Systems Integration

Lennox Modbus Solution: Climatic 50 Controllers

Table 1. CLIMATIC 50 Controllers Point Map, Application 4650.

Point	Type	Subpoint Name	Description	Reference (Vendor Ref.)[a,b]	Range/Units[c d e]
1	LAO	ADDRESS	Address	–	–
2	LAI	APPLICATION	Application	–	–
3	LDI	COMMERROR	Communication Error	–	Off/On
4	LAO	IPADDR1	IP Address 1	–	Off/On
5	LAO	IPADDR2	IP Address 2	–	Off/On
6	LAO	IPADDR3	IP Address 3	–	Off/On
7	LAO	IPADDR4	IP Address 4	–	Off/On
8	LAO	IPPORT	IP Port	–	Off/On
9	LAO	BASE OFFSET	Base Offset	–	Off/On
10	LAO	SENDINITVAL	Send Initial Values	–	Off/On
11	LDO	UNITRUN	Unit On Off Control	1 - C (2)	Off/On
12	LDO	RESET	Reset Unit Safeties	2 - C (3)	Normal/Reset
13	LDO	FANBLOWER	Enable Fan Blower	3 - C (4)	Stop/Run
14	LDO	DEADZONE	Enable Fan Blower in Deadband Zone	4 - C (5)	Stop/Run
15	LDO	BMSENABLE	Occupancy Control	5 - C (6)	Occ/Unocc
16	LDO	RMREGLTION	First Heating Option in Room Regulation Mode: (OFF = Heatpump first ON = HW or Gas or Electric Heat first)	6 - C (7)	Off/On
17	LDO	REHEATDZ	Fresh Air Reheat in Deadband Zone	7 - C (8)	No/Yes

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Table 1. CLIMATIC 50 Controllers Point Map, Application 4650. ***(continued)***

Point	Type	Subpoint Name	Description	Reference (Vendor Ref.)[a,b]	Range/Units[c d e]
18	LDO	FAIRREHEAT	First Heating Option in F-Air Reheat Mode: (OFF = Heatpump first ON = HW or Gas or Electric Heat first)	8 - C (9)	Off/On
19	LDO	RUN ECO	Economizer Control	9 - C (10)	Stop/Run
20	LDO	CO2 ENAB	CO2 Control	10 - C (11)	Off/On
21	LDO	CLGUNLAOD	Unload Compressors in Cooling Mode	11 - C (12)	Yes/No
22	LDO	HTGUNLOAD	Unload Compressors in Heating Mode	12 - C (13)	Yes/No
23	LDO	MODUNLOAD	Unload Heating Module	13 - C (14)	Yes/No
24	LDO	HUMUNLOAD	Unload Humidity Control	14 - C (15)	Yes/No
25	LDO	SPARE C15	Spare C15	15 - C (16)	Off/On
26	LDO	RW CLOCK	Clock Control (NO = Read Only YES = Read/Write)	16 - C (17)	No/Yes
27	LDO	DO1	DO1 - BM50-J17-NO12	17 - C (18)	Off/On
28	LDO	DO2	DO2 - BE50-J5-NO1	18 - C (19)	Off/On
29	LDO	DO3	DO3 - BE50-J6-NO2	19 - C (20)	Off/On
30	LDO	DO4	DO4 - BE50-J7-NO3	20 - C (21)	Off/On
31	LDO	DO5	DO5 - BE50-J8-NO4	21 - C (22)	Off/On
32	LDO	SPARE C22	Spare C22	22 - C (23)	Off/On
33	LDO	SPARE C23	Spare C23	23 - C (24)	Off/On
34	LDO	SPARE C24	Spare C24	24 - C (25)	Off/On
35	LDO	SPARE C25	Spare C25	25 - C (26)	Off/On
36	LDO	SPARE C26	Spare C26	26 - C (27)	Off/On

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Table 1. CLIMATIC 50 Controllers Point Map, Application 4650. ***(continued)***

