	P5, Fallen motor prot.
194	P5, High motor current
195	P5, Low motor current
196	P5, Leakage
197	P5, High motor temp.
198	P5, Low capacity alarm
199	P5, DI pump error
200	P5, Phase missing
201	P5, Mprot. reset error
202	P5, Max run time
203	P5, Alarm blocked
204	P5, Dry run

205	P5, Not in auto
206	P5, M.Drive com error
207	P5, M.Drive error
208	P5, Leak. oil chamber
209	P5, Leak. el. chamber
210	P5, Leak. motor house
211	P5, PM com error
212	P5, High temp stator L1
213	P5, High temp upper bear.
214	P5, High temp lower bear.
215	P5, High vibrations
216	P5, Spare position
217	P5, High temp stator L2
218	P5, High temp stator L3
219	P5, Pmp valve error
220	P5, Max reverse attempts
221	P5, Low capacity warn.

222	P5, Pmp valve open err.
223	P5, Pmp valve close err.
224	P6, No run ind.
225	P6, Fallen motor prot.
226	P6, High motor current
227	P6, Low motor current
228	P6, Leakage
229	P6, High motor temp.
230	P6, Low capacity alarm
231	P6, DI pump error
232	P6, Phase missing
233	P6, Mprot. reset error
234	P6, Max run time
235	P6, Alarm blocked
236	P6, Dry run
237	P6, Not in auto
238	P6, M.Drive com error

239	P6, M.Drive error
240	P6, Leak. oil chamber
241	P6, Leak. el. chamber
242	P6, Leak. motor house
243	P6, PM com error
244	P6, High temp stator L1
245	P6, High temp upper bear.
246	P6, High temp lower bear.
247	P6, High vibrations
248	P6, Spare position
249	P6, High temp stator L2
250	P6, High temp stator L3
251	P6, Pmp valve error
252	P6, Max reverse attempts
253	P6, Low capacity warn.
254	P6, Pmp valve open err.
255	P6, Pmp valve close err.

6.1.3 Station/system alarms

256	DI1 Module1
257	DI2 Module1
258	DI3 Module1
259	DI4 Module1
260	DI5 Module1
261	DI6 Module1
262	DI7 Module1
263	DI8 Module1
264	DI9 Module1
265	DI10 Module1
266	DI11 Module1
267	DI12 Module1
268	DI1 Module2
269	DI2 Module2
270	DI3 Module2
271	DI4 Module2
272	DI5 Module2
273	DI6 Module2
274	DI7 Module2
275	DI8 Module2
276	DI9 Module2
277	DI10 Module2
278	DI11 Module2
279	DI12 Module2
280	DI1 Module3
281	DI2 Module3

282	DI3 Module3
283	DI4 Module3
284	DI5 Module3
285	DI6 Module3
286	DI7 Module3
287	DI8 Module3
288	DI9 Module3
289	DI10 Module3
290	DI11 Module3
291	DI12 Module3
292	DI1 Module4
293	DI2 Module4
294	DI3 Module4
295	DI4 Module4
296	DI5 Module4
297	DI6 Module4
298	DI7 Module4
299	DI8 Module4
300	DI9 Module4
301	DI10 Module4
302	DI11 Module4
303	DI12 Module4
304	DI1 Module5
305	DI2 Module5
306	DI3 Module5
307	DI4 Module5

308	DI5 Module5
309	DI6 Module5
310	DI7 Module5
311	DI8 Module5
312	DI9 Module5
313	DI10 Module5
314	DI11 Module5
315	DI12 Module5
316	DI1 Module6
317	DI2 Module6
318	DI3 Module6
319	DI4 Module6
320	DI5 Module6
321	DI6 Module6
322	DI7 Module6
323	DI8 Module6
324	DI9 Module6
325	DI10 Module6
326	DI11 Module6
327	DI12 Module6
328	DI1 Module7
329	DI2 Module7
330	DI3 Module7
331	DI4 Module7
332	DI5 Module7
333	DI6 Module7

