

APPLICATION GUIDE

Simplicity[®]LINC GATEWAY

ConFig v1.01d

OVERVIEW

The Simplicity[®]LINC Gateway operates as a Modbus[®] Client providing an interface between a BACnet[®] MS/TP control system and devices that communicate using the Modbus RTU protocol. The Simplicity[®]LINC allows monitoring and control by a third-party BACnet Building Automation System (BAS).

The Simplicity[®]LINC is preconfigured to provide an interface to UP products equipped with Simplicity[®] controllers manufactured after 4/2/2008 as well as prior Simplicity[®]Elite[™] and Simplicity[®] with Intelli-Comfort[™] controllers.

The Simplicity[®]LINC mounts inside the control panel of the UP unit and utilizes 24 VAC power from the unit's control transformer. One port is connected to the UP controller. The other port must be connected to the BACnet MS/TP network.

The Simplicity[®]LINC Gateway is preconfigured to obtain operational data points from the controller and expose them on a BACnet MS/TP network.

NOTE: Not all Simplicity[®] operating parameters are controlled/monitored by the Simplicity[®]LINC.

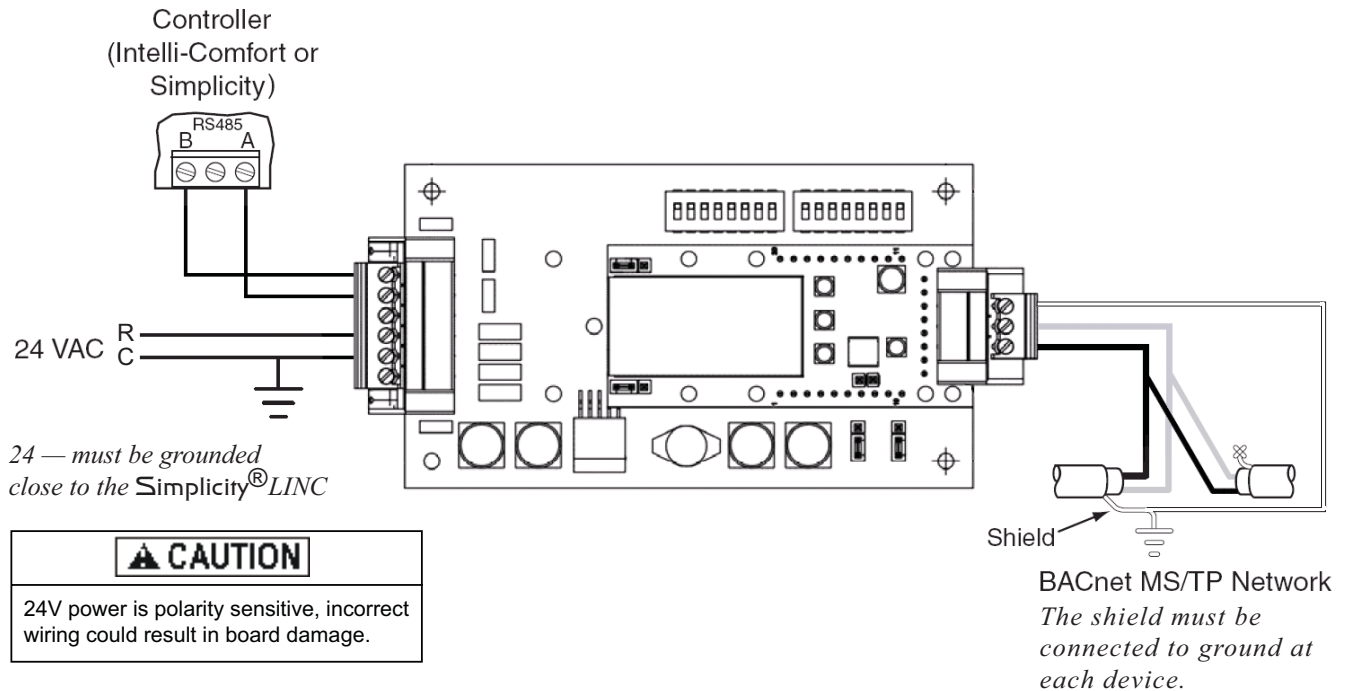


FIGURE 1: WIRE CONNECTIONS

CONNECTION

The Simplicity[®]LINC has 2 ports, one for connection to the BAS network (BACnet) and one to the Simplicity[®] board (Modbus).