Point	Type	Subpoint Name	Description	Reference (Vendor Ref.)[a,b]	Range/Units[c d e]
37	LDO	SPARE C27	Spare C27	27 - C (28)	Off/On
38	LDO	SPARE C28	Spare C28	28 - C (29)	Off/On
39	LDO	SPARE C29	Spare C29	29 - C (30)	Off/On
40	LDO	SPARE C30	Spare C30	30 - C (31)	Off/On
41	LDO	SPARE C31	Spare C31	31 - C (32)	Off/On
42	LDO	SPARE C32	Spare C32	32 - C (33)	Off/On
43	LDI	ALARM	General Alarm Status	33 - C (34)	Off/On
44	LDI	SUPFAN	Blower Fan Status	34 - C (35)	Off/On
45	LDI	EXTFAN	Extraction Fan Status	35 - C (36)	Off/On
46	LDI	C1 STAT	Compressor 1 Status	36 - C (37)	Off/On
47	LDI	C1 HP STAT	Compressor - Heat Pump 1 Status	37 - C (38)	Off/On
48	LDI	C2 STAT	Compressor 2 Status	38 - C (39)	Off/On
49	LDI	C2 HP STAT	Compressor - Heat Pump 2 Status	39 - C (40)	Off/On
50	LDI	C3 STAT	Compressor 3 Status	40 - C (41)	Off/On
51	LDI	C3 HP STAT	Compressor - Heat Pump 3 Status	41 - C (42)	Off/On
52	LDI	C4 STAT	Compressor 4 Status	42 - C (43)	Off/On
53	LDI	C4 HP STAT	Compressor - Heat Pump 4 Status	43 - C (44)	Off/On
54	LDI	BURNER1	Gas Burner 1 Status	44 - C (45)	Off/On
55	LDI	BURNER2	Gas Burner 2 Status	45 - C (46)	Off/On
56	LDI	BRNRHILOW	High Power Gas Burner 1 Status	46 - C (47)	Off/On

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Table 1. CLIMATIC 50 Controllers Point Map, Application 4650. ***(continued)***

Point	Type	Subpoint Name	Description	Reference (Vendor Ref.)[a,b]	Range/Units[c d e]
57	LDI	EHEAT1 STAT	Electric Heat 1 Status	47 - C (48)	Off/On
58	LDI	EHEAT2 STAT	Electric Heat 2 Status	48 - C (49)	Off/On
59	LDI	DI1	DI1 - BM50-J8-ID13	49 - C (50)	Off/On
60	LDI	DI2	DI2 - BM50-J8-ID14	50 - C (51)	Off/On
61	LDI	DI3	DI3 - BE50-J4-ID1	51 - C (52)	Off/On
62	LDI	DI4	DI4 - BE50-J4-ID2	52 - C (53)	Off/On
63	LDI	DI5	DI5 - BE50-J4-ID3	53 - C (54)	Off/On
64	LDI	DI6	DI6 - BE50-J4-ID4	54 - C (55)	Off/On
65	LAO	BMS ENAB	Watch Dog Timer	1 - HS (40002)	sec
66	LAO	OC SP MAX	Occupied Cooling Setpoint	2 - HS (40003)	°F °C
67	LAO	OC SP MIN	Occupied Heating Setpoint	3 - HS (40004)	°F °C
68	LAO	MIN F AIR	Fresh Air Minimum	4 - HS (40005)	%
69	LAO	INOC SP MX	Unoccupied Cooling Setpoint	5 - HS (40006)	°F °C
70	LAO	INOC SP MN	Unoccupied Heating Setpoint	6 - HS (40007)	°F °C
71	LAO	DEHUM SP	Dehumidification Setpoint	7 - HS (40008)	PCTRH
72	LAO	HUM SP	Humidification Setpoint	8 - HS (40009)	PCTRH
73	LAO	SPARE H9	Spare H9	9 - HS (40010)	–
74	LAO	SPARE H10	Spare H10	10 - HS (40011)	–
75	LAO	SPARE H11	Spare H11	11 - HS (40012)	–
76	LAO	HOUR	Set Hour	12 - HS (40013)	HR

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Table 1. CLIMATIC 50 Controllers Point Map, Application 4650. ***(continued)***

