

OptiPressure Controller Version 1.07 – SCADA Modbus Map – Rev 1.00 – 10/11/2022

Monitors (16-Bit Holding Registers) - Read-Only (0x03)

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
0	Version Software/Firmware/Program	x.xx					
1	I/O Config	x				1 = (5) 4-20 mA 2 = (4) 4-20 mA, (1) K-Type TC 3 = (4) 4-20 mA, (1) RTD 4 = (3) 4-20 mA, (2) K-Type TC 5 = (3) 4-20 mA, (2) RTD	
2	Customer ID	x					
3	HOA State	x				0 = Off 1 = Hand 2 = Auto	
4	Command Reference (x.xx Hz)	x.xx	Hz				
7	Index Alarm (Future SD Log)	N/A	N/A				
8	Index Shutdown (Future SD Log)	N/A	N/A				
9	Index Fault (Future SD Log)	N/A	N/A				
10	Raw Analog Input 1	x	N/A	0	1023		1024 = Out of Range
11	Raw Analog Input 2	x	N/A	0	1023		1024 = Out of Range
12	Raw Analog Input 3	x	N/A	0	1023		1024 = Out of Range
13	Raw Analog Input 4 (4-20 mA)	x	N/A	0	16383		-1 = Below Range 16384 = Above Range 32767 = Greatly Below/Above Range
13	Raw Analog Input 4 (K-Type Thermocouple)	x.x	DegF				No Status Indication
13	Raw Analog Input 4 (RTD)	x.x	DegF	-328.0	1100.0		-32767 = Short Circuit 32767 = Open Circuit
14	Raw Analog Input 5 (4-20 mA)	x	N/A	0	16383		-1 = Below Range 16384 = Above Range 32767 = Greatly Below/Above Range
14	Raw Analog Input 5 (K-Type Thermocouple)	x.x	DegF				No Status Indication
14	Raw Analog Input 5 (RTD)	x.x	DegF	-328.0	1100.0		-32767 = Short Circuit 32767 = Open Circuit
15	RESERVED						
16	RESERVED						
17	RESERVED						
18	RESERVED						
19	RESERVED						
20	RESERVED						
21	RESERVED						
22	RESERVED						
23	Raw Analog Output 1	x	N/A	0	4095		Multipurpose Analog Output
24	Raw Analog Output 2	x	N/A	0	4095		Multipurpose Analog Output
25	Scaled Analog Input 1	x.x					
26	Scaled Analog Input 2	x					
27	Scaled Analog Input 3	x.x					
28	Scaled Analog Input 4	x.x					
29	Scaled Analog Input 5	x.x					
30	RESERVED						

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
31	RESERVED						
32	RESERVED						
33	RESERVED						
34	RESERVED						
35	RESERVED						
36	RESERVED						
37	RESERVED						
38	Scaled Analog Input Differential 1	x.x					Difference between 2 operator-selected analog inputs.
39	Scaled Analog Input Differential 2	x.x					Difference between 2 operator-selected analog inputs.
40	Scaled Analog Output 1	x.x	%				
41	Scaled Analog Output 2	x.x	%				
42	V/mA Analog Input 1	x.xx	mA				
43	V/mA Analog Input 2	x.xx	mA				
44	V/mA Analog Input 3	x.xx	mA				
45	V/mA Analog Input 4	x.xx	mA				Always 0 when configured as K-Type thermocouple or RTD.
46	V/mA Analog Input 5	x.xx	mA				Always 0 when configured as K-Type thermocouple or RTD.
47	RESERVED						
48	RESERVED						
49	RESERVED						
50	RESERVED						
51	RESERVED						
52	RESERVED						
53	RESERVED						
54	RESERVED						
55	V/mA Analog Output 1	x.xx	mA				
56	V/mA Analog Output 2	x.xx	mA				
57	±10,000 Analog Input 1	x	N/A	-10,000	+10,000		Analog input scaled to unitless ±10,000 for PID calculations.
58	±10,000 Analog Input 2	x	N/A	-10,000	+10,000		Analog input scaled to unitless ±10,000 for PID calculations.
59	±10,000 Analog Input 3	x	N/A	-10,000	+10,000		Analog input scaled to unitless ±10,000 for PID calculations.
60	±10,000 Analog Input 4	x	N/A	-10,000	+10,000		Analog input scaled to unitless ±10,000 for PID calculations.
61	±10,000 Analog Input 5	x	N/A	-10,000	+10,000		Analog input scaled to unitless ±10,000 for PID calculations.
62	RESERVED						
63	RESERVED						
64	RESERVED						
65	RESERVED						
66	RESERVED						
67	RESERVED						
68	RESERVED						
69	RESERVED						

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
142	Status	x	N/A			0 = Off 1 = Ready 2 = Pre-Run 3 = Run 4 = Post-Run 5 = Alarm 6 = Shutdown 7 = Fault 8 = Restart 9 = Disabled	
143	Alarm	x	N/A				See Alarm list for values.
144	Shutdown	x	N/A				See Shutdown list for values.
145	Fault	x	N/A				See Fault list for values.
146	Fault VFD	x	N/A				See Fault VFD list for values.
147	Shutdown Restart Type	x	N/A			1 = Manual 2 = Timed	
148	Shutdown Restart Time	x	Minutes				
149	Shutdown Restart Countdown	x	Minutes				
150	Fault Restart Type	x				1 = Manual 2 = Timed	
151	Fault Restart Time	x	Minutes				
152	Fault Restart Countdown	x	Minutes				
153	Capacity	x.x	HP				
154	Rated Current	x.x	A				
155	Reference Frequency	x.xx	Hz				
156	Output Frequency	x.xx	Hz				
157	Motor Voltage	x.x	VAC				
158	Motor Current	x.x	A				
159	Motor Torque	x	LbFt				
160	DC Bus	x	VDC				
161	Motor Speed	x	RPM				
164	Pre-Run State	x				0 = Idle 1 = Compressor Delay 2 = Done	
165	Post-Run State FUTURE USE	x					
166	Motor Horsepower	x.x	HP				
167	Motor Synchronous Speed	x	RPM				
168	Motor Poles	x	N/A				
200	Motor Rated Torque	x	LbFt				
201	Fault Reference Frequency	x.xx	Hz				
202	Fault Output Frequency	x.xx	Hz				
203	Fault Output Voltage	x.x	VAC				
204	Fault Output Current	x.x	A				
205	Fault Output Torque	x	LbFt				
206	Fault DC Bus	x	VDC				
207	Fault Motor Horsepower	x.x	HP				
208	Fault Motor Speed	x	RPM				
209	Fault Internal Temp	x	DegC				
210	Fault Heatsink Temp	x	DegC				
211	Fault Internal Temp	x	DegF				
212	Fault Heatsink Temp	x	DegF				

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
213	Internal Temp	x	DegF				
214	Heatsink Temp	x	DegF				
230	SD Card Status	x				0 = No SD Card 1 = Present - Read-Only 2 = Present - OK	
231	SD Logging Status	x				0 = Stopped 1 = Active	
232	Access Level	x				1 = View-Only 2 = Limited Operator 3 = Full Supervisor 4 = Factory	
252	Input Power	x.x	kW				
258	Bypass Valve Commanded Position	x.x	%				
259	Last Version Software/Firmware/Program	x.xx					
261	Cooling Fan Speed Reference	x.x	%				
263	Screensaver Picture Index						
264	Maintenance Reminder 1 Frequency	x		0	2	0 = Disabled 1 = Run-Time 2 = Monthly	
265	Maintenance Reminder 1 Run-Time Source	x		0	3	0 = Panel 1 = Compressor	
266	Maintenance Reminder 1 Time Remaining	x	Hrs				
267	Maintenance Reminder 1 Status	x		0	2	0 = Disabled 1 = OK 2 = Attention	
268	Maintenance Reminder 2 Frequency	x		0	2	0 = Disabled 1 = Run-Time 2 = Monthly	
269	Maintenance Reminder 2 Run-Time Source	x		0	3	0 = Panel 1 = Compressor	
270	Maintenance Reminder 2 Time Remaining	x	Hrs				
271	Maintenance Reminder 2 Status	x		0	2	0 = Disabled 1 = OK 2 = Attention	
272	Maintenance Reminder 3 Frequency	x		0	2	0 = Disabled 1 = Run-Time 2 = Monthly	
273	Maintenance Reminder 3 Run-Time Source	x		0	3	0 = Panel 1 = Compressor	
274	Maintenance Reminder 3 Time Remaining	x	Hrs				
275	Maintenance Reminder 3 Status	x		0	2	0 = Disabled 1 = OK 2 = Attention	
276	Maintenance Reminder 4 Frequency	x		0	2	0 = Disabled 1 = Run-Time 2 = Monthly	
277	Maintenance Reminder 4 Run-Time Source	x		0	3	0 = Panel 1 = Compressor	
278	Maintenance Reminder 4 Time Remaining	x	Hrs				

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
279	Maintenance Reminder 4 Status	x		0	2	0 = Disabled 1 = OK 2 = Attention	
304	RESERVED						
323	VFD Heatsink Rated Overtemperature Threshold	x	DegC				
324	VFD Thermal Warning Threshold	x	DegC				

Monitors (32-Bit Holding Registers) – Read-Only (0x03)