BACNET NETWORK

The only connection required in the field is to the BACnet (BAS) network.

NOTE: Proper termination and grounding of the shields must be observed.

DIP switches A0-A7 on the Simplicity[®]LINC board allow selection of the MAC Address. The MAC Address identifies the Simplicity[®]LINC to other devices and must be between 1 and 99. The default DIP switch setting is 1.

A Device Instance (DE) Modifier is used by the Simplicity[®]LINC and defaulted to 230. The combination of the DE Modifier and the default DIP switch setting creates a default DE of 23001. The default Unit Name is YORK_RTU.

DIP switches B0-B3 on the Simplicity[®]LINC board allow for selection of the BACnet transfer speed. The default speed is set at 38.4k baud. Other speeds can be chosen as shown in Table 1

TABLE 1: BAUD RATE SELECTION SETTINGS

DIP Setting	Baud Rate
1	110
2	300
3	600
4	1200
5	2400
6	4800
7	9600
8	19200
9	20833
10	28800
11(Default)	38400
12	57600
13	76800
14	115200

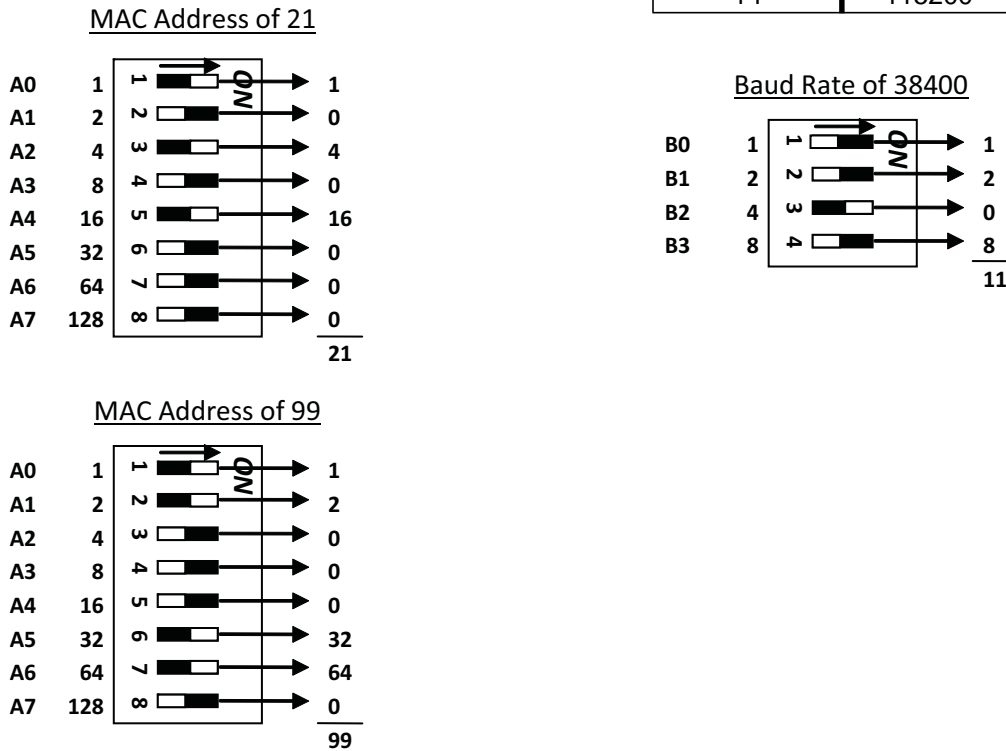


FIGURE 2: MAC ADDRESS EXAMPLES

MODBUS CONNECTION

The UP device communicates with the Simplicity[®]LINC using the Modbus RTU protocol on an RS485 connection. Connection and addressing of the UP product is completed at the factory. No further adjustment should be done.

▲ CAUTION

The default Simplicity[®] board address is 1 and must remain on address 1 to correctly communicate with Simplicity[®]LINC. To change the address to 1, press the Com/Setup button 3 times in succession.

