Systems Integration

Modbus Solution for Bell & Gossett: Technologic 5000 Series Variable Speed Pumping Controller

Table 1. Technologic 5000 Series Pump Controller, Status Points.

Point	Type	Description	Range/Units
0	LDI	Pump No. 1 Overload Failure	OK/Failure
1	LDI	Pump No. 1 Failure	OK/Failure
2	LDI	Pump No. 1 AFD Failure	OK/Failure
3	LDI	Pump No. 1 Off Alarm	OK/Alarm
4	LDI	Pump No. 2 Overload Failure	OK/Failure
5	LDI	Pump No. 2 Failure	OK/Failure
6	LDI	Pump No. 2 AFD Failure	OK/Failure
7	LDI	Pump No. 2 Off Alarm	OK/Alarm
8	LDI	Pump No. 3 Overload Failure	OK/Failure
9	LDI	Pump No. 3 Failure	OK/Failure
10	LDI	Pump No. 3 AFD Failure	OK/Failure
11	LDI	Pump No. 3 Off Alarm	OK/Alarm
12	LDI	Pump No. 4 Overload Failure	OK/Failure
13	LDI	Pump No. 4 Failure	OK/Failure
14	LDI	Pump No. 4 AFD Failure	OK/Failure
15	LDI	Pump No. 4 Off Alarm	OK/Alarm
16	LDI	Pump No. 5 Overload Failure	OK/Failure
17	LDI	Pump No. 5 Failure	OK/Failure
18	LDI	Pump No. 5 AFD Failure	OK/Failure
19	LDI	Pump No. 5 Off Alarm	OK/Alarm
20	LDI	Pump No. 6 Overload Failure	OK/Failure
21	LDI	Pump No. 6 Failure	OK/Failure
22	LDI	Pump No. 6 AFD Failure	OK/Failure
23	LDI	Pump No. 6 Off Alarm	OK/Alarm
24	LDI	System Reset Required?	No/Yes
25	LDI	Pump No. 1 Enabled	Disabled/Enabled

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Table 1. Technologic 5000 Series Pump Controller, Status Points. ***(continued)***

Point	Type	Description	Range/Units
26	LDI	Pump No. 1 Running In Variable Speed Mode	Not in VSM/in VSM
27	LDI	Pump No. 1 Running In Bypass Mode	Not in Bypass/in Bypass
28	LDI	Pump No. 2 Enabled	Disabled/Enabled
29	LDI	Pump No. 2 Running In Variable Speed Mode	Not in VSM/in VSM
30	LDI	Pump No. 2 Running In Bypass Mode	Not in Bypass/in Bypass
31	LDI	Pump No. 3 Enabled	Disabled/Enabled
32	LDI	Pump No. 3 Running In Variable Speed Mode	Not in VSM/in VSM
33	LDI	Pump No. 3 Running In Bypass Mode	Not in Bypass/in Bypass
34	LDI	Pump No. 4 Enabled	Disabled/Enabled
35	LDI	Pump No. 4 Running In Variable Speed Mode	Not in VSM/in VSM
36	LDI	Pump No. 4 Running In Bypass Mode	Not in Bypass/in Bypass
37	LDI	Pump No. 5 Enabled	Disabled/Enabled
38	LDI	Pump No. 5 Running In Variable Speed Mode	Not in VSM/in VSM
39	LDI	Pump No. 5 Running In Bypass Mode	Not in Bypass/in Bypass
40	LDI	Pump No. 6 Enabled	Disabled/Enabled
41	LDI	Pump No. 6 Running In Variable Speed Mode	Not in VSM/in VSM
42	LDI	Pump No. 6 Running In Bypass Mode	Not in Bypass/in Bypass
43	LDI	Pump No. 1 On/Off	Off/On
44	LDI	Pump No. 2 On/Off	Off/On
45	LDI	Pump No. 3 On/Off	Off/On
46	LDI	Pump No. 4 On/Off	Off/On
47	LDI	Pump No. 5 On/Off	Off/On
48	LDI	Pump No. 6 On/Off	Off/On
49	LDI	System Start/Stop	Stop/Start
50	LDI	Analog Input No. 1 Failure	OK/Failure
51	LDI	Analog Input No. 2 Failure	OK/Failure
52	LDI	Analog Input No. 3 Failure	OK/Failure
53	LDI	Analog Input No. 4 Failure	OK/Failure
54	LDI	Analog Input No. 5 Failure	OK/Failure
55	LDI	Analog Input No. 6 Failure	OK/Failure
56	LDI	Analog Input No. 7 Failure	OK/Failure
57	LDI	Analog Input No. 8 Failure	OK/Failure
58	LDI	Analog Input No. 9 Failure	OK/Failure
59	LDI	Analog Input No. 10 Failure	OK/Failure
60	LDI	Analog Input No. 11 Failure	OK/Failure

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Table 1. Technologic 5000 Series Pump Controller, Status Points. ***(continued)***

Point	Type	Description	Range/Units
61	LDI	Analog Input No. 12 Failure	OK/Failure
62	LDI	Analog Input No. 13 Failure	OK/Failure
63	LDI	Analog Input No. 14 Failure	OK/Failure
64	LDI	Analog Input No. 15 Failure	OK/Failure
65	LDI	Analog Input No. 16 Failure	OK/Failure

Table 2. Technologic 5000 Controller Output Coil Points.