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
28682	Power-Loss RTC Date	x					MMDDYY
28683	Power-Loss RTC Time	x					HHMMSS
28684	Life Run Time Panel	x	Secs				
28685	Life Idle Time Compressor	x	Secs				
28686	Life Fault Time Compressor	x	Secs				
28687	Life Run Time Compressor	x	Secs				
28688	Life Run Time Condensate Pump	x	Secs				
28689	Life Run Time Cooling Fan	x	Secs				
28690	Life Open Bypass Valve	x	Secs				
28691	Today Run Time Panel	x	Secs				
28692	Today Idle Time Compressor	x	Secs				
28693	Today Fault Time Compressor	x	Secs				
28694	Today Run Time Compressor	x	Secs				
28695	Today Run Time Condensate Pump	x	Secs				
28696	Today Run Time Cooling Fan	x	Secs				
28697	Today Open Bypass Valve	x	Secs				
28698	Life Run Time Panel	x.xx	Hrs				
28699	Life Idle Time Compressor	x.xx	Hrs				
28700	Life Fault Time Compressor	x.xx	Hrs				
28701	Life Run Time Compressor	x.xx	Hrs				
28702	Life Run Time Condensate Pump	x.xx	Hrs				
28703	Life Run Time Cooling Fan	x.xx	Hrs				
28704	Life Open Bypass Valve	x.xx	Hrs				
28705	Today Run Time Panel	x.xx	Hrs				
28706	Today Idle Time Compressor	x.xx	Hrs				
28707	Today Fault Time Compressor	x.xx	Hrs				
28708	Today Run Time Compressor	x.xx	Hrs				
28709	Today Run Time Condensate Pump	x.xx	Hrs				
28710	Today Run Time Cooling Fan	x.xx	Hrs				
28711	Today Open Bypass Valve	x.xx	Hrs				
28712	Today Run Time Panel	x.xx	Hrs				
28713	Today Idle Time Compressor	x.xx	Hrs				
28714	Today Fault Time Compressor	x.xx	Hrs				
28715	Today Run Time Compressor	x.xx	Hrs				
28716	Today Run Time Condensate Pump	x.xx	Hrs				
28717	Today Run Time Cooling Fan	x.xx	Hrs				
28718	Today Open Bypass Valve	x.xx	Hrs				
28719	Maintenance Reminder 1 Time Remaining	x	Secs				
28720	Maintenance Reminder 2 Time Remaining	x	Secs				
28721	Maintenance Reminder 3 Time Remaining	x	Secs				
28722	Maintenance Reminder 4 Time Remaining	x	Secs				

Monitors (Bits/Coils) – Read-Only (0x01)

Address	Description	Notes
10	Command Hand	
11	Command Auto	
12	Command Run	
13	Command Forward	
14	Command Reverse	
15	Command Reset Shutdown/Fault	
16	Command Motor Auto-Tune	
17	Command Reset SD Log	
18	Command Reset Manual	
19	Command PID1 Bypass Valve Auto-Tune	
20	Command PID2 Compressor Speed Auto-Tune	
21	Command PID3 Cooling Fan Speed Auto-Tune	
22	Command Clear Events	
23	Command Reset kWh	
24	Command Reset SCADA	
25	Command Bit 15	
28	Status 1 Forward	
29	Status 1 Reverse	
30	Status 1 Pre-Run	
31	Status 1 Run	
32	Status 1 Post-Run	
33	Status 1 Alarm	
34	Status 1 Shutdown	
35	Status 1 Fault	
36	Status 1 Fault VFD	
37	Status 1 Restart	
38	Status 1 Current Limiting	
39	Status 1 Torque Limiting	
40	Status 1 Accelerating	
41	Status 1 Decelerating	
42	Status 1 Ready/Waiting for Start Conditions	
43	Status 1 Maintenance Required	
46	Status 2 Master Enable	
47	Status 2 Status Light Ready/Standby	
48	Status 2 Status Light Pre/Run/Post	
49	Status 2 Status Light Problem	
50	Status 2 Preheat	
51	Status 2 Bit 5	
52	Status 2 Bit 6	
53	Status 2 Bit 7	
54	Status 2 Bit 8	
55	Status 2 Bit 9	
56	Status 2 Bit 10	
57	Status 2 Bit 11	
58	Status 2 Bit 12	
59	Status 2 Bit 13	
60	Status 2 Bit 14	

Address	Description	Notes
61	Status 2 Bit 15	
100	Active Digital Input 1	
101	Active Digital Input 2	
102	Active Digital Input 3	
103	Active Digital Input 4	
104	Active Digital Input 5	
105	Active Digital Input 6	
106	Active Digital Input 7	
107	Active Digital Input 8	
108	Active Digital Input 9	
109	Active Digital Input 10	
110	Active Digital Input 11	
111	Active Digital Input 12	
112	Active Digital Input 13	
113	Active Digital Input 14	
114	Active Digital Input 15	
115	Active Digital Input 16	
116	Active Digital Input 17	
117	Active Digital Input 18	
118	Active (DO01) Compressor Run (Transistor)	
119	Active (DO02) Cooling Fan Run (Transistor)	
120	Active (DO03) Compressor Run	
121	Active (DO04) Cooling Fan Run	
122	Active (DO05) Condensate Pump Run	
123	Active (DO06) Dump Valve Close	
124	Active (DO07) Dump Valve Open	
125	Active (DO08) Bypass Valve Close	
126	Active (DO09) Bypass Valve Open	
127	Active (DO10) Status Ready (Yellow)	
128	Active (DO11) Status Run (Green)	
129	Active (DO12) Status Problem (Red)	
130	Active (DO13) Multipurpose 1	
131	Active (DO14) Multipurpose 2	
132	Active (DO15) Multipurpose 3	
133	Active (DO16) Multipurpose 4	
134	Active (DO17) Multipurpose 5	
200	Alarm Active None	
201	Alarm Active Multiple	
202	Alarm Active Analog Input 1 High-High	
203	Alarm Active Analog Input 1 High	
204	Alarm Active Analog Input 1 Low	
205	Alarm Active Analog Input 1 Low-Low	
206	Alarm Active Analog Input 2 High-High	
207	Alarm Active Analog Input 2 High	
208	Alarm Active Analog Input 2 Low	
209	Alarm Active Analog Input 2 Low-Low	
210	Alarm Active Analog Input 3 High-High	
211	Alarm Active Analog Input 3 High	
212	Alarm Active Analog Input 3 Low	
213	Alarm Active Analog Input 3 Low-Low	

Address	Description	Notes
214	Alarm Active Analog Input 4 High-High	
215	Alarm Active Analog Input 4 High	
216	Alarm Active Analog Input 4 Low	
217	Alarm Active Analog Input 4 Low-Low	
218	Alarm Active Analog Input 5 High-High	
219	Alarm Active Analog Input 5 High	
220	Alarm Active Analog Input 5 Low	
221	Alarm Active Analog Input 5 Low-Low	
222	Alarm Active Analog Input 6 High-High	
223	Alarm Active Analog Input 6 High	
224	Alarm Active Analog Input 6 Low	
225	Alarm Active Analog Input 6 Low-Low	
226	Alarm Active Analog Input 7 High-High	
227	Alarm Active Analog Input 7 High	
228	Alarm Active Analog Input 7 Low	
229	Alarm Active Analog Input 7 Low-Low	
230	Alarm Active Analog Input 8 High-High	
231	Alarm Active Analog Input 8 High	
232	Alarm Active Analog Input 8 Low	
233	Alarm Active Analog Input 8 Low-Low	
234	Alarm Active Analog Input 9 High-High	
235	Alarm Active Analog Input 9 High	
236	Alarm Active Analog Input 9 Low	
237	Alarm Active Analog Input 9 Low-Low	
238	Alarm Active Analog Input 10 High-High	
239	Alarm Active Analog Input 10 High	
240	Alarm Active Analog Input 10 Low	
241	Alarm Active Analog Input 10 Low-Low	
242	Alarm Active Analog Input 11 High-High	
243	Alarm Active Analog Input 11 High	
244	Alarm Active Analog Input 11 Low	
245	Alarm Active Analog Input 11 Low-Low	
246	Alarm Active Analog Input 12 High-High	
247	Alarm Active Analog Input 12 High	
248	Alarm Active Analog Input 12 Low	
249	Alarm Active Analog Input 12 Low-Low	
250	Alarm Active Analog Input 13 High-High	
251	Alarm Active Analog Input 13 High	
252	Alarm Active Analog Input 13 Low	
253	Alarm Active Analog Input 13 Low-Low	
254	Alarm Active Analog Input Differential 1 High-High	
255	Alarm Active Analog Input Differential 1 High	
256	Alarm Active Analog Input Differential 1 Low	
257	Alarm Active Analog Input Differential 1 Low-Low	
258	Alarm Active Analog Input Differential 2 High-High	
259	Alarm Active Analog Input Differential 2 High	
260	Alarm Active Analog Input Differential 2 Low	
261	Alarm Active Analog Input Differential 2 Low-Low	
262	Alarm Active Digital Input 1	
263	Alarm Active Digital Input 2	