If a problem arises with the Simplicity[®]LINC or a parameter not exposed by the Simplicity[®]LINC requires modification, the UP controller software can be manipulated using a Microsoft[®] Windows-based PC with the Simplicity[®] PC software (downloadable from the UP website). To connect the PC to the UP controller, a FREEnet USB adaptor (Part No. S103101967000), which is an RS232 to RS485 adaptor, and FREEnet adapter cable (S102538682000) are required and available through SOURCE1 (Toll-free at 1-800-536-6112).

SOFTWARE SETUP

The control sequence is managed by the Simplicity[®] controller. The data points on these systems are mapped to standard

BACnet Objects. As a preconfigured application, no configuration is necessary in the Simplicity[®]LINC Gateway.

FLASH MEMORY MANAGEMENT

The Flash Memory chip used in the Simplicity[®] controllers has a 1,000,000 write cycle rating.

To prevent premature failure of the flash memory, it should not be written to more often than once every 10 minutes, on average.

▲ CAUTION

Under unusual circumstances it could take up to two minutes for newly updated data to be seen.



This product has been tested at a qualified BACnet testing laboratory and found to comply with all the necessary interoperability requirements.

TABLE 2: POINTS LIST IN DESCRIPTION ORDER

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R / W	(5) BV	109	COMM_IAQ	n/a	n/a	n/a	Accept Comm Value for Indoor Quality Sensor
R / W	(5) BV	101	COMM_OAT	n/a	n/a	n/a	Accept Comm Value for OAT
R / W	(5) BV	100	COMM_OH	n/a	n/a	n/a	Accept Comm Value for OH
R / W	(5) BV	99	COMM_RH	n/a	n/a	n/a	Accept Comm Value for RH
R / W	(5) BV	108	COMM_ST	n/a	n/a	n/a	Accept Comm Value for Space Temperature
R / W	(2) AV	14	ACC_OVER_TME	n/a	n/a	n/a	Accumulated Unoccupied Override Time (in hours)
R	(2) AI	15	ACTIVE_ALARM	n/a	n/a	n/a	Active Alarm
R	(2) AI	86	AIR_MON_INPUT	0	0	10	Air Monitor Station Input
R	(5) BI	16	AIR_PROOF_SW	n/a	n/a	n/a	Air Proving Switch Status (1=closed, 0=open / no air flow)
R / W	(2) AV	79	OAQ_STPT	1000	0	5000	Air Quality Setpoint Outside
R	(5) BI	85	ALARM_1_ON	n/a	n/a	n/a	Alarm Buffer #1 (0=Alarm has cleared, 1=Alarm is still active)
R	(5) BI	86	ALARM_2_ON	n/a	n/a	n/a	Alarm Buffer #2 (0=Alarm has cleared, 1=Alarm is still active)
R	(5) BI	87	ALARM_3_ON	n/a	n/a	n/a	Alarm Buffer #3 (0=Alarm has cleared, 1=Alarm is still active)
R	(5) BI	88	ALARM_4_ON	n/a	n/a	n/a	Alarm Buffer #4 (0=Alarm has cleared, 1=Alarm is still active)
R	(5) BI	89	ALARM_5_ON	n/a	n/a	n/a	Alarm Buffer #5 (0=Alarm has cleared, 1=Alarm is still active)
R	(2) AI	33	BLDG_STATIC	n/a	n/a	n/a	Building Static Pressure
R / W	(5) BV	29	BP_SENS_INST	n/a	n/a	n/a	Building Static Pressure Sensor Installed
R / W	(2) AV	57	BLDG_SP_STPT	0.15	-0.25	0.25	Building Static Pressure Setpoint
R / W	(2) AV	25	COM_V_LOW_SP	70	60	80	Comfort Ventilation Lower Setpoint (degrees F)
R / W	(5) BV	34	CVM_COOLING	n/a	n/a	n/a	Comfort Ventilation Mode for Cooling Enabled
R / W	(5) BV	35	CVM_HEATING	n/a	n/a	n/a	Comfort Ventilation Mode for Heating Enabled
R	(5) BI	33	COM_VENT_STA	n/a	n/a	n/a	Comfort Ventilation Mode Status (1=control is in Comfort Vent mode, 0= it is not)
R / W	(2) AV	24	COM_V_HI_SP	80	65	85	Comfort Ventilation Upper Setpoint (degrees F)
R / W	(5) BV	23	COOLING_ENA	n/a	n/a	n/a	Cooling Mode Enabled
R	(2) AI	56	CV_VAV_SELEC	n/a	n/a	n/a	CV / VAV Selected (0= Valid CV, 1=Valid VAV, 2= Invalid Value)
R / W	(5) BV	21	FAN_ON_W_SEN	n/a	n/a	n/a	CV-Indoor Fan Operates with Space Sensor Present Option Enabled
R / W	(2) AV	8	IAQ_VALUE	n/a	0	5000	Demand Ventilation (IAQ) Value (PPM)