Point	Type	Description	Range/Units
0	LDO	Pump Sequence Alteration	No/Yes
1	LDO	System Reset Request	No/Yes
2	LDO	System Start/Stop	Stop/Start

Table 3. Technologic 5000 Controller Input Register Points.

Point	Type	Description	Range/Units
0	LAO	Analog Input No. 1	0 to Span
1	LAO	Analog Input No. 2	0 to Span
2	LAO	Analog Input No. 3	0 to Span
3	LAO	Analog Input No. 4	0 to Span
4	LAO	Analog Input No. 5	0 to Span
5	LAO	Analog Input No. 6	0 to Span
6	LAO	Analog Input No. 7	0 to Span
7	LAO	Analog Input No. 8	0 to Span
8	LAO	Analog Input No. 9	0 to Span
9	LAO	Analog Input No. 10	0 to Span
10	LAO	Analog Input No. 11	0 to Span
11	LAO	Analog Input No. 12	0 to Span
12	LAO	Analog Input No. 13	0 to Span
13	LAO	Analog Input No. 14	0 to Span
14	LAO	Analog Input No. 15	0 to Span
15	LAO	Analog Input No. 16	0 to Span
16	LAI	gpm No. 1	gpm
17	LAI	gpm No. 2	gpm
18	LAI	kW No. 1	kW
19	LAI	kW No. 2	kW
20	LAI	kW No. 3	kW
21	LAI	kW No. 4	kW
22	LAI	System Differential Pressure	psi

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Table 3. Technologic 5000 Controller Input Register Points. ***(continued)***

Point	Type	Description	Range/Units
23	LAI	Temperature Sensor No. 1	ºF
24	LAI	Temperature Sensor No. 2	ºF
25	LAI	Setpoint No. 1	0 to Span
26	LAI	Setpoint No. 2	0 to Span
27	LAI	Setpoint No. 3	0 to Span
28	LAI	Setpoint No. 4	0 to Span
29	LAI	Setpoint No. 5	0 to Span
30	LAI	Setpoint No. 6	0 to Span
31	LAI	Setpoint No. 7	0 to Span
32	LAI	Setpoint No. 8	0 to Span
33	LAI	Setpoint No. 9	0 to Span
34	LAI	Setpoint No. 10	0 to Span
35	LAI	Setpoint No. 11	0 to Span
36	LAI	Setpoint No. 12	0 to Span
37	LAI	Setpoint No. 13	0 to Span
38	LAI	Setpoint No. 14	0 to Span
39	LAI	Setpoint No. 15	0 to Span
40	LAI	Setpoint No. 16	0 to Span
41	LAI	Speed %	0 to 100 %
42	LAI	Lead Pump Number	Pump Number
43	LAI	Active Zone Number	Zone Number
44	LAI	System Operation Mode	1 = Auto 2 = Manual 3 = Manual Bypass

Table 4. Technologic 5000 Controller Holding Register Points.

Point	Type	Description	Range/Units
0	LAO	Analog Input No. 1	0 to Span
1	LAO	Analog Input No. 2	0 to Span
2	LAO	Analog Input No. 3	0 to Span
3	LAO	Analog Input No. 4	0 to Span
4	LAO	Analog Input No. 5	0 to Span
5	LAO	Analog Input No. 6	0 to Span
6	LAO	Analog Input No. 7	0 to Span
7	LAO	Analog Input No. 8	0 to Span
8	LAO	Analog Input No. 9	0 to Span

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Table 4. Technologic 5000 Controller Holding Register Points. ***(continued)***

Point	Type	Description	Range/Units
9	LAO	Analog Input No. 10	0 to Span
10	LAO	Analog Input No. 11	0 to Span
11	LAO	Analog Input No. 12	0 to Span
12	LAO	Analog Input No. 13	0 to Span
13	LAO	Analog Input No. 14	0 to Span
14	LAO	Analog Input No. 15	0 to Span
15	LAO	Analog Input No. 16	0 to Span
16	—	N/A	—
17	—	N/A	—
18	—	N/A	—
19	—	N/A	—
20	—	N/A	—
21	—	N/A	—
22	—	N/A	—
23	—	N/A	—
24	—	N/A	—
25	LAO	Setpoint No. 1	0 to Span
26	LAO	Setpoint No. 2	0 to Span
27	LAO	Setpoint No. 3	0 to Span
28	LAO	Setpoint No. 4	0 to Span
29	LAO	Setpoint No. 5	0 to Span
30	LAO	Setpoint No. 6	0 to Span
31	LAO	Setpoint No. 7	0 to Span
32	LAO	Setpoint No. 8	0 to Span
33	LAO	Setpoint No. 9	0 to Span
34	LAO	Setpoint No. 10	0 to Span
35	LAO	Setpoint No. 11	0 to Span
36	LAO	Setpoint No. 12	0 to Span
37	LAO	Setpoint No. 13	0 to Span
38	LAO	Setpoint No. 14	0 to Span
39	LAO	Setpoint No. 15	0 to Span
40	LAO	Setpoint No. 16	0 to Span

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