Address	Description	Notes
264	Alarm Active Digital Input 3	
265	Alarm Active Digital Input 4	
266	Alarm Active Digital Input 5	
267	Alarm Active Digital Input 6	
268	Alarm Active Digital Input 7	
269	Alarm Active Digital Input 8	
270	Alarm Active Digital Input 9	
271	Alarm Active Digital Input 10	
272	Alarm Active Digital Input 11	
273	Alarm Active Digital Input 12	
274	Alarm Active Digital Input 13	
275	Alarm Active Digital Input 14	
276	Alarm Active Digital Input 15	
277	Alarm Active Digital Input 16	
278	Alarm Active Digital Input 17	
279	Alarm Active Digital Input 18	
280	Alarm Active Main Pump Speed Mismatch	
281	RESERVED	
282	RESERVED	
283	RESERVED	
284	RESERVED	
285	Alarm Active VFD Heatsink Thermal Warning	
400	Alarm Active Analog Input 1 Any	Set when ANY alarm is active for Analog Input 1 (High-High, High, Low, Low-Low).
401	Alarm Active Analog Input 2 Any	Set when ANY alarm is active for Analog Input 2 (High-High, High, Low, Low-Low).
402	Alarm Active Analog Input 3 Any	Set when ANY alarm is active for Analog Input 3 (High-High, High, Low, Low-Low).
403	Alarm Active Analog Input 4 Any	Set when ANY alarm is active for Analog Input 4 (High-High, High, Low, Low-Low).
404	Alarm Active Analog Input 5 Any	Set when ANY alarm is active for Analog Input 5 (High-High, High, Low, Low-Low).
405	Alarm Active Analog Input 6 Any	Set when ANY alarm is active for Analog Input 6 (High-High, High, Low, Low-Low).
406	Alarm Active Analog Input 7 Any	Set when ANY alarm is active for Analog Input 7 (High-High, High, Low, Low-Low).
407	Alarm Active Analog Input 8 Any	Set when ANY alarm is active for Analog Input 8 (High-High, High, Low, Low-Low).
408	Alarm Active Analog Input 9 Any	Set when ANY alarm is active for Analog Input 9 (High-High, High, Low, Low-Low).
409	Alarm Active Analog Input 10 Any	Set when ANY alarm is active for Analog Input 10 (High-High, High, Low, Low-Low).
410	Alarm Active Analog Input 11 Any	Set when ANY alarm is active for Analog Input 11 (High-High, High, Low, Low-Low).
411	Alarm Active Analog Input 12 Any	Set when ANY alarm is active for Analog Input 12 (High-High, High, Low, Low-Low).
412	Alarm Active Analog Input 13 Any	Set when ANY alarm is active for Analog Input 13 (High-High, High, Low, Low-Low).
413	Alarm Active Analog Input Differential 1 Any	Set when ANY alarm is active for Analog Input 14 (High-High, High, Low, Low-Low).
414	Alarm Active Analog Input Differential 2 Any	Set when ANY alarm is active for Analog Input 15 (High-High, High, Low, Low-Low).
440	Maintenance Reminder Maintenance Required Any	Set when ANY maintenance reminder is active.
441	Maintenance Reminder 1 Maintenance Required	
442	Maintenance Reminder 2 Maintenance Required	
443	Maintenance Reminder 3 Maintenance Required	
444	Maintenance Reminder 4 Maintenance Required	

Alarm Codes (Register 143)

Code	Description	Notes
0	None	
1	Multiple	
2	Analog Input 1 High-High	
3	Analog Input 1 High	
4	Analog Input 1 Low	
5	Analog Input 1 Low-Low	
6	Analog Input 2 High-High	
7	Analog Input 2 High	
8	Analog Input 2 Low	
9	Analog Input 2 Low-Low	
10	Analog Input 3 High-High	
11	Analog Input 3 High	
12	Analog Input 3 Low	
13	Analog Input 3 Low-Low	
14	Analog Input 4 High-High	
15	Analog Input 4 High	
16	Analog Input 4 Low	
17	Analog Input 4 Low-Low	
18	Analog Input 5 High-High	
19	Analog Input 5 High	
20	Analog Input 5 Low	
21	Analog Input 5 Low-Low	
22	Analog Input 6 High-High	
23	Analog Input 6 High	
24	Analog Input 6 Low	
25	Analog Input 6 Low-Low	
26	Analog Input 7 High-High	
27	Analog Input 7 High	
28	Analog Input 7 Low	
29	Analog Input 7 Low-Low	
30	Analog Input 8 High-High	
31	Analog Input 8 High	
32	Analog Input 8 Low	
33	Analog Input 8 Low-Low	
34	Analog Input 9 High-High	
35	Analog Input 9 High	
36	Analog Input 9 Low	
37	Analog Input 9 Low-Low	
38	Analog Input 10 High-High	
39	Analog Input 10 High	
40	Analog Input 10 Low	
41	Analog Input 10 Low-Low	
42	Analog Input 11 High-High	
43	Analog Input 11 High	
44	Analog Input 11 Low	
45	Analog Input 11 Low-Low	
46	Analog Input 12 High-High	

Code	Description	Notes
47	Analog Input 12 High	
48	Analog Input 12 Low	
49	Analog Input 12 Low-Low	
50	Analog Input 13 High-High	
51	Analog Input 13 High	
52	Analog Input 13 Low	
53	Analog Input 13 Low-Low	
54	Analog Input Differential 1 High-High	
55	Analog Input Differential 1 High	
56	Analog Input Differential 1 Low	
57	Analog Input Differential 1 Low-Low	
58	Analog Input Differential 2 High-High	
59	Analog Input Differential 2 High	
60	Analog Input Differential 2 Low	
61	Analog Input Differential 2 Low-Low	
62	Digital Input 1	
63	Digital Input 2	
64	Digital Input 3	
65	Digital Input 4	
66	Digital Input 5	
67	Digital Input 6	
68	Digital Input 7	
69	Digital Input 8	
70	Digital Input 9	
71	Digital Input 10	
72	Digital Input 11	
73	Digital Input 12	
74	Digital Input 13	
75	Digital Input 14	
76	Digital Input 15	
77	Digital Input 16	
78	Digital Input 17	
79	Digital Input 18	
80	Compressor Speed Mismatch	
81	VFD Heatsink Thermal Warning	

Shutdown Codes (Register 144)

Code	Description	Notes
0	None	
1	RESERVED	
2	Analog Input 1 High-High	
3	Analog Input 1 High	
4	Analog Input 1 Low	
5	Analog Input 1 Low-Low	
6	Analog Input 2 High-High	
7	Analog Input 2 High	
8	Analog Input 2 Low	
9	Analog Input 2 Low-Low	
10	Analog Input 3 High-High	
11	Analog Input 3 High	
12	Analog Input 3 Low	
13	Analog Input 3 Low-Low	
14	Analog Input 4 High-High	
15	Analog Input 4 High	
16	Analog Input 4 Low	
17	Analog Input 4 Low-Low	
18	Analog Input 5 High-High	
19	Analog Input 5 High	
20	Analog Input 5 Low	
21	Analog Input 5 Low-Low	
22	Analog Input 6 High-High	
23	Analog Input 6 High	
24	Analog Input 6 Low	
25	Analog Input 6 Low-Low	
26	Analog Input 7 High-High	
27	Analog Input 7 High	
28	Analog Input 7 Low	
29	Analog Input 7 Low-Low	
30	Analog Input 8 High-High	
31	Analog Input 8 High	
32	Analog Input 8 Low	
33	Analog Input 8 Low-Low	
34	Analog Input 9 High-High	
35	Analog Input 9 High	
36	Analog Input 9 Low	
37	Analog Input 9 Low-Low	
38	Analog Input 10 High-High	
39	Analog Input 10 High	
40	Analog Input 10 Low	
41	Analog Input 10 Low-Low	
42	Analog Input 11 High-High	
43	Analog Input 11 High	
44	Analog Input 11 Low	
45	Analog Input 11 Low-Low	
46	Analog Input 12 High-High	

Code	Description	Notes
47	Analog Input 12 High	
48	Analog Input 12 Low	
49	Analog Input 12 Low-Low	
50	Analog Input 13 High-High	
51	Analog Input 13 High	
52	Analog Input 13 Low	
53	Analog Input 13 Low-Low	
54	Analog Input Differential 1 High-High	
55	Analog Input Differential 1 High	
56	Analog Input Differential 1 Low	
57	Analog Input Differential 1 Low-Low	
58	Analog Input Differential 2 High-High	
59	Analog Input Differential 2 High	
60	Analog Input Differential 2 Low	
61	Analog Input Differential 2 Low-Low	
62	Digital Input 1	
63	Digital Input 2	
64	Digital Input 3	
65	Digital Input 4	
66	Digital Input 5	
67	Digital Input 6	
68	Digital Input 7	
69	Digital Input 8	
70	Digital Input 9	
71	Digital Input 10	
72	Digital Input 11	
73	Digital Input 12	
74	Digital Input 13	
75	Digital Input 14	
76	Digital Input 15	
77	Digital Input 16	
78	Digital Input 17	
79	Digital Input 18	
80	Compressor Speed Mismatch	

Fault Codes (Register 145)

Code	Description	Notes
0	None	
1	VFD Fault	
2	Analog Input 1 Signal-Loss	
3	Analog Input 2 Signal-Loss	
4	Analog Input 3 Signal-Loss	
5	Analog Input 4 Signal-Loss	
6	Analog Input 5 Signal-Loss	
7	Analog Input 6 Signal-Loss	
8	Analog Input 7 Signal-Loss	
9	Analog Input 8 Signal-Loss	
10	Analog Input 9 Signal-Loss	
11	Analog Input 10 Signal-Loss	
12	Analog Input 11 Signal-Loss	
13	Analog Input 12 Signal-Loss	
14	Analog Input 13 Signal-Loss	
15	Cooling Fan Failed to Run	
16	Compressor Failed to Run	
17	VFD Communications Failed	
18	VFD Failed to Stop at Start-up	
19	Battery Failure	
20	Hand and Auto Both Active	

VFD Fault Codes (Register 146)