TABLE 2: POINTS LIST IN DESCRIPTION ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R / W	(5) BV	39	DEMAND_VENT	n/a	n/a	n/a	Demand Ventilation (using Inside Sensor) Enabled
R / W	(2) AV	18	DEMVENT_STPT	1000	0	5000	Demand Ventilation Setpoint
R	(2) AI	67	REVISION	n/a	n/a	xx	Device Revision
R / W	(5) BV	98	DIFF_ENTH_MODE	n/a	n/a	n/a	Differential enthalpy mode enabled
R / W	(5) BV	90	DF_SW_INST	n/a	n/a	n/a	Dirty Filter Switch Installed
R	(5) BI	15	DIRT_FILT_SW	n/a	n/a	n/a	Dirty Filter Switch Status (0=open,1=closed / fault)
R	(2) AI	35	DUCT_STATIC	n/a	n/a	n/a	Duct Static Pressure
R / W	(2) AV	58	DUCT_SP_STPT	1.5	0	5	Duct Static Pressure Setpoint
R / W	(2) AV	59	DUCT_SD_STPT	4.5	0	5	Duct Static Pressure Shutdown Setpoint
R / W	(2) AV	87	ECON_MIN_POS_LP	25	0	100	Econ Minimum Position For Low Speed Fan
R	(2) AI	31	ECO_DAMP_OUT	n/a	n/a	n/a	Economizer Damper Output Status (0-100%)
R / W	(2) AV	20	ECO_1ST_STPT	55	40	65	Economizer First Stage Setpoint
R / W	(5) BV	7	ECONO_INST	n/a	n/a	n/a	Economizer Installed
R / W	(5) BV	36	ECO_L_TO_SAT	n/a	n/a	n/a	Economizer Loading to Control Supply Air Temperature Enabled
R / W	(2) AV	19	ECON_MIN_POS	20	0	100	Economizer Minimum Position
R	(5) BI	31	ECONO_STATUS	n/a	n/a	n/a	Economizer Output Status (0=not Free Cooling, 1= Free Cooling)
R / W	(2) AV	22	ECON_OAEN_SP	27	10	50	Economizer Outside Air Enthalpy Setpoint
R / W	(2) AV	23	ECON_OAT_ENA	55	40	80	Economizer Outside Air Temperature Enable Setpoint
R / W	(2) AV	84	ECON_RAEN_SP	27	10	50	Economizer Return Air Enthalpy Setpoint
R / W	(2) AV	21	ECO_2ND_STPT	50	40	65	Economizer Second Stage Setpoint
R	(2) AI	41	E_C1_ACM_HRS	n/a	n/a	n/a	Elite Compressor #1 Accumulated Run Time (in hours)
R	(5) BI	42	E_COMP1_STAT	n/a	n/a	n/a	Elite Compressor #1 Output Status (0=output is OFF, 1=output is ON)
R	(5) BI	45	E_C1_OVRLOAD	n/a	n/a	n/a	Elite Compressor #1 Overload Switch Input Status (1=closed, 0=open / fault)
R	(2) AI	42	E_C2_ACM_HRS	n/a	n/a	n/a	Elite Compressor #2 Accumulated Run Time (in hours)
R	(5) BI	46	E_COMP2_STAT	n/a	n/a	n/a	Elite Compressor #2 Output Status (0=output is OFF, 1=output is ON)
R	(5) BI	49	E_C2_OVRLOAD	n/a	n/a	n/a	Elite Compressor #2 Overload Switch Input Status (1=closed, 0=open / fault)
R	(2) AI	43	E_C3_ACM_HRS	n/a	n/a	n/a	Elite Compressor #3 Accumulated Run Time (in hours)
R	(5) BI	51	E_COMP3_STAT	n/a	n/a	n/a	Elite Compressor #3 Output Status (0=output is OFF, 1=output is ON)