334	DI7 Module7
335	DI8 Module7
336	DI9 Module7
337	DI10 Module7
338	DI11 Module7
339	DI12 Module7
340	DI1 Module8
341	DI2 Module8
342	DI3 Module8
343	DI4 Module8
344	DI5 Module8
345	DI6 Module8
346	DI7 Module8
347	DI8 Module8
348	DI9 Module8
349	DI10 Module8
350	DI11 Module8
351	DI12 Module8
352	DI1 Module9
353	DI2 Module9
354	DI3 Module9
355	DI4 Module9
356	DI5 Module9
357	DI6 Module9
358	DI7 Module9
359	DI8 Module9
360	DI9 Module9
361	DI10 Module9
362	DI11 Module9
363	DI12 Module9
364	DI1 local at controller
365	DI2 local at controller
366	DI3 local at controller
367	DI4 local at controller
368	High rain pulse ch1
369	High power pulse ch1
370	High flow pulse ch1
371	Low flow pulse ch1
372	High rain pulse ch2
373	High power pulse ch2
374	High flow pulse ch2
375	Low flow pulse ch2
376	High rain pulse ch3
377	High power pulse ch3
378	High flow pulse ch3
379	Low flow pulse ch3
380	High rain pulse ch4
381	High power pulse ch4
382	High flow pulse ch4
383	Low flow pulse ch4
384	High AI1 Module1
385	Low AI1 Module1
386	AI1 Module1 sensor error
387	Hi-high AI1 Module1
388	Low-low AI1 Module1
389	High AI2 Module1
390	Low AI2 Module1
391	AI2 Module1 sensor error
392	Hi-high AI2 Module1
393	Low-low AI2 Module1
394	High AI3 Module1
395	Low AI3 Module1
396	AI3 Module1 sensor error
397	Hi-high AI3 Module1
398	Low-low AI3 Module1
399	High AI4 Module1
400	Low AI4 Module1
401	AI4 Module1 sensor error
402	Hi-high AI4 Module1
403	Low-low AI4 Module1
404	High AI5 Module1
405	Low AI5 Module1
406	AI5 Module1 sensor error
407	Hi-high AI5 Module1
408	Low-low AI5 Module1
409	High AI6 Module1
410	Low AI6 Module1
411	AI6 Module1 sensor error
412	Hi-high AI6 Module1
413	Low-low AI6 Module1
414	High AI1 Module2
415	Low AI1 Module2
416	AI1 Module2 sensor error
417	Hi-high AI1 Module2
418	Low-low AI1 Module2
419	High AI2 Module2
420	Low AI2 Module2
421	AI2 Module2 sensor error
422	Hi-high AI2 Module2
423	Low-low AI2 Module2
424	High AI3 Module2
425	Low AI3 Module2
426	AI3 Module2 sensor error
427	Hi-high AI3 Module2
428	Low-low AI3 Module2
429	High AI4 Module2
430	Low AI4 Module2
431	AI4 Module2 sensor error
432	Hi-high AI4 Module2
433	Low-low AI4 Module2
434	High AI5 Module2
435	Low AI5 Module2
436	AI5 Module2 sensor error
437	Hi-high AI5 Module2
438	Low-low AI5 Module2
439	High AI6 Module2
440	Low AI6 Module2
441	AI6 Module2 sensor error
442	Hi-high AI6 Module2
443	Low-low AI6 Module2
444	High AI1 Module3
445	Low AI1 Module3
446	AI1 Module3 sensor error
447	Hi-high AI1 Module3
448	Low-low AI1 Module3
449	High AI2 Module3
450	Low AI2 Module3
451	AI2 Module3 sensor error
452	Hi-high AI2 Module3
453	Low-low AI2 Module3
454	High AI3 Module3
455	Low AI3 Module3
456	AI3 Module3 sensor error
457	Hi-high AI3 Module3
458	Low-low AI3 Module3
459	High AI4 Module3
460	Low AI4 Module3
461	AI4 Module3 sensor error
462	Hi-high AI4 Module3
463	Low-low AI4 Module3
464	High AI5 Module3
465	Low AI5 Module3