Code	Description	Notes
0	None	
1	(OC1) Overcurrent During Accel	
2	(OC2) Overcurrent During Decel	
3	(OC3) Overcurrent At Set Speed	
4	Undefined VFD Fault 4	
5	EF Ground Fault	
6	(OU1) Overvoltage During Accel	
7	(OU2) Overvoltage During Decel	
8	(OU3) Overvoltage At Set Speed	
9	Undefined VFD Fault 9	
10	(LU) Undervoltage	
11	(Lin) Input Phase Loss	
12	Undefined VFD Fault 12	
13	Undefined VFD Fault 13	
14	(FUS) DC Bus Fuse Blown	
15	Undefined VFD Fault 15	
16	(PbF) Charging Circuit Fault	
17	(OH1) Heatsink Overheat	
18	(OH2) External Shutdown	
19	(OH3) Internal Overheat	
20	(OH4) Motor PTC/NTC Overheat	
21	Undefined VFD Fault 21	
22	(dbH) Braking Resistor Overheat	
23	(OL1) Motor Overload	
24	(OL2) Motor 2 Overload	
25	(OLU) VFD Overload	
26	Undefined VFD Fault 26	
27	(OS) Overspeed Protection	
28	(PG) PG Disconnected	
29	(nrb) NTC Disconnected	
30	Undefined VFD Fault 30	
31	(Er1) Memory Error	
32	(Er2) Keypad Comm Error	
33	(Er3) CPU Error	
34	(Er4) Option Card Comm Error	
35	(Er5) Option Card Error	
36	(Er6) Stop Key Error	
37	(Er7) Auto-Tuning Error	
38	(Er8) RS485 Comm Port 1 Error	
39	Undefined VFD Fault 39	
40	Undefined VFD Fault 40	
41	Undefined VFD Fault 41	
42	Undefined VFD Fault 42	
43	Undefined VFD Fault 43	
44	(OL3) Motor 3 Overload	
45	(OL4) Motor 4 Overload	
46	(OPL) Output Phase Loss	

Code	Description	Notes
47	(ErE) Excessive Speed Deviation	
48	Undefined VFD Fault 48	
49	Undefined VFD Fault 49	
50	Undefined VFD Fault 50	
51	(ErF) Data Save Error	
52	Undefined VFD Fault 52	
53	(ErP) RS485 Comm Port 2 Error	
54	(ErH) Hardware Error	
55	Undefined VFD Fault 55	
56	Undefined VFD Fault 56	
57	(ECN) Enabled EN1/EN2 Lost	
58	(CoF) PID Fdbck Disconnected	
59	(dbA) Dynamic Braking Transistor	
60	Undefined VFD Fault 60	
61	Undefined VFD Fault 61	
62	Undefined VFD Fault 62	
63	Undefined VFD Fault 63	
64	Undefined VFD Fault 64	
65	Undefined VFD Fault 65	
66	Undefined VFD Fault 66	
67	Undefined VFD Fault 67	
68	Undefined VFD Fault 68	
69	Undefined VFD Fault 69	
70	Undefined VFD Fault 70	
71	Undefined VFD Fault 71	
72	Undefined VFD Fault 72	
73	Undefined VFD Fault 73	
74	Undefined VFD Fault 74	
75	Undefined VFD Fault 75	
76	Undefined VFD Fault 76	
77	Undefined VFD Fault 77	
78	Undefined VFD Fault 78	
79	Undefined VFD Fault 79	
80	Undefined VFD Fault 80	
81	Undefined VFD Fault 81	
82	Undefined VFD Fault 82	
83	Undefined VFD Fault 83	
84	Undefined VFD Fault 84	
85	Undefined VFD Fault 85	
86	Undefined VFD Fault 86	
87	Undefined VFD Fault 87	
88	Undefined VFD Fault 88	
89	Undefined VFD Fault 89	
90	Undefined VFD Fault 90	
91	Undefined VFD Fault 91	
92	Undefined VFD Fault 92	
93	Undefined VFD Fault 93	
94	Undefined VFD Fault 94	
95	Undefined VFD Fault 95	
96	Undefined VFD Fault 96	

Code	Description	Notes
97	Undefined VFD Fault 97	
98	Undefined VFD Fault 98	
99	Undefined VFD Fault 99	
100	(FAL) Internal DC Fan Failure	
101	(OL) Motor Overload Warn	
102	(OH) Cooling Fin Overheat Warn	
103	(LiF) Component Life Warn	
104	(rEF) Command Loss	
105	(Pid) PID Output Warn	
106	(UTL) Low Torque Detected	
107	(PTC) Thermistor Loss	
108	(rTE) Machine Life Accum Hours	
109	(CnT) Machine Life Start Count	
110	Undefined VFD Fault 110	
111	Undefined VFD Fault 111	
112	Undefined VFD Fault 112	
113	Undefined VFD Fault 113	
114	Undefined VFD Fault 114	
115	Undefined VFD Fault 115	
116	Undefined VFD Fault 116	
117	Undefined VFD Fault 117	
118	Undefined VFD Fault 118	
119	Undefined VFD Fault 119	
120	Undefined VFD Fault 120	
121	Undefined VFD Fault 121	
122	Undefined VFD Fault 122	
123	Undefined VFD Fault 123	
124	Undefined VFD Fault 124	
125	Undefined VFD Fault 125	
126	Undefined VFD Fault 126	
127	Undefined VFD Fault 127	
128	Undefined VFD Fault 128	
129	Undefined VFD Fault 129	
130	Undefined VFD Fault 130	
131	Undefined VFD Fault 131	
132	Undefined VFD Fault 132	
133	Undefined VFD Fault 133	
134	Undefined VFD Fault 134	
135	Undefined VFD Fault 135	
136	Undefined VFD Fault 136	
137	Undefined VFD Fault 137	
138	Undefined VFD Fault 138	
139	Undefined VFD Fault 139	
140	Undefined VFD Fault 140	
141	Undefined VFD Fault 141	
142	Undefined VFD Fault 142	
143	Undefined VFD Fault 143	
144	Undefined VFD Fault 144	
145	Undefined VFD Fault 145	
146	Undefined VFD Fault 146	

Code	Description	Notes
147	Undefined VFD Fault 147	
148	Undefined VFD Fault 148	
149	Undefined VFD Fault 149	
150	Undefined VFD Fault 150	
151	Undefined VFD Fault 151	
152	Undefined VFD Fault 152	
153	Undefined VFD Fault 153	
154	Undefined VFD Fault 154	
155	Undefined VFD Fault 155	
156	Undefined VFD Fault 156	
157	Undefined VFD Fault 157	
158	Undefined VFD Fault 158	
159	Undefined VFD Fault 159	
160	Undefined VFD Fault 160	
161	Undefined VFD Fault 161	
162	Undefined VFD Fault 162	
163	Undefined VFD Fault 163	
164	Undefined VFD Fault 164	
165	Undefined VFD Fault 165	
166	Undefined VFD Fault 166	
167	Undefined VFD Fault 167	
168	Undefined VFD Fault 168	
169	Undefined VFD Fault 169	
170	Undefined VFD Fault 170	
171	Undefined VFD Fault 171	
172	Undefined VFD Fault 172	
173	Undefined VFD Fault 173	
174	Undefined VFD Fault 174	
175	Undefined VFD Fault 175	
176	Undefined VFD Fault 176	
177	Undefined VFD Fault 177	
178	Undefined VFD Fault 178	
179	Undefined VFD Fault 179	
180	Undefined VFD Fault 180	
181	Undefined VFD Fault 181	
182	Undefined VFD Fault 182	
183	Undefined VFD Fault 183	
184	Undefined VFD Fault 184	
185	Undefined VFD Fault 185	
186	Undefined VFD Fault 186	
187	Undefined VFD Fault 187	
188	Undefined VFD Fault 188	
189	Undefined VFD Fault 189	
190	Undefined VFD Fault 190	
191	Undefined VFD Fault 191	
192	Undefined VFD Fault 192	
193	Undefined VFD Fault 193	
194	Undefined VFD Fault 194	
195	Undefined VFD Fault 195	
196	Undefined VFD Fault 196	

Code	Description	Notes
197	Undefined VFD Fault 197	
198	Undefined VFD Fault 198	
199	Undefined VFD Fault 199	
200	Undefined VFD Fault 200	
201	Undefined VFD Fault 201	
202	Undefined VFD Fault 202	
203	Undefined VFD Fault 203	
204	Undefined VFD Fault 204	
205	Undefined VFD Fault 205	
206	Undefined VFD Fault 206	
207	Undefined VFD Fault 207	
208	Undefined VFD Fault 208	
209	Undefined VFD Fault 209	
210	Undefined VFD Fault 210	
211	Undefined VFD Fault 211	
212	Undefined VFD Fault 212	
213	Undefined VFD Fault 213	
214	Undefined VFD Fault 214	
215	Undefined VFD Fault 215	
216	Undefined VFD Fault 216	
217	Undefined VFD Fault 217	
218	Undefined VFD Fault 218	
219	Undefined VFD Fault 219	
220	Undefined VFD Fault 220	
221	Undefined VFD Fault 221	
222	Undefined VFD Fault 222	
223	Undefined VFD Fault 223	
224	Undefined VFD Fault 224	
225	Undefined VFD Fault 225	
226	Undefined VFD Fault 226	
227	Undefined VFD Fault 227	
228	Undefined VFD Fault 228	
229	Undefined VFD Fault 229	
230	Undefined VFD Fault 230	
231	Undefined VFD Fault 231	
232	Undefined VFD Fault 232	
233	Undefined VFD Fault 233	
234	Undefined VFD Fault 234	
235	Undefined VFD Fault 235	
236	Undefined VFD Fault 236	
237	Undefined VFD Fault 237	
238	Undefined VFD Fault 238	
239	Undefined VFD Fault 239	
240	Undefined VFD Fault 240	
241	Undefined VFD Fault 241	
242	Undefined VFD Fault 242	
243	Undefined VFD Fault 243	
244	Undefined VFD Fault 244	
245	Undefined VFD Fault 245	
246	Undefined VFD Fault 246	