TABLE 2: POINTS LIST IN DESCRIPTION ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R	(5) BI	54	E_C3_OVRLOAD	n/a	n/a	n/a	Elite Compressor #3 Overload Switch Input Status (1=closed, 0=open / fault)
R	(2) AI	44	E_C4_ACM_HRS	n/a	n/a	n/a	Elite Compressor #4 Accumulated Run Time (in hours)
R	(5) BI	55	E_COMP4_STAT	n/a	n/a	n/a	Elite Compressor #4 Output Status (0=output is OFF, 1=output is ON)
R	(5) BI	58	E_C4_OVRLOAD	n/a	n/a	n/a	Elite Compressor #4 Overload Switch Input Status (1=closed, 0=open / fault)
R	(5) BI	50	E_CFAN1_STAT	n/a	n/a	n/a	Elite Condenser Fan #1 Output Status (0=output is OFF, 1=output is ON)
R	(5) BI	59	E_CFAN2_STAT	n/a	n/a	n/a	Elite Condenser Fan #2 Output Status Input Status (0=output is OFF, 1=output is ON)
R	(5) BI	41	E_FAN_OVER	n/a	n/a	n/a	Elite Fan Overload Switch Input Status (1=closed, 0=open / fault)
R	(5) BI	60	E_GAS_VLVE1	n/a	n/a	n/a	Elite Gas Valve #1 Input Status (1=energized, 0=not energized)
R	(5) BI	62	E_GAS_VLVE2	n/a	n/a	n/a	Elite Gas Valve #2 Input Status (1=energized, 0=not energized)
R	(5) BI	64	E_GAS_VLVE3	n/a	n/a	n/a	Elite Gas Valve #3 Input Status (1=energized, 0=not energized)
R	(5) BI	44	E_HPS1	n/a	n/a	n/a	Elite High Pressure Switch for Compressor #1 Input Status (1=closed, 0=open / fault)
R	(5) BI	48	E_HPS2	n/a	n/a	n/a	Elite High Pressure Switch for Compressor #2 Input Status (1=closed, 0=open / fault)
R	(5) BI	53	E_HPS3	n/a	n/a	n/a	Elite High Pressure Switch for Compressor #3 Input Status (1=closed, 0=open / fault)
R	(5) BI	57	E_HPS4	n/a	n/a	n/a	Elite High Pressure Switch for Compressor #4 Input Status (1=closed, 0=open / fault)
R	(5) BI	40	E_IFAN_STAT	n/a	n/a	n/a	Elite Indoor Fan Output Status (0=output is OFF, 1=output is ON)
R	(5) BI	61	E_LIMIT_1	n/a	n/a	n/a	Elite Limit Switch #1 Input Status (1=closed, 0=open / fault)
R	(5) BI	63	E_LIMIT_2	n/a	n/a	n/a	Elite Limit Switch #2 Input Status (1=closed, 0=open / fault)
R	(5) BI	65	E_LIMIT_3	n/a	n/a	n/a	Elite Limit Switch #3 Input Status (1=closed, 0=open / fault)
R	(5) BI	43	E_LPS1	n/a	n/a	n/a	Elite Low Pressure Switch for Compressor #1 Input Status (1=closed, 0=open / fault)

