Systems Integration

YORK Modbus Solution to the YCWS Water Cooled Screw Chiller

Table 1. YCWS Water Cooled Screw Chiller APOGEE Points, Application Number: 4629.

Point	Type	Description	Range/Units[a b c]
1	LAO	Address	–
2	LAI	Application	–
3	LDI	Communication Error	Off/On
4	LAO	IP Address 1	–
5	LAO	IP Address 2	–
6	LAO	IP Address 3	–
7	LAO	IP Address 4	–
8	LAO	IP Port	–
9	LAO	Base Offset	–
10	LAO	Send Initial Values	–
11	LAO	Setpoint	°F °C
12	LAO	ISN Current Limit	% FLA
15	LDO	Start / Stop Command	Stop/Start
19	LAI	Leaving Chilled Liquid Temperature	°F °C
20	LAI	Return Chilled Liquid Temperature	°F °C
21	LAI	Leaving Hot Liquid Temperature	°F °C
22	LAI	Circuit 1 Suction Temperature	°F °C
23	LAI	Circuit 1 Discharge Temperature	°F °C
24	LAI	Ambient Air Temperature	°F °C
25	LAI	Circuit 1 Oil Temperature	°F °C

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Table 1. YCWS Water Cooled Screw Chiller APOGEE Points, Application Number: 4629. ***(continued)***

Point	Type	Description	Range/Units[a] [b] [c]
26	LAI	Circuit 1 Oil Pressure	psi *kPa*
27	LAI	Circuit 1 Suction Pressure	psi *kPa*
28	LAI	Circuit 1 Discharge Pressure	psi *kPa*
29	LAI	Circuit 1 % Full Load Amps	% FLA
30	LAI	Circuit 1 Total Run Hours	hrs
31	LAI	Circuit 1 Total Number Of Starts	–
32	LAI	Circuit 1 Anti-Recycle Timer	sec
33	LAI	Anti-Coincident Timer	sec
34	LAI	Circuit 2 Oil Temperature	°F *°C*
35	LAI	Circuit 2 Oil Pressure	psi *kPa*
36	LAI	Circuit 2 Suction Pressure	psi *kPa*
37	LAI	Circuit 2 Discharge Pressure	psi *kPa*
38	LAI	Circuit 2 % Full Load Amps	% FLA
39	LAI	Circuit 2 Total Run Hours	hrs
40	LAI	Circuit 2 Total Number Of Starts	–
41	LAI	Circuit 2 Anti-Recycle Timer	sec
42	LAI	Circuit 1 Cooler Inlet Refrigerant Temperature	°F *°C*
43	LAI	Circuit 2 Cooler Inlet Refrigerant Temperature	°F *°C*
44	LDI	Chiller Run	No/Yes
45	LDI	Chiller Alarm	No/Yes
46	LDI	P38	Off/On
47	LDI	Evaporator Pump Status	Off/On
48	LDI	P40	Off/On
49	LDI	P41	Off/On
50	LDI	Circuit 1 Liquid Line Solenoid Valve Status	Off/On
51	LDI	Circuit 1 Oil Cooling Solenoid Status	Off/On
52	LDI	Circuit 1 WYE-delta Relay	Off/On
53	LDI	P45	Off/On
54	LDI	Circuit 2 Liquid Line Solenoid Valve Status	Off/On

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Table 1. YCWS Water Cooled Screw Chiller APOGEE Points, Application Number: 4629. ***(continued)***

Point	Type	Description	Range/Units[a] [b] [c]
55	LDI	Circuit 2 Oil Cooling Solenoid Status	Off/On
56	LDI	Circuit 2 WYE-Delta Relay	Off/On
57	LDI	P49	Off/On
58	LDI	S1-1 Cooling Type	No/Yes
59	LDI	S1-2 Ambient Control	Stndrd/Lowtmp
60	LDI	S1-3 Refrigerant Type	No/Yes
61	LDI	P53	Off/On
62	LDI	S1-5 Motor Current Averaging	Disable/Enable
63	LDI	S1-6 Heat Recovery	Disable/Enable
64	LAI	Circuit 1 Operational Code	See Table 2
65	LAI	Circuit 1 Fault Code	See Table 3
66	LAI	Circuit 2 Operational Code	See Table 2
67	LAI	Circuit 2 Fault Code	See Table 3
68	LAI	Circuit 1 Slide Valve Step	–
69	LAI	Circuit 1 Condenser Fan Stages Running (0-6)	–
70	LAI	Circuit 2 Slide Valve Step	–
71	LAI	Circuit 2 Condenser Fan Stages Running (0-6)	–
72	LAI	Lead Compressor Number	–
73	LAI	P65	–
74	LAI	Leaving Chilled Liquid Setpoint	°F *°C*
75	LAI	Low Leaving Chilled Liquid Temperature Cutout	°F *°C*
76	LAI	Low Ambient Temperature Cutout	°F *°C*
77	LAI	P69	–
78	LAI	Low Suction Pressure Cutout	psi *kPa*
79	LAI	High Discharge Pressure Cutout	psi *kPa*
80	LAI	Remote Leaving Chilled Liquid Setpoint	°F *°C*
81	LAI	Circuit 1 Saturated Suction Temperature	°F *°C*
82	LAI	Cooling Range	–
83	LAI	Circuit 1 Saturated Discharge Temperature	°F *°C*

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Table 1. YCWS Water Cooled Screw Chiller APOGEE Points, Application Number: 4629. ***(continued)***

Point	Type	Description	Range/Units[a] [b] [c]
84	LAI	Circuit 2 Suction Temperature	°F *°C*
85	LAI	Circuit 2 Discharge Temperature	°F *°C*
86	LAI	Circuit 2 Saturated Suction Temperature	°F *°C*
87	LAI	Circuit 2 Saturated Discharge Temperature	°F *°C*

[a] Values noted for LDIs and LDOs are in the following format: OFF text/ON text.

[b] This column indicates the value/range or engineering units or both if known.

[c] The default English value is not italicized. An italicized entry indicates an SI value.

Table 2. Operational Codes (Application 4629, Points 64 and 66).

Value	Description
0	No Abnormal Condition
1	Unit Switch Off
2	System Switch Off
3	Lock-out
4	Unit Fault
5	System Fault
6	Remote Shutdown
7	Daily Schedule Shutdown
8	No Run Permissive
9	No Cool Load
10	Anti-coincidence Timer Active
11	Anti-recycle Timer Active
12	Manual Override
13	Suction Limiting
14	Discharge Limiting
15	Current Limiting
16	Load Limiting
17	Compressor Running

Table 3. Fault Codes (Application 4629, Points 65 and 67).

Value	Description
0	No Fault Code
1	115 Volts AC Under Voltage
2	Low Ambient Temperature

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Table 3. Fault Codes (Application 4629, Points 65 and 67). ***(continued)***

Value	Description
3	High Ambient Temperature
4	Low Leaving Chilled Liquid Temperature
5	High Discharge Pressure
6	High Differential Oil Pressure
7	Low Suction Pressure
8	High Motor Current
10	Low Battery Warning
11	High Oil Temperature
12	High Discharge Temperature
14	Low Motor Current/MP/HPCO
16	Low Differential Oil Pressure
19	Low Evaporator Temperature
20	Incorrect Refrigerant Programmed
21	Power Failure, Manual Reset Required
23	Reprogram Unit Type

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