Code	Description	Notes
247	Undefined VFD Fault 247	
248	Undefined VFD Fault 248	
249	Undefined VFD Fault 249	
250	Undefined VFD Fault 250	
251	Undefined VFD Fault 251	
252	Undefined VFD Fault 252	
253	Undefined VFD Fault 253	
254	(Err) Simulated Fault	

Parameters (16-Bit Holding Registers) – Read/Write

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
5	SCADA Shutdown/Fault Reset	x		0	1	0 = Idle 1 = Reset	
500	Analog Input 1 Scale Minimum	x.x		-3276.8	3276.7		
501	Analog Input 1 Scale Maximum	x.x		-3276.8	3276.7		
502	Analog Input 1 Signal-Loss/Broken Fault	x		1	2	1 = Disabled 2 = Enabled	
503	Analog Input 1 High-High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
504	Analog Input 1 High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
505	Analog Input 1 Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
506	Analog Input 1 Low-Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
507	Analog Input 1 High-High Setpoint	x.x		-3276.8	3276.7		
508	Analog Input 1 High Setpoint	x.x		-3276.8	3276.7		
509	Analog Input 1 Low Setpoint	x.x		-3276.8	3276.7		
510	Analog Input 1 Low-Low Setpoint	x.x		-3276.8	3276.7		
511	Analog Input 1 Start Delay	x	Seconds	1	32767		
512	Analog Input 1 Detection Delay	x	Seconds	1	32767		
513	Analog Input 1 Restart Type	x		1	2	1 = Manual 2 = Timed	
514	Analog Input 1 Restart Delay	x	Minutes	1	32767		
515	RESERVED						
516	RESERVED						
517	Analog Input 2 Scale Minimum	x	PSI	-32768	32767		
518	Analog Input 2 Scale Maximum	x	PSI	-32768	32767		
519	Analog Input 2 Signal-Loss Broken Fault	x		1	2	1 = Disabled 2 = Enabled	
520	Analog Input 2 High-High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
521	Analog Input 2 High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
522	Analog Input 2 Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
523	Analog Input 2 Low-Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
524	Analog Input 2 High-High Setpoint	x	PSI	-32768	32767		
525	Analog Input 2 High Setpoint	x	PSI	-32768	32767		
526	Analog Input 2 Low Setpoint	x	PSI	-32768	32767		

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
527	Analog Input 2 Low-Low Setpoint	x	PSI	-32768	32767		
528	Analog Input 2 Start Delay	x	Seconds	1	32767		
529	Analog Input 2 Detection Delay	x	Seconds	1	32767		
530	Analog Input 2 Restart Type	x		1	2	1 = Manual 2 = Timed	
531	Analog Input 2 Restart Delay	x	Minutes	1	32767		
532	RESERVED						
533	RESERVED						
534	Analog Input 3 Scale Minimum	x.x		-3276.8	3276.7		
535	Analog Input 3 Maximum	x.x		-3276.8	3276.7		
536	Analog Input 3 Signal-Loss/Broken Fault	x		1	2	1 = Disabled 2 = Enabled	
537	Analog Input 3 High-High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
538	Analog Input 3 High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
539	Analog Input 3 Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
540	Analog Input 3 Low-Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
541	Analog Input 3 High-High Setpoint	x.x		-3276.8	3276.7		
542	Analog Input 3 High Setpoint	x.x		-3276.8	3276.7		
543	Analog Input 3 Low Setpoint	x.x		-3276.8	3276.7		
544	Analog Input 3 Low-Low Setpoint	x.x		-3276.8	3276.7		
545	Analog Input 3 Start Delay	x	Seconds	1	32767		
546	Analog Input 3 Detection Delay	x	Seconds	1	32767		
547	Analog Input 3 Restart Type	x		1	2	1 = Manual 2 = Timed	
548	Analog Input 3 Restart Delay	x	Minutes	1	32767		
549	RESERVED						
550	RESERVED						
551	Analog Input 4 Scale Minimum	x.x		-3276.8	3276.7		
552	Analog Input 4 Scale Maximum	x.x		-3276.8	3276.7		
553	Analog Input 4 Signal-Loss/Broken Fault	x		1	2	1 = Disabled 2 = Enabled	
554	Analog Input 4 High-High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
555	Analog Input 4 High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
556	Analog Input 4 Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
557	Analog Input 4 Low-Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
558	Analog Input 4 High-High Setpoint	x.x		-3276.8	3276.7		
559	Analog Input 4 High Setpoint	x.x		-3276.8	3276.7		
560	Analog Input 4 Low Setpoint	x.x		-3276.8	3276.7		
561	Analog Input 4 Low-Low Setpoint	x.x		-3276.8	3276.7		
562	Analog Input 4 Start Delay	x	Seconds	1	32767		
563	Analog Input 4 Detection Delay	x	Seconds	1	32767		
564	Analog Input 4 Restart Type	x		1	2	1 = Manual 2 = Timed	
565	Analog Input 4 Restart Delay	x	Minutes	1	32767		
566	RESERVED						
567	RESERVED						
568	Analog Input 5 Scale Minimum	x.x		-3276.8	3276.7		
569	Analog Input 5 Scale Maximum	x.x		-3276.8	3276.7		
570	Analog Input 5 Signal-Loss/Broken Fault	x		1	2	1 = Disabled 2 = Enabled	
571	Analog Input 5 High-High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
572	Analog Input 5 High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
573	Analog Input 5 Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
574	Analog Input 5 Low-Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
575	Analog Input 5 High-High Setpoint	x.x		-3276.8	3276.7		
576	Analog Input 5 High Setpoint	x.x		-3276.8	3276.7		
577	Analog Input 5 Low Setpoint	x.x		-3276.8	3276.7		
578	Analog Input 5 Low-Low Setpoint	x.x		-3276.8	3276.7		
579	Analog Input 5 Start Delay	x	Seconds	1	32767		
580	Analog Input 5 Detection Delay	x	Seconds	1	32767		
581	Analog Input 5 Restart Type	x		1	2	1 = Manual 2 = Timed	
582	Analog Input 5 Restart Delay	x	Minutes	1	32767		
583	RESERVED						
584	RESERVED						
721	Analog Input Differential 1 High-High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
722	Analog Input Differential 1 High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
723	Analog Input Differential 1 Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
724	Analog Input Differential 1 Low-Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
725	Analog Input Differential 1 High-High Setpoint	x.x		-3276.8	3276.7		

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
726	Analog Input Differential 1 High Setpoint	x.x		-3276.8	3276.7		
727	Analog Input Differential 1 Low Setpoint	x.x		-3276.8	3276.7		
728	Analog Input Differential 1 Low-Low Setpoint	x.x		-3276.8	3276.7		
729	Analog Input Differential 1 Start Delay	x	Seconds	1	32767		
730	Analog Input Differential 1 Detection Delay	x	Seconds	1	32767		
731	Analog Input Differential 1 Restart Type	x		1	2	1 = Manual 2 = Timed	
732	Analog Input Differential 1 Restart Delay	x	Minutes	1	32767		
733	RESERVED						
734	RESERVED						
735	Analog Input Differential 1 Input Analog Input	x		1	7	1 = Analog Input 1 2 = Analog Input 2 3 = Analog Input 3 4 = Analog Input 4 5 = Analog Input 5 6 = Analog Input 6 7 = Analog Input 7	
736	Analog Input Differential 1 Output Analog Input	x		1	7	1 = Analog Input 1 2 = Analog Input 2 3 = Analog Input 3 4 = Analog Input 4 5 = Analog Input 5 6 = Analog Input 6 7 = Analog Input 7	
737	Analog Input Differential 1 Absolute Value	x		1	2	1 = Disabled 2 = Enabled	
738	Analog Input Differential 2 High-High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
739	Analog Input Differential 2 High Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
740	Analog Input Differential 2 Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
741	Analog Input Differential 2 Low-Low Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
742	Analog Input Differential 2 High-High Setpoint	x.x		-3276.8	3276.7		
743	Analog Input Differential 2 High Setpoint	x.x		-3276.8	3276.7		
744	Analog Input Differential 2 Low Setpoint	x.x		-3276.8	3276.7		
745	Analog Input Differential 2 Low-Low Setpoint	x.x		-3276.8	3276.7		
746	Analog Input Differential 2 Start Delay	x	Seconds	1	32767		
747	Analog Input Differential 2 Detection Delay	x	Seconds	1	32767		
748	Analog Input Differential 2 Restart Type	x		1	2	1 = Manual 2 = Timed	
749	Analog Input Differential 2 Restart Delay	x	Minutes	1	32767		
750	RESERVED						
751	RESERVED						