TABLE 2: POINTS LIST IN DESCRIPTION ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R	(5) BI	47	E_LPS2	n/a	n/a	n/a	Elite Low Pressure Switch for Compressor #2 Input Status (1=closed, 0=open / fault)
R	(5) BI	52	E_LPS3	n/a	n/a	n/a	Elite Low Pressure Switch for Compressor #3 Input Status (1=closed, 0=open / fault)
R	(5) BI	56	E_LPS4	n/a	n/a	n/a	Elite Low Pressure Switch for Compressor #4 Input Status (1=closed, 0=open / fault)
R	(2) AI	32	EXH_DAMP_OUT	n/a	n/a	n/a	Exhaust Damper Output Status (0-100%)
R	(5) BI	30	EX_FAN_STAT	n/a	n/a	n/a	Exhaust Fan Output Status (0=output is OFF, 1=output is ON)
R / W	(5) BV	10	EX_VFD_INST	n/a	n/a	n/a	Exhaust VFD Installed
R / W	(2) AV	91	FAN_SPD_1ST_COOL	70	0	100	Fan Speed: 1st Stage Cooling
R / W	(2) AV	92	FAN_SPD_1ST_HEAT	100	0	100	Fan Speed: 1st Stage Heating
R / W	(2) AV	93	FAN_SPD_ALL_COOL	100	0	100	Fan Speed: All Stages Cooling
R / W	(2) AV	94	FAN_SPD_ALL_HEAT	100	0	100	Fan Speed: All Stages Heating
R / W	(2) AV	90	FAN_SPD_NO_HEAT_COOL	50	0	100	Fan Speed: No Heating No Cooling
R	(5) BI	102	4_STG_EXP_PRES	n/a	n/a	n/a	Four Stage Expansion board Present
R	(5) BI	32	FRECOOL_STAT	n/a	n/a	n/a	Free Cooling Mode Status (0=comps not overridden by Econo, 1=comps overridden)
R	(5) BI	104	FREEZE_STAT_1	n/a	n/a	n/a	Freeze Stat # 1
R	(5) BI	105	FREEZE_STAT_2	n/a	n/a	n/a	Freeze Stat # 2
R	(5) BI	106	FREEZE_STAT_3	n/a	n/a	n/a	Freeze Stat # 3
R	(5) BI	107	FREEZE_STAT_4	n/a	n/a	n/a	Freeze Stat # 4
R	(5) BI	68	HEAT_1_STAT	n/a	n/a	n/a	H1 Heating Output #1 Status (0=output is OFF, 1=output is ON)
R	(5) BI	69	HEAT_2_STAT	n/a	n/a	n/a	H2 Heating Output #2 Status (0=output is OFF, 1=output is ON)
R	(5) BI	70	HEAT_3_STAT	n/a	n/a	n/a	H3 Heating Output #3 Status (0=output is OFF, 1=output is ON)
R	(2) AI	76	H1_ACCUM_HRS	n/a	n/a	n/a	Heating #1 Accumulated Run Time (in hours)
R	(2) AI	77	H2_ACCUM_HRS	n/a	n/a	n/a	Heating #2 Accumulated Run Time (in hours)
R	(2) AI	78	H3_ACCUM_HRS	n/a	n/a	n/a	Heating #3 Accumulated Run Time (in hours)
R / W	(5) BV	25	HEATING_ENA	n/a	n/a	n/a	Heating Mode Enabled
R / W	(2) AV	27	HGR_HUM_STPT	50	0	100	Hot Gas Reheat Humidity Setpoint (percent Humidity)
R	(5) BI	18	HGR_STAT	n/a	n/a	n/a	Hot Gas Reheat Output Status (0=output is OFF, 1=output is ON)