466	AI5 Module3 sensor error
467	Hi-high AI5 Module3
468	Low-low AI5 Module3
469	High AI6 Module3
470	Low AI6 Module3
471	AI6 Module3 sensor error
472	Hi-high AI6 Module3
473	Low-low AI6 Module3
474	High AI1 Module4
475	Low AI1 Module4
476	AI1 Module4 sensor error
477	Hi-high AI1 Module4
478	Low-low AI1 Module4
479	High AI2 Module4
480	Low AI2 Module4
481	AI2 Module4 sensor error
482	Hi-high AI2 Module4
483	Low-low AI2 Module4
484	High AI3 Module4
485	Low AI3 Module4
486	AI3 Module4 sensor error
487	Hi-high AI3 Module4
488	Low-low AI3 Module4
489	High AI4 Module4
490	Low AI4 Module4
491	AI4 Module4 sensor error
492	Hi-high AI4 Module4
493	Low-low AI4 Module4
494	High AI5 Module4
495	Low AI5 Module4
496	AI5 Module4 sensor error
497	Hi-high AI5 Module4
498	Low-low AI5 Module4
499	High AI6 Module4
500	Low AI6 Module4
501	AI6 Module4 sensor error
502	Hi-high AI6 Module4
503	Low-low AI6 Module4
504	High AI1 Module5
505	Low AI1 Module5
506	AI1 Module5 sensor error
507	Hi-high AI1 Module5
508	Low-low AI1 Module5
509	High AI2 Module5
510	Low AI2 Module5
511	AI2 Module5 sensor error
512	Hi-high AI2 Module5
513	Low-low AI2 Module5
514	High AI3 Module5
515	Low AI3 Module5
516	AI3 Module5 sensor error
517	Hi-high AI3 Module5
518	Low-low AI3 Module5
519	High AI4 Module5
520	Low AI4 Module5
521	AI4 Module5 sensor error
522	Hi-high AI4 Module5
523	Low-low AI4 Module5
524	High AI5 Module5
525	Low AI5 Module5
526	AI5 Module5 sensor error
527	Hi-high AI5 Module5
528	Low-low AI5 Module5
529	High AI6 Module5
530	Low AI6 Module5
531	AI6 Module5 sensor error
532	Hi-high AI6 Module5
533	Low-low AI6 Module5
534	High AI1 Module6
535	Low AI1 Module6
536	AI1 Module6 sensor error
537	Hi-high AI1 Module6
538	Low-low AI1 Module6
539	High AI2 Module6
540	Low AI2 Module6
541	AI2 Module6 sensor error
542	Hi-high AI2 Module6
543	Low-low AI2 Module6
544	High AI3 Module6
545	Low AI3 Module6
546	AI3 Module6 sensor error
547	Hi-high AI3 Module6
548	Low-low AI3 Module6
549	High AI4 Module6
550	Low AI4 Module6
551	AI4 Module6 sensor error
552	Hi-high AI4 Module6
553	Low-low AI4 Module6
554	High AI5 Module6
555	Low AI5 Module6
556	AI5 Module6 sensor error
557	Hi-high AI5 Module6
558	Low-low AI5 Module6
559	High AI6 Module6
560	Low AI6 Module6
561	AI6 Module6 sensor error
562	Hi-high AI6 Module6
563	Low-low AI6 Module6
564	High AI1 Module7
565	Low AI1 Module7
566	AI1 Module7 sensor error
567	Hi-high AI1 Module7
568	Low-low AI1 Module7
569	High AI2 Module7
570	Low AI2 Module7
571	AI2 Module7 sensor error
572	Hi-high AI2 Module7
573	Low-low AI2 Module7
574	High AI3 Module7
575	Low AI3 Module7
576	AI3 Module7 sensor error
577	Hi-high AI3 Module7
578	Low-low AI3 Module7
579	High AI4 Module7
580	Low AI4 Module7
581	AI4 Module7 sensor error
582	Hi-high AI4 Module7
583	Low-low AI4 Module7
584	High AI5 Module7
585	Low AI5 Module7
586	AI5 Module7 sensor error
587	Hi-high AI5 Module7
588	Low-low AI5 Module7
589	High AI6 Module7
590	Low AI6 Module7
591	AI6 Module7 sensor error
592	Hi-high AI6 Module7
593	Low-low AI6 Module7
594	High AI1 Module8
595	Low AI1 Module8
596	AI1 Module8 sensor error
597	Hi-high AI1 Module8
598	Low-low AI1 Module8
599	High AI2 Module8
600	Low AI2 Module8
601	AI2 Module8 sensor error
602	Hi-high AI2 Module8
603	Low-low AI2 Module8
604	High AI3 Module8
605	Low AI3 Module8
606	AI3 Module8 sensor error
607	Hi-high AI3 Module8
608	Low-low AI3 Module8
609	High AI4 Module8
610	Low AI4 Module8
611	AI4 Module8 sensor error
612	Hi-high AI4 Module8
613	Low-low AI4 Module8
614	High AI5 Module8
615	Low AI5 Module8