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
752	Analog Input Differential 2 Input Analog Input	x		1	7	1 = Analog Input 1 2 = Analog Input 2 3 = Analog Input 3 4 = Analog Input 4 5 = Analog Input 5 6 = Analog Input 6 7 = Analog Input 7	
753	Analog Input Differential 2 Output Analog Input	x		1	7	1 = Analog Input 1 2 = Analog Input 2 3 = Analog Input 3 4 = Analog Input 4 5 = Analog Input 5 6 = Analog Input 6 7 = Analog Input 7	
754	Analog Input Differential 2 Absolute Value	x		1	2	1 = Disabled 2 = Enabled	
755	Digital Input 1 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
756	Digital Input 1 Active Delay	x	Seconds	0	32767		
757	RESERVED						
758	RESERVED						
759	RESERVED						
760	RESERVED						
761	RESERVED						
762	RESERVED						
763	RESERVED						
764	Digital Input 2 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
765	Digital Input 2 Active Delay	x	Seconds	0	32767		
766	RESERVED						
767	RESERVED						
768	RESERVED						
769	RESERVED						
770	RESERVED						
771	RESERVED						
772	RESERVED						
773	Digital Input 3 Confirm When	x		1	2	1 = Contact Open 2 = Contact Closed	
774	Digital Input 3 Confirm Delay	x	Seconds	0	32767		
775	RESERVED						
776	RESERVED						
777	RESERVED						
778	RESERVED						
779	RESERVED						
780	RESERVED						
781	RESERVED						
782	Digital Input 4 Confirm When	x		1	2	1 = Contact Open 2 = Contact Closed	
783	Digital Input 4 Confirm Delay	x	Seconds	0	32767		
784	RESERVED						
785	RESERVED						

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
786	RESERVED						
787	RESERVED						
788	RESERVED						
789	RESERVED						
790	RESERVED						
791	Digital Input 5 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
792	Digital Input 5 Active Delay	x	Seconds	0	32767		
793	RESERVED						
794	RESERVED						
795	RESERVED						
796	RESERVED						
797	RESERVED						
798	RESERVED						
799	RESERVED						
800	Digital Input 6 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
801	Digital Input 6 Active Delay	x	Seconds	0	32767		
802	Digital Input 6 Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
803	Digital Input 6 Start Delay	x	Seconds	1	32767		
804	Digital Input 6 Detection Delay	x	Seconds	1	32767		
805	Digital Input 6 Restart Type	x		1	2	1 = Manual 2 = Timed	
806	Digital Input 6 Restart Delay	x	Minutes	1	32767		
807	RESERVED						
808	RESERVED						
809	Digital Input 7 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
810	Digital Input 7 Active Delay	x	Seconds	0	32767		
811	Digital Input 7 Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
812	Digital Input 7 Start Delay	x	Seconds	1	32767		
813	Digital Input 7 Detection Delay	x	Seconds	1	32767		
814	Digital Input 7 Restart Type	x		1	2	1 = Manual 2 = Timed	
815	Digital Input 7 Restart Delay	x	Minutes	1	32767		
816	RESERVED						
817	RESERVED						
818	Digital Input 8 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
819	Digital Input 8 Active Delay	x	Seconds	0	32767		
820	Digital Input 8 Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
821	Digital Input 8 Start Delay	x	Seconds	1	32767		
822	Digital Input 8 Detection Delay	x	Seconds	1	32767		
823	Digital Input 8 Restart Type	x		1	2	1 = Manual 2 = Timed	

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
824	Digital Input 8 Restart Delay	x	Minutes	1	32767		
825	RESERVED						
826	RESERVED						
827	Digital Input 9 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
828	Digital Input 9 Active Delay	x	Seconds	0	32767		
829	Digital Input 9 Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
830	Digital Input 9 Start Delay	x	Seconds	1	32767		
831	Digital Input 9 Detection Delay	x	Seconds	1	32767		
832	Digital Input 9 Restart Type	x		1	2	1 = Manual 2 = Timed	
833	Digital Input 9 Restart Delay	x	Minutes	1	32767		
834	RESERVED						
835	RESERVED						
836	Digital Input 10 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
837	Digital Input 10 Active Delay	x	Seconds	0	32767		
838	Digital Input 10 Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
839	Digital Input 10 Start Delay	x	Seconds	1	32767		
840	Digital Input 10 Detection Delay	x	Seconds	1	32767		
841	Digital Input 10 Restart Type	x		1	2	1 = Manual 2 = Timed	
842	Digital Input 10 Restart Delay	x	Minutes	1	32767		
843	RESERVED						
844	RESERVED						
845	Digital Input 11 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
846	Digital Input 11 Active Delay	x	Seconds	0	32767		
847	Digital Input 11 Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
848	Digital Input 11 Start Delay	x	Seconds	1	32767		
849	Digital Input 11 Detection Delay	x	Seconds	1	32767		
850	Digital Input 11 Restart Type	x		1	2	1 = Manual 2 = Timed	
851	Digital Input 11 Restart Delay	x	Minutes	1	32767		
852	RESERVED						
853	RESERVED						
854	Digital Input 12 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
855	Digital Input 12 Active Delay	x	Seconds	0	32767		
856	Digital Input 12 Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
857	Digital Input 12 Start Delay	x	Seconds	1	32767		
858	Digital Input 12 Detection Delay	x	Seconds	1	32767		

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
859	Digital Input 12 Restart Type	x		1	2	1 = Manual 2 = Timed	
860	Digital Input 12 Restart Delay	x	Minutes	1	32767		
861	RESERVED						
862	RESERVED						
863	Digital Input 13 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
864	Digital Input 13 Active Delay	x	Seconds	0	32767		
865	Digital Input 13 Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
866	Digital Input 13 Start Delay	x	Seconds	1	32767		
867	Digital Input 13 Detection Delay	x	Seconds	1	32767		
868	Digital Input 13 Restart Type	x		1	2	1 = Manual 2 = Timed	
869	Digital Input 13 Restart Delay	x	Minutes	1	32767		
870	RESERVED						
871	RESERVED						
872	Digital Input 14 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
873	Digital Input 14 Active Delay	x	Seconds	0	32767		
874	Digital Input 14 Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
875	Digital Input 14 Start Delay	x	Seconds	1	32767		
876	Digital Input 14 Detection Delay	x	Seconds	1	32767		
877	Digital Input 14 Restart Type	x		1	2	1 = Manual 2 = Timed	
878	Digital Input 14 Restart Delay	x	Minutes	1	32767		
879	RESERVED						
880	RESERVED						
881	Digital Input 15 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
882	Digital Input 15 Active Delay	x	Seconds	0	32767		
883	Digital Input 15 Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
884	Digital Input 15 Start Delay	x	Seconds	1	32767		
885	Digital Input 15 Detection Delay	x	Seconds	1	32767		
886	Digital Input 15 Restart Type	x		1	2	1 = Manual 2 = Timed	
887	Digital Input 15 Restart Delay	x	Minutes	1	32767		
888	RESERVED						
889	RESERVED						
890	Digital Input 16 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
891	Digital Input 16 Active Delay	x	Seconds	0	32767		
892	Digital Input 16 Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
893	Digital Input 16 Start Delay	x	Seconds	1	32767		

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
894	Digital Input 16 Detection Delay	x	Seconds	1	32767		
895	Digital Input 16 Restart Type	x		1	2	1 = Manual 2 = Timed	
896	Digital Input 16 Restart Delay	x	Minutes	1	32767		
897	RESERVED						
898	RESERVED						
899	Digital Input 17 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
900	Digital Input 17 Active Delay	x	Seconds	0	32767		
901	Digital Input 17 Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
902	Digital Input 17 Start Delay	x	Seconds	1	32767		
903	Digital Input 17 Detection Delay	x	Seconds	1	32767		
904	Digital Input 17 Restart Type	x		1	2	1 = Manual 2 = Timed	
905	Digital Input 17 Restart Delay	x	Minutes	1	32767		
906	RESERVED						
907	RESERVED						
908	Digital Input 18 Active When	x		1	2	1 = Contact Open 2 = Contact Closed	
909	Digital Input 18 Active Delay	x	Seconds	0	32767		
910	Digital Input 18 Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
911	Digital Input 18 Start Delay	x	Seconds	1	32767		
912	Digital Input 18 Detection Delay	x	Seconds	1	32767		
913	Digital Input 18 Restart Type	x		1	2	1 = Manual 2 = Timed	
914	Digital Input 18 Restart Delay	x	Minutes	1	32767		
915	RESERVED						
916	RESERVED						
917	Analog Output 1 Function	x		1	4	1 = Disabled 2 = Compressor Speed Reference 3 = Cooling Fan Speed Reference 4 = Bypass Valve Position	
918	Analog Output 1 100% Output	x		1	2	1 = 4 mA 2 = 20 mA	
919	Analog Output 2 Function	x		1	4	1 = Disabled 2 = Compressor Speed Reference 3 = Cooling Fan Speed Reference 4 = Bypass Valve Position	
920	Analog Output 2 100% Output	x		1	2	1 = 4 mA 2 = 20 mA	

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
921	Digital Output 1 Function	x		2	2	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
922	Digital Output 1 Close When	x		1	2	1 = Inactive 2 = Active	
923	Digital Output 2 Function	x		3	3	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
924	Digital Output 2 Close When	x		1	2	1 = Inactive 2 = Active	
925	Digital Output 3 Function	x		2	2	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
926	Digital Output 3 Close When	x		1	2	1 = Inactive 2 = Active	

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
927	Digital Output 4 Function	x		3	3	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
928	Digital Output 4 Close When	x		1	2	1 = Inactive 2 = Active	
929	Digital Output 5 Function	x		4	4	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
930	Digital Output 5 Close When	x		1	2	1 = Inactive 2 = Active	
931	Digital Output 6 Function	x		5	5	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
932	Digital Output 6 Close When	x		1	2	1 = Inactive 2 = Active	