TABLE 2: POINTS LIST IN DESCRIPTION ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R	(2) AI	47	HGR_VLV_OUT	n/a	n/a	n/a	Hot Gas Reheat Valve Output Status (0-100%)
R	(5) BI	66	E_FREEZE_ST	n/a	n/a	n/a	Hot H2O Freeze Thermostat Switch Input Status (1=closed, 0=open / fault)
R	(2) AI	55	HW_VLV_OUT	n/a	n/a	n/a	Hot Water Valve Output Status (0-100%)
R / W	(5) BV	2	HYDRONC_HEAT	n/a	n/a	n/a	Hydronic Heat Enabled
R / W	(5) BV	3	HH_REVER_VLV	n/a	n/a	n/a	Hydronic Heat Reverse Actuated Valve Installed
R / W	(2) AV	62	HYD_S1_SA_SP	120	80	180	Hydronic Heating Stage #1 Supply Air Setpoint (degrees F)
R / W	(2) AV	63	HYD_S2_SA_SP	150	81	180	Hydronic Heating Stage #2 Supply Air Setpoint (degrees F)
R / W	(2) AV	80	IO_DVNT_STPT	700	0	2000	Indoor / Outdoor Demand Ventilation Setpoint
R	(2) AI	45	I_C1_ACM_HRS	n/a	n/a	n/a	Intelli-Comfort Compressor #1 Accumulated Run Time (in hours)
R	(5) BI	73	I_COMP1_STAT	n/a	n/a	n/a	Intelli-Comfort Compressor #1 Input Status (0=output is OFF, 1=output is ON)
R	(2) AI	46	I_C2_ACM_HRS	n/a	n/a	n/a	Intelli-Comfort Compressor #2 Accumulated Run Time (in hours)
R	(5) BI	76	I_COMP2_STAT	n/a	n/a	n/a	Intelli-Comfort Compressor #2 Input Status (0=output is OFF, 1=output is ON)
R	(5) BI	79	I_CFAN_STAT	n/a	n/a	n/a	Intelli-Comfort Condenser Fan #1 Input Status (0=output is OFF, 1=output is ON)
R	(5) BI	72	I_FAN_OVER	n/a	n/a	n/a	Intelli-Comfort Fan Overload Switch Input Status (0=open,1=closed)
R	(5) BI	82	I_FREEZE_1	n/a	n/a	n/a	Intelli-Comfort Freeze Thermostat Switch #1 Input Status (0=open,1=closed)
R	(5) BI	83	I_FREEZE_2	n/a	n/a	n/a	Intelli-Comfort Freeze Thermostat Switch #2 Input Status (0=open,1=closed)
R	(5) BI	80	I_GAS_VLVE1	n/a	n/a	n/a	Intelli-Comfort Gas Valve #1 Input Status
R	(5) BI	75	I_HPS1	n/a	n/a	n/a	Intelli-Comfort High Pressure Switch for Compressor #1 Input Status (1=closed, 0=open / fault)
R	(5) BI	78	I_HPS2	n/a	n/a	n/a	Intelli-Comfort High Pressure Switch for Compressor #2 Input Status (1=closed, 0=open / fault)
R	(5) BI	71	I_IFAN_STAT	n/a	n/a	n/a	Intelli-Comfort Indoor Fan Output Status (0=output is OFF, 1=output is ON)

TABLE 2: POINTS LIST IN DESCRIPTION ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R	(5) BI	81	I_LIMIT_1	n/a	n/a	n/a	Intelli-Comfort Limit Switch #1 Input Status
R	(5) BI	74	I_LPS1	n/a	n/a	n/a	Intelli-Comfort Low Pressure Switch for Compressor #1 Input Status (1=closed, 0=open / fault)
R	(5) BI	77	I_LPS2	n/a	n/a	n/a	Intelli-Comfort Low Pressure Switch for Compressor #2 Input Status (1=closed, 0=open / fault)
R / W	(5) BV	28	INTELLI-STRT	n/a	n/a	n/a	Intelli-Start Enabled
R / W	(5) BV	13	LOADSHED	n/a	n/a	n/a	Loadshed (0=clear loadshed, 1=set loadshed operation)
R / W	(2) AV	89	LOW_AMB_ECON_MIN	0	0	99	Low Ambient Economizer Minimum Position (Percent) (0 disables)
R / W	(2) AV	88	LOW_AMB_ECON_STPT	0	0	60	Low Ambient Economizer Temperature Setpoint (0 disables)
R / W	(5) BV	19	LOW_AMB_OVRD	n/a	n/a	n/a	Low Ambient Temperature (0=comps not overridden by LAT, 1=comps overridden)
R	(5) BI	14	LOW_SUP_VOLT	n/a	n/a	n/a	Low Supply Voltage (0=comps not overridden by LSV, 1=comps overridden)
R / W	(2) AV	28	MAX_TH_OFFSET	3	0	5	Max Temperature / Humidity Setpoint Offset
R / W	(2) AV	30	MAX_DMV_ECON	50	0	100	Maximum Demand Ventillation Economizer Position
R / W	(5) BV	110	MIN_AMB_SEN	n/a	n/a	n/a	Minimum Outdoor Air Sensor Enabled
R / W	(2) AV	85	MIN_AMB_TEMP_SP	0	0	100%	Minimum Outdoor Air Temperature Setpoint (0-100%)
R	(5) BI	11	MODBUS_ALARM	n/a	n/a	n/a	Modbus Communication Alarm
R / W	(5) BV	9	MOD_EX_INST	n/a	n/a	n/a	Modulating Exhaust Installed
R / W	(2) AV	61	MWU_RAT_STPT	70	50	85	Morning Warm-Up and VAV Heating: Return Air Temperature Setpoint (degrees F)
R / W	(5) BV	6	MORN_WARM-UP	n/a	n/a	n/a	Morning Warm-Up Enabled
R	(2) AI	16	NUMBER_COMPS	2		4	Number of Compressors Available
R	(2) AI	48	NUMBER_HEAT	n/a	n/a	n/a	Number of Heat Stages Available (0,0, 0 stage, 0,1= 1 stage, 1,0= 2 stage, 1,1= 3 stage)
R / W	(2) AV	1	OCC_COOL_SP	72	46	99	Occupied Cooling Setpoint
R / W	(2) AV	50	OCC_HEAT_SP	68	45	98	Occupied Heating Setpoint
R / W	(5) BV	1	OCCUPIED_ENA	n/a	n/a	n/a	Occupied Input Enabled
R / W	(5) BV	93	OCC_COMS_ENA	n/a	n/a	n/a	Occupied Thermostat or Communication Input Enabled
R	(2) AI	17	OP_COOL_STPT	n/a	n/a	n/a	Operating Cooling Setpoint
R	(2) AI	49	OP_HEAT_STPT	68	45	99	Operating Heating Setpoint