615	Low AI5 Module8
616	AI5 Module8 sensor error
617	Hi-high AI5 Module8
618	Low-low AI5 Module8
619	High AI6 Module8
620	Low AI6 Module8
621	AI6 Module8 sensor error
622	Hi-high AI6 Module8
623	Low-low AI6 Module8
624	High AI1 Module9
625	Low AI1 Module9
626	AI1 Module9 sensor error
627	Hi-high AI1 Module9
628	Low-low AI1 Module9
629	High AI2 Module9
630	Low AI2 Module9
631	AI2 Module9 sensor error
632	Hi-high AI2 Module9
633	Low-low AI2 Module9
634	High AI3 Module9
635	Low AI3 Module9
636	AI3 Module9 sensor error
637	Hi-high AI3 Module9
638	Low-low AI3 Module9
639	High AI4 Module9
640	Low AI4 Module9
641	AI4 Module9 sensor error
642	Hi-high AI4 Module9
643	Low-low AI4 Module9
644	High AI5 Module9
645	Low AI5 Module9
646	AI5 Module9 sensor error
647	Hi-high AI5 Module9
648	Low-low AI5 Module9
649	High AI6 Module9
650	Low AI6 Module9
651	AI6 Module9 sensor error
652	Hi-high AI6 Module9
653	Low-low AI6 Module9
654	Spare position
655	Spare position
656	High RTD1 Module1
657	Low RTD1 Module1
658	Sensor error RTD1 Module1
659	HIHI RTD1 Module1
660	High RTD2 Module1
661	Low RTD2 Module1
662	Sensor error RTD2 Module1
663	HIHI RTD2 Module1
664	High RTD3 Module1
665	Low RTD3 Module1
666	Sensor error RTD3 Module1
667	HIHI RTD3 Module1
668	High RTD4 Module1
669	Low RTD4 Module1
670	Sensor error RTD4 Module1
671	HIHI RTD4 Module1
672	High RTD5 Module1
673	Low RTD5 Module1
674	Sensor error RTD5 Module1
675	HIHI RTD5 Module1
676	High RTD6 Module1
677	Low RTD6 Module1
678	Sensor error RTD6 Module1
679	HIHI RTD6 Module1
680	High RTD1 Module2
681	Low RTD1 Module2
682	Sensor error RTD1 Module2
683	HIHI RTD1 Module2
684	High RTD2 Module2
685	Low RTD2 Module2
686	Sensor error RTD2 Module2
687	HIHI RTD2 Module2
688	High RTD3 Module2
689	Low RTD3 Module2
690	Sensor error RTD3 Module2
691	HIHI RTD3 Module2
692	High RTD4 Module2
693	Low RTD4 Module2
694	Sensor error RTD4 Module2
695	HIHI RTD4 Module2
696	High RTD5 Module2
697	Low RTD5 Module2
698	Sensor error RTD5 Module2
699	HIHI RTD5 Module2
700	High RTD6 Module2
701	Low RTD6 Module2
702	Sensor error RTD6 Module2
703	HIHI RTD6 Module2
704	High RTD1 Module3
705	Low RTD1 Module3
706	Sensor error RTD1 Module3
707	HIHI RTD1 Module3
708	High RTD2 Module3
709	Low RTD2 Module3
710	Sensor error RTD2 Module3
711	HIHI RTD2 Module3
712	High RTD3 Module3
713	Low RTD3 Module3
714	Sensor error RTD3 Module3
715	HIHI RTD3 Module3
716	High RTD4 Module3
717	Low RTD4 Module3
718	Sensor error RTD4 Module3
719	HIHI RTD4 Module3
720	High RTD5 Module3
721	Low RTD5 Module3
722	Sensor error RTD5 Module3
723	HIHI RTD5 Module3
724	High RTD6 Module3
725	Low RTD6 Module3
726	Sensor error RTD6 Module3
727	HIHI RTD6 Module3
728	High RTD1 Module4
729	Low RTD1 Module4
730	Sensor error RTD1 Module4
731	HIHI RTD1 Module4
732	High RTD2 Module4
733	Low RTD2 Module4
734	Sensor error RTD2 Module4
735	HIHI RTD2 Module4
736	High RTD3 Module4
737	Low RTD3 Module4
738	Sensor error RTD3 Module4
739	HIHI RTD3 Module4
740	High RTD4 Module4
741	Low RTD4 Module4
742	Sensor error RTD4 Module4
743	HIHI RTD4 Module4
744	High RTD5 Module4
745	Low RTD5 Module4
746	Sensor error RTD5 Module4
747	HIHI RTD5 Module4
748	High RTD6 Module4
749	Low RTD6 Module4
750	Sensor error RTD6 Module4
751	HIHI RTD6 Module4
752	High RTD1 Module5
753	Low RTD1 Module5
754	Sensor error RTD1 Module5
755	HIHI RTD1 Module5
756	High RTD2 Module5
757	Low RTD2 Module5
758	Sensor error RTD2 Module5
759	HIHI RTD2 Module5
760	High RTD3 Module5
761	Low RTD3 Module5
762	Sensor error RTD3 Module5
763	HIHI RTD3 Module5
764	High RTD4 Module5