Point	Type	Subpoint Name	Description	Reference (Vendor Ref.)[a,b]	Range/Units[c d e]
77	LAO	MINUTE	Set Minute	13 - HS (40014)	min
78	LAO	DAY	Set Day of Month	14 - HS (40015)	day
79	LAO	MONTH	Set Month	15 - HS (40016)	mo
80	LAO	YEAR	Set Year	16 - HS (40017)	yr
81	LAO	BMS TEMP	Room Air Temperature BMS Input	17 - HS (40018)	°F °C
82	LAO	BMS HUM	Room Humidity BMS Input	18 - HS (40019)	PCTRH
83	LAO	BMS OAT	Outdoor Air Temperature BMS Input	19 - HS (40020)	°F °C
84	LAO	BMS OAH	Outdoor Humidity BMS Input	20 - HS (40021)	PCTRH
85	LAO	SPARE H21	Spare H21	21 - HS (40022)	–
86	LAO	SPARE H22	Spare H22	22 - HS (40023)	–
87	LAO	SPARE H23	Spare H23	23 - HS (40024)	–
88	LAO	SPARE H24	Spare H24	24 - HS (40025)	–
89	LAO	SPARE H25	Spare H25	25 - HS (40026)	–
90	LAO	SPARE H26	Spare H26	26 - HS (40027)	–
91	LAO	SPARE H27	Spare H27	27 - HS (40028)	–
92	LAO	SPARE H28	Spare H28	28 - HS (40029)	–
93	LAO	SPARE H29	Spare H29	29 - HS (40030)	–
94	LAO	SPARE H30	Spare H30	30 - HS (40031)	–
95	LAO	SPARE H31	Spare H31	31 - HS (40032)	–
96	LAO	SPARE H32	Spare H32	32 - HS (40033)	–

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Table 1. CLIMATIC 50 Controllers Point Map, Application 4650. ***(continued)***

Point	Type	Subpoint Name	Description	Reference (Vendor Ref.)[a,b]	Range/Units[c d e]
97	LAI	ERROR CODE	Alarm Code	33 - HS (40034)	–
98	LAI	ROOM TEMP	Room Air Temperature	34 - HS (40035)	°F *°C*
99	LAI	OUTSIDETMP	Outdoor Air Temperature	35 - HS (40036)	°F *°C*
100	LAI	SUP TEMP	Supply Air Temperature	36 - HS (40037)	°F *°C*
101	LAI	RET TEMP	Return Air Temperature	37 - HS (40038)	°F *°C*
102	LAI	RM REL HUM	Room Relative Humidity	38 - HS (40039)	PCTRH
103	LAI	RM ABS HUM	Room Absolute Humidity	39 - HS (40040)	LBPLB *GPKG*
104	LAI	OS REL HUM	Outdoor Relative Humidity	40 - HS (40041)	PCTRH
105	LAI	OS ABS HUM	Outdoor Absolute Humidity	41 - HS (40042)	LBPLB *GPKG*
106	LAI	AIRFLOW	Differential Air Pressure	42 - HS (40043)	psi *Pa*
107	LAI	CO2	CO2 Level	43 - HS (40044)	ppm
108	LAI	FRESHAIR	Fresh Air Damper Position	44 - HS (40045)	PCTOPN
109	LAI	GASVALVE	Gas Valve Position	45 - HS (40046)	PCTOPN
110	LAI	ELECHTG	Electric Heater Percentage	46 - HS (40047)	PCTOPN
111	LAI	HTGCOIL	Hot Water Coil Position	47 - HS (40048)	PCTOPN
112	LAI	HUMIDIFIER	Humdifier Percentage	48 - HS (40049)	PCTOPN
113	LAI	TEMP AI1	Temperature AI1 - BE50-J9-B1	49 - HS (40050)	°F *°C*
114	LAI	TEMP AI2	Temperature AI2 - BE50-J9-B2	50 - HS (40051)	°F *°C*
115	LAI	TEMP AI3	Temperature AI3 - BE50-J10-B3	51 - HS (40052)	°F *°C*
116	LAI	TEMP AI4	Temperature AI4 - BE50-J10-B4	52 - HS (40053)	°F *°C*

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Table 1. CLIMATIC 50 Controllers Point Map, Application 4650. ***(continued)***

Point	Type	Subpoint Name	Description	Reference (Vendor Ref.)[a,b]	Range/Units[c d e]
117	LAI	HUMID AI1	Humidity AI1 - BE50-J9-B1	53 - HS (40054)	PCTRH
118	LAI	HUMID AI2	Humidity AI2 - BE50-J9-B2	54 - HS (40055)	PCTRH
119	LAI	HUMID AI3	Humidity AI3 - BE50-J10-B3	55 - HS (40056)	PCTRH
120	LAI	HUMID AI4	Humidity AI4 - BE50-J10-B4	56 - HS (40057)	PCTRH

[a] To get the data register address, add the offset to the base address of the Modbus register type. For example, 57 - H is an Unsigned Holding register that has a base address of 40001. With an offset of 57, the point's register number is 40058.

For IP and P registers, the offset number is followed by the bit number. For example, 402.13 - P indicates offset 402, bit 13.

[b] This application uses the following Modbus register types:
C = Coil HS = Signed HoldingFor detailed information on the types, see the *Modbus Driver Technical Reference*.

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

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

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

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