TABLE 2: POINTS LIST IN DESCRIPTION ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R / W	(2) AV	69	OP_STPT_DIF	1	1	5	Operating Setpoint Differential
R / W	(2) AV	74	OAT_COOL_L_O	45	0	100	Outdoor Air Temperature Cooling Lockout Temperature
R / W	(2) AV	54	OAT_HEAT_L_O	75	0	100	Outdoor Air Temperature Heating Lockout Temperature
R	(2) AI	11	AMB_AIR_ENTH	n/a	n/a	n/a	Outside Air Enthalpy
R / W	(2) AV	10	AMB_AIR_HUM	n/a	n/a	n/a	Outside Air Humidity
R / W	(5) BV	37	OAH_SENSOR	n/a	n/a	n/a	Outside Air Humidity Sensor Enabled
R / W	(2) AV	7	AMB_TEMP	n/a	n/a	n/a	Outside Air Temperature
R	(2) AI	9	OAQ_VALUE	n/a	0	5000	Outside Demand Ventilation (OAQ) Value (PPM)
R / W	(5) BV	8	PWR_EX_INST	n/a	n/a	n/a	Power Exhaust Installed
R / W	(5) BV	20	POP_ENABLED	n/a	n/a	n/a	Pre-Occupancy Purge Enabled
R / W	(2) AV	81	POP_HOURS	4	0	23	Pre-Occupancy Purge Time (hours)
R / W	(2) AV	82	POP_MINUTES	0	0	59	Pre-Occupancy Purge Time (minutes)
R	(5) BI	17	PURGE_SWITCH	n/a	n/a	n/a	Purge Switch Status (0=open,1=closed)
R / W	(5) BV	12	REDLINE	n/a	n/a	n/a	Redline (0=clear redline, 1=set redline operation)
R	(5) BI	4	REM_CONT_ENA	n/a	n/a	n/a	Remote Control Enabled
R / W	(5) BV	111	REM_CONT_BAS_ECON	n/a	n/a	n/a	Remote Control Third Party BAS Economizer Enable
R	(2) AI	13	RET_AIR_ENTH	n/a	n/a	n/a	Return Air Enthalpy
R / W	(2) AV	12	RET_AIR_HUM	n/a	n/a	n/a	Return Air Humidity
R	(2) AI	5	RET_AIR_TEMP	n/a	n/a	n/a	Return Air Temperature
R / W	(5) BV	38	RAH_SENSOR	n/a	n/a	n/a	Return/Inside Air Humidity Sensor Enabled
R / W	(2) AV	6	SPACE_TEMP	n/a	n/a	n/a	Space (Indoor) Air Temperature
R / W	(2) AV	71	SPCE_ALM_TMP	0	0	25	Space Sensor Alarm Temperature (degrees F, 0 = disabled)
R / W	(2) AV	72	SPCE_ALM_TIM	0	0	120	Space Sensor Alarm Time (minutes F, 0 = disabled)
R / W	(5) BV	26	SEN_FAULT_EN	n/a	n/a	n/a	Space Sensor Fault Override (Construction Mode) Enabled
R / W	(2) AV	73	SP_OFF_RANGE	3	0	5	Space Temperature Sensor Offset Range (0-5 degrees)
R	(2) AI	4	SUP_AIR_TEMP	n/a	n/a	n/a	Supply Air Temperature