765	Low RTD4 Module5
766	Sensor error RTD4 Module5
767	HIHI RTD4 Module5
768	High RTD5 Module5
769	Low RTD5 Module5
770	Sensor error RTD5 Module5
771	HIHI RTD5 Module5
772	High RTD6 Module5
773	Low RTD6 Module5
774	Sensor error RTD6 Module5
775	HIHI RTD6 Module5
776	High RTD1 Module6
777	Low RTD1 Module6
778	Sensor error RTD1 Module6
779	HIHI RTD1 Module6
780	High RTD2 Module6
781	Low RTD2 Module6
782	Sensor error RTD2 Module6
783	HIHI RTD2 Module6
784	High RTD3 Module6
785	Low RTD3 Module6
786	Sensor error RTD3 Module6
787	HIHI RTD3 Module6
788	High RTD4 Module6
789	Low RTD4 Module6
790	Sensor error RTD4 Module6
791	HIHI RTD4 Module6
792	High RTD5 Module6
793	Low RTD5 Module6
794	Sensor error RTD5 Module6
795	HIHI RTD5 Module6
796	High RTD6 Module6
797	Low RTD6 Module6
798	Sensor error RTD6 Module6
799	HIHI RTD6 Module6
800	High RTD1 Module7
801	Low RTD1 Module7
802	Sensor error RTD1 Module7
803	HIHI RTD1 Module7
804	High RTD2 Module7
805	Low RTD2 Module7
806	Sensor error RTD2 Module7
807	HIHI RTD2 Module7
808	High RTD3 Module7
809	Low RTD3 Module7
810	Sensor error RTD3 Module7
811	HIHI RTD3 Module7
812	High RTD4 Module7
813	Low RTD4 Module7
814	Sensor error RTD4 Module7
815	HIHI RTD4 Module7
816	High RTD5 Module7
817	Low RTD5 Module7
818	Sensor error RTD5 Module7
819	HIHI RTD5 Module7
820	High RTD6 Module7
821	Low RTD6 Module7
822	Sensor error RTD6 Module7
823	HIHI RTD6 Module7
824	High RTD1 Module8
825	Low RTD1 Module8
826	Sensor error RTD1 Module8
827	HIHI RTD1 Module8
828	High RTD2 Module8
829	Low RTD2 Module8
830	Sensor error RTD2 Module8
831	HIHI RTD2 Module8
832	High RTD3 Module8
833	Low RTD3 Module8
834	Sensor error RTD3 Module8
835	HIHI RTD3 Module8
836	High RTD4 Module8
837	Low RTD4 Module8
838	Sensor error RTD4 Module8
839	HIHI RTD4 Module8
840	High RTD5 Module8
841	Low RTD5 Module8
842	Sensor error RTD5 Module8
843	HIHI RTD5 Module8
844	High RTD6 Module8
845	Low RTD6 Module8
846	Sensor error RTD6 Module8
847	HIHI RTD6 Module8
848	High RTD1 Module9
849	Low RTD1 Module9
850	Sensor error RTD1 Module9
851	HIHI RTD1 Module9
852	High RTD2 Module9
853	Low RTD2 Module9
854	Sensor error RTD2 Module9
855	HIHI RTD2 Module9
856	High RTD3 Module9
857	Low RTD3 Module9
858	Sensor error RTD3 Module9
859	HIHI RTD3 Module9
860	High RTD4 Module9
861	Low RTD4 Module9
862	Sensor error RTD4 Module9
863	HIHI RTD4 Module9
864	High RTD5 Module9
865	Low RTD5 Module9
866	Sensor error RTD5 Module9
867	HIHI RTD5 Module9
868	High RTD6 Module9
869	Low RTD6 Module9
870	Sensor error RTD6 Module9
871	HIHI RTD6 Module9
872	Spare position
873	Spare position
874	Spare position
875	Spare position
876	Spare position
877	Spare position
878	Spare position
879	Spare position