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
933	Digital Output 7 Function	x		6	6	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
934	Digital Output 7 Close When	x		1	2	1 = Inactive 2 = Active	
935	Digital Output 8 Function	x		7	7	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
936	Digital Output 8 Close When	x		1	2	1 = Inactive 2 = Active	
937	Digital Output 9 Function	x		8	8	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
938	Digital Output 9 Close When	x		1	2	1 = Inactive 2 = Active	

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
939	Digital Output 10 Function	x		9	9	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
940	Digital Output 10 Close When	x		1	2	1 = Inactive 2 = Active	
941	Digital Output 11 Function	x		10	10	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
942	Digital Output 11 Close When	x		1	2	1 = Inactive 2 = Active	
943	Digital Output 12 Function	x		11	11	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
944	Digital Output 12 Close When	x		1	2	1 = Inactive 2 = Active	

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
945	Digital Output 13 Function	x		1	13	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
946	Digital Output 13 Close When	x		1	2	1 = Inactive 2 = Active	
947	Digital Output 14 Function	x		1	13	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
948	Digital Output 14 Close When	x		1	2	1 = Inactive 2 = Active	
949	Digital Output 15 Function	x		1	13	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
950	Digital Output 15 Close When	x		1	2	1 = Inactive 2 = Active	

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
951	Digital Output 16 Function	x		1	13	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
952	Digital Output 16 Close When	x		1	2	1 = Inactive 2 = Active	
953	Digital Output 17 Function	x		1	13	1 = Disabled 2 = Compressor Run 3 = Cooling Fan Run 4 = Condensate Pump Run 5 = Dump Valve Close 6 = Dump Valve Open 7 = Bypass Valve Close 8 = Bypass Valve Open 9 = Status Ready 10 = Status Run 11 = Status Problem 12 = Waiting for Start 13 = Vessel Bleed Valve Open	
954	Digital Output 17 Close When	x		1	2	1 = Inactive 2 = Active	
955	Controller Ethernet IP Address 1	x		0	255		1st octet.
956	Controller Ethernet IP Address 2	x		0	255		2nd octet.
957	Controller Ethernet IP Address 3	x		0	255		3rd octet.
958	Controller Ethernet IP Address 4	x		0	255		4th octet.
959	Controller Ethernet Subnet Mask 1	x		0	255		1st octet.
960	Controller Ethernet Subnet Mask 2	x		0	255		2nd octet.
961	Controller Ethernet Subnet Mask 3	x		0	255		3rd octet.
962	Controller Ethernet Subnet Mask 4	x		0	255		4th octet.
963	Controller Ethernet Default Gateway 1	x		0	255		1st octet.
964	Controller Ethernet Default Gateway 2	x		0	255		2nd octet.
965	Controller Ethernet Default Gateway 3	x		0	255		3rd octet.
966	Controller Ethernet Default Gateway 4	x		0	255		4th octet.
967	Variable Frequency Drive Ethernet IP Address 1	x		0	255		1st octet.
968	Variable Frequency Drive Ethernet IP Address 2	x		0	255		2nd octet.
969	Variable Frequency Drive Ethernet IP Address 3	x		0	255		3rd octet.
970	Variable Frequency Drive Ethernet IP Address 4	x		0	255		4th octet.
971	Serial Port 1 SCADA Type	x		1	2	1 = RS-232 2 = RS-485	

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
972	Serial Port 1 SCADA Baud Rate	x	bps	1	5	1 = 9600 2 = 19200 3 = 38400 4 = 57800 5 = 115200	
973	Serial Port 1 SCADA Slave Address	x		1	255		
974	RESERVED						
975	RESERVED						
976	Screensaver	x		1	3	1 = Disabled 2 = Blank 3 = Pictures	
977	Screensaver Timeout	x	Minutes	1	60		
978	Home Screen	x		1	2	1 = Tank 2 = Booster	
979	Access Control Operator Password	x		0	9999		
980	Access Control Supervisor Password	x		0	9999		
981	Access Control Service Password	x		0	9999		
982	SD Card Logging Log When	x		1	2	1 = Always 2 = Running Only	
983	SD Card Logging Logging Interval	x	Seconds	1	3600		
984	Equipment Stabilization Time	x	Secs	1	60		
985	Variable Frequency Drive Maximum Speed	x.xx	Hz	25.00	120.00		
986	Variable Frequency Drive Base Frequency	x.x	Hz	25.0	120.0		
987	Variable Frequency Drive Maximum Voltage	x	Volts	160	500		
988	Variable Frequency Drive Acceleration Time	x.x	Seconds	0	3000.0		
989	Variable Frequency Drive Deceleration Time	x.x	Seconds	0	3000.0		
990	Variable Frequency Drive Torque Boost	x.x	%	0	20.0		
991	Variable Frequency Drive Overload	x.x	Amps	1.0	3000.0		
992	Variable Frequency Drive Minimum Speed	x.xx	Hz	0.00	120.00		
993	Variable Frequency Drive Carrier Frequency	x	kHz	1	10		
994	Variable Frequency Drive Control Mode	x		1	2	1 = V/Hz 2 = Torque Vector	
995	Variable Frequency Drive Current Limit	x		1	2	1 = Disabled 2 = Enabled	
996	Variable Frequency Drive Current Limit Setpoint	x	Amps	1	3000		
997	Variable Frequency Drive Stop Mode	x		1	2	1 = Decelerate 2 = Coast to Stop	
998	Variable Frequency Drive Regen Mode	x		1	3	1 = Brake/Disabled 2 = Control by Torque 3 = Control by DC Bus	
999	Variable Frequency Drive Regen Frequency	x.x	Hz	0	120.0		
1000	Motor Rated Speed	x	RPM	1	4	1 = 900 2 = 1200 3 = 1800 4 = 3600	
1001	Motor Rated Horsepower	x	HP	1	1000		
1002	Motor Full-Load Amps	x.x	Amps	1.0	3000.0		
1003	VFD Thermal Warning	x		1	3	1 = Disabled 2 = Alarm 3 = Alarm & Message	
1004	VFD Thermal Warning Threshold	x	%	1	100		

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
1005	Compressor Control Mode	x		1	3	1 = Disabled 2 = Suction 3 = Discharge	
1006	Compressor Start/Stop Source	x		1	5	1 = Analog Input 1 2 = Analog Input 2 3 = Analog Input 3 4 = Analog Input 4 5 = Analog Input 5	
1007	Compressor Pre-Run Time	x	Seconds	0	32767		
1008	Compressor Speed Source	x		1	6	1 = Analog Input 1 2 = Analog Input 2 3 = Analog Input 3 4 = Analog Input 4 5 = Analog Input 5 6 = Fixed Speed	
1009	Compressor Speed PID Action	x		1	2	1 = Reverse (Discharge) 2 = Normal (Suction)	
1010	Compressor Speed PID (Alx) Proportional Band	x.x	%	-3276.8	3276.7		
1011	Compressor Speed PID (Alx) Integral Time	x	Seconds	-32768	32767		
1012	Compressor Speed PID (Alx) Derivative Time	x	Seconds	-32768	32767		
1013	Compressor Speed Mismatch Reaction	x		1	3	1 = Disabled 2 = Alarm 3 = Shutdown	
1014	Compressor Oil Preheat	x		1	2	1 = Disabled 2 = Enabled	
1015	Compressor Oil Preheat Source	x		1	5	1 = Analog Input 1 2 = Analog Input 2 3 = Analog Input 3 4 = Analog Input 4 5 = Analog Input 5	
1016	Bypass Valve Control Mode	x		1	3	1 = Disabled 2 = Solenoid 3 = Modulating	
1017	Bypass Valve Open Close Source	x		1	5	1 = Analog Input 1 2 = Analog Input 2 3 = Analog Input 3 4 = Analog Input 4 5 = Analog Input 5	
1018	Bypass Valve Modulation Source	x		1	5	1 = Analog Input 1 2 = Analog Input 2 3 = Analog Input 3 4 = Analog Input 4 5 = Analog Input 5	
1019	Bypass Valve Modulation PID Action	x		1	2	1 = Reverse (Discharge) 2 = Normal (Suction)	
1020	Bypass Valve Modulation PID (Alx) Proportional Band	x.x	%	-3276.8	3276.7		
1021	Bypass Valve Modulation PID (Alx) Integral Time	x	Seconds	-32768	32767		
1022	Bypass Valve Modulation PID (Alx) Derivative Time	x	Seconds	-32768	32767		
1023	Bypass Valve Sequence Operation	x		1	4	1 = No Pre-Run or Post-Run 2 = Pre-Run 3 = Post-Run 4 = Pre-Run and Post-Run	

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
1024	Bypass Valve Sequence Pre-Run Position	x	%	0	100		
1025	Bypass Valve Sequence Pre-Run Time	x	Seconds	0	32767		
1026	Bypass Valve Sequence Post-Run Position	x	%	0	100		
1027	Bypass Valve Sequence Post-Run Time	x	Seconds	0	32767		
1028	Bypass Valve Advanced Operate When HOA	x		1	2	1 = Hand/Auto 2 = Hand/Off/Auto	
1029	Bypass Valve Advanced Operate During Shutdown/Fault	x		1	2	1 = Disabled 2 = Enabled	
1030	Bypass Valve Advanced Stop Compressor If Open	x	Minutes	0	32767		
1031	Cooling Fan Start/Stop Control Mode	x		1	3	1 = Disabled 2 = With Compressor 3 = By Temperature	
1032	Cooling Fan Start/Stop Source	x		1	5	1 = Analog Input 1 2 = Analog Input 2 3 = Analog Input 3 4 = Analog Input 4 5 = Analog Input 5	
1033	Cooling Fan Speed Source	x		1	6	1 = Analog Input 1 2 = Analog Input 2 3 = Analog Input 3 4 = Analog Input 4 5 = Analog Input 5 6 = Fixed Speed	
1034	Cooling Fan Speed PID Action	x		1	2	1 = Reverse (Discharge) 2 = Normal (Suction)	
1035	Cooling Fan Speed PID (Alx) Proportional Band	x.x	%	-3276.8	3276.7		
1036	Cooling Fan Speed PID (Alx) Integral Time	x	Seconds	-32768	32767		
1037	Cooling Fan Speed PID (Alx) Derivative Time	x	Seconds	-32768	32767		
1038	Cooling Fan Advanced Operate When HOA	x		1	2	1 = Hand/Auto 2 = Hand/Off/Auto	
1039	Cooling Fan Advanced Operate During Shutdown/Fault	x		1	2	1 = Disabled 2 = Enabled	
1040	Dump Valve Open/Close High-High Open	x		1	14	1 = Disabled 2 = Digital Input 6 3 = Digital Input 7 4 = Digital Input 8 5 = Digital Input 9 6 = Digital Input 10 7 = Digital Input 11 8 = Digital Input 12 9 = Digital Input 13 10 = Digital Input 14 11 = Digital Input 15 12 = Digital Input 16 13 = Digital Input 17 14 = Digital Input 18	

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
1041	Dump Valve Open/Close High Open	x		1	14	1 = Disabled 2 = Digital Input 6 3 = Digital Input 7 4 = Digital Input 8 5 = Digital Input 9 6 = Digital Input 10 7 = Digital Input 11 8 = Digital Input 12 9 = Digital Input 13 10 = Digital Input 14 11 = Digital Input 15 12 = Digital Input 16 13 = Digital Input 17 14 = Digital Input 18	
1042	Dump Valve Open/Close Low Close	x		1	14	1 = Disabled 2 = Digital Input 6 3 = Digital Input 7 4 = Digital Input 8 5 = Digital Input 9 6 = Digital Input 10 7 = Digital Input 11 8 = Digital Input 12 9 = Digital Input 13 10 = Digital Input 14 11 = Digital Input 15 12 = Digital Input 16 13 = Digital Input 17 14 = Digital Input 18	
1043	Dump Valve Open/Close Open Time	x	Seconds	1	32767		
1044	Dump Valve Advanced Operate When HOA	x		1	2	1 = Hand/Auto 2 = Hand/Off/Auto	
1045	Dump Valve Advanced Operate During Shutdown/Fault	x		1	2	1 = Disabled 2 = Enabled	
1046	Maintenance Reminder 1 Run-Time Hours	x	Hrs	1	32767		
1047	Maintenance Reminder 1 Day of Month	x		1	31		
1048	Maintenance Reminder 2 Run-Time Hours	x	Hrs	1	32767		
1049	Maintenance Reminder 2 Day of Month	x		1	31		
1050	Maintenance Reminder 3 Run-Time Hours	x	Hrs	1	32767		
1051	Maintenance Reminder 3 Day of Month	x		1	31		
1052	Maintenance Reminder 4 Run-Time Hours	x	Hrs	1	32767		
1053	Maintenance Reminder 4 Day of Month	x		1	31		
1054	Vessel Bleed Valve	x		1	2	1 = Disabled 2 = Enabled	
1055	Vessel Bleed Valve Post-Run Time	x	Seconds	0	32767		
1250	Site Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1261	Analog Input 1 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
1272	Analog Input 1 Units	x	Chars		5		Up to 5 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1276	Analog Input 2 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1287	Analog Input 2 Units	x	Chars		5		Up to 5 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1291	Analog Input 3 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1302	Analog Input 3 Units	x	Chars		5		Up to 5 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1306	Analog Input 4 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1317	Analog Input 4 Units	x	Chars		5		Up to 5 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1321	Analog Input 5 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1332	Analog Input 5 Units	x	Chars		5		Up to 5 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1456	Analog Input Differential 1 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1467	Analog Input Differential 1 Units	x	Chars		5		Up to 5 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1471	Analog Input Differential 2 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1482	Analog Input Differential 2 Units	x	Chars		5		Up to 5 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1486	Digital Input 1 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1497	Digital Input 2 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1508	Digital Input 3 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1519	Digital Input 4 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
1530	Digital Input 5 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1541	Digital Input 6 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1552	Digital Input 7 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1563	Digital Input 8 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1574	Digital Input 9 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1585	Digital Input 10 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1596	Digital Input 11 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1607	Digital Input 12 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1618	Digital Input 13 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1629	Digital Input 14 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1640	Digital Input 15 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1651	Digital Input 16 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1662	Digital Input 17 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.
1673	Digital Input 18 Name	x	Chars		20		Up to 20 ASCII characters. 2 characters per 16-bit register. Be sure to include null terminator.

Parameters (32-Bit Holding Registers) – Read/Write

Address	Description	Scaling	Units	Minimum	Maximum	Values	Notes
28772	Compressor Start/Stop Start Setpoint	x.x		-214748364.8	214748364.8		
28773	Compressor Start/Stop Stop Setpoint	x.x		-214748364.8	214748364.8		
28774	Compressor Speed Maintain Setpoint	x.x		-214748364.8	214748364.8		
28775	Compressor Speed Fixed Speed	x.xx	Hz	0.00	120.00		
28776	Bypass Valve Open/Close Open Setpoint	x.x		-214748364.8	214748364.8		
28777	Bypass Valve Open/Close Close Setpoint	x.x		-214748364.8	214748364.8		
28778	Bypass Valve Modulation Maintain Setpoint	x.x		-214748364.8	214748364.8		
28779	Cooling Fan Start/Stop Start Setpoint	x.x		-214748364.8	214748364.8		
28780	Cooling Fan Start/Stop Stop Setpoint	x.x		-214748364.8	214748364.8		
28781	Cooling Fan Speed Maintain Setpoint	x.x		-214748364.8	214748364.8		
28782	Cooling Fan Speed Fixed Speed	x.x	%	0.0	100.0		
28783	Compressor Oil Preheat Temperature	x.x	DegF	-214748364.8	214748364.8		

Parameters (Bits/Coils) – Read/Write

Address	Description	Notes
160	Maintenance Reminder 1 Reset	Resets Maintenance Reminder 1. If Maintenance Reminder 1 Frequency set to Run-Time, will reset the countdown Timer, even if the reminder is not active.
161	Maintenance Reminder 2 Reset	Resets Maintenance Reminder 2. If Maintenance Reminder 1 Frequency set to Run-Time, will reset the countdown Timer, even if the reminder is not active.
162	Maintenance Reminder 3 Reset	Resets Maintenance Reminder 3. If Maintenance Reminder 1 Frequency set to Run-Time, will reset the countdown Timer, even if the reminder is not active.
163	Maintenance Reminder 4 Reset	Resets Maintenance Reminder 4. If Maintenance Reminder 1 Frequency set to Run-Time, will reset the countdown Timer, even if the reminder is not active.
610	Maintenance Reminder 1 Frequency Disabled	Selects the maintenance reminder frequency. Only one bit may be Set at a time. Setting a bit will Reset any other Set bit.
611	Maintenance Reminder 1 Frequency Run-Time	
612	Maintenance Reminder 1 Frequency Monthly	
613	Maintenance Reminder 1 Run-Time Source Panel	
614	Maintenance Reminder 1 Run-Time Source Compressor	Selects the maintenance reminder run-time source. Only one bit may be Set at a time. Setting a bit will Reset any other Set bit.
615	RESERVED	
616	RESERVED	
617	Maintenance Reminder 2 Frequency Disabled	
618	Maintenance Reminder 2 Frequency Run-Time	Selects the maintenance reminder frequency. Only one bit may be Set at a time. Setting a bit will Reset any other Set bit.
619	Maintenance Reminder 2 Frequency Monthly	
620	Maintenance Reminder 2 Run-Time Source Panel	
621	Maintenance Reminder 2 Run-Time Source Main Pump	
622	RESERVED	Selects the maintenance reminder run-time source. Only one bit may be Set at a time. Setting a bit will Reset any other Set bit.
623	RESERVED	
624	Maintenance Reminder 3 Frequency Disabled	
625	Maintenance Reminder 3 Frequency Run-Time	
626	Maintenance Reminder 3 Frequency Monthly	Selects the maintenance reminder frequency. Only one bit may be Set at a time. Setting a bit will Reset any other Set bit.
627	Maintenance Reminder 3 Run-Time Source Panel	
628	Maintenance Reminder 3 Run-Time Source Main Pump	
629	RESERVED	
630	RESERVED	Selects the maintenance reminder run-time source. Only one bit may be Set at a time. Setting a bit will Reset any other Set bit.
631	Maintenance Reminder 4 Frequency Disabled	
632	Maintenance Reminder 4 Frequency Run-Time	
633	Maintenance Reminder 4 Frequency Monthly	
634	Maintenance Reminder 4 Run-Time Source Panel	Selects the maintenance reminder frequency. Only one bit may be Set at a time. Setting a bit will Reset any other Set bit.
635	Maintenance Reminder 4 Run-Time Source Main Pump	
636	RESERVED	
637	RESERVED	