6.1.4 IO module lost alarms

880	CA 811 ID:1 lost
881	CA 811 ID:2 lost
882	CA 811 ID:3 lost
883	CA 811 ID:4 lost
884	CA 811 ID:5 lost
885	CA 811 ID:6 lost
886	CA 811 ID:7 lost
887	CA 811 ID:8 lost
888	CA 811 ID:9 lost
889	CA 821 ID:1 lost
890	CA 821 ID:2 lost
891	CA 821 ID:3 lost
892	CA 821 ID:4 lost
893	CA 821 ID:5 lost
894	CA 821 ID:6 lost
895	CA 821 ID:7 lost
896	CA 821 ID:8 lost
897	CA 821 ID:9 lost
898	CA 831 ID:1 lost
899	CA 831 ID:2 lost
900	CA 831 ID:3 lost
901	CA 831 ID:4 lost

902	CA 831 ID:5 lost
903	CA 831 ID:6 lost
904	CA 831 ID:7 lost
905	CA 831 ID:8 lost
906	CA 831 ID:9 lost
907	CA 832 ID:1 lost
908	CA 832 ID:2 lost
909	CA 832 ID:3 lost
910	CA 832 ID:4 lost
911	CA 832 ID:5 lost
912	CA 832 ID:6 lost
913	CA 832 ID:7 lost
914	CA 832 ID:8 lost
915	CA 832 ID:9 lost
916	CA 841 ID:1 lost
917	CA 841 ID:2 lost
918	CA 841 ID:3 lost
919	CA 841 ID:4 lost
920	CA 841 ID:5 lost
921	CA 841 ID:6 lost
922	CA 841 ID:7 lost
923	CA 841 ID:8 lost

924	CA 841 ID:9 lost
925	CA 861 ID:1 lost
926	CA 861 ID:2 lost
927	CA 861 ID:3 lost
928	CA 861 ID:4 lost
929	CA 861 ID:5 lost
930	CA 861 ID:6 lost
931	CA 861 ID:7 lost
932	CA 861 ID:8 lost
933	CA 861 ID:9 lost
934	Spare position
935	Spare position
936	Spare position
937	Spare position
938	Spare position
939	Spare position
940	Spare position
941	Spare position
942	Spare position
943	IO module address error

7 Commonly used abbreviations

Ackn.	Acknowledge
AI	Analog Input
AO	Analog Output
Calc.	Calculation
Cfg	Configuration
Ch	channel
Com.	Communication
Compl	Complement
Cnt.	Counter
DI	Digital Input
DO	Digital Output
Effic	Efficiency
Electr	Electrical
En	Enable
Freq.	Frequency
Lvl	Level

M.	Motor
M.Drive	Motor drive (See also VFD)
No	Number of
P	Pump
Prot.	Protector
Pwr	Power (electrical)
Reg	Register
Rev	Reverse
Rev	Revision
Rst	Reset
Symb	Symbol
Temp.	Temperature
Unackn.	Unacknowledged
Ver	Version
VFD	Variable Frequency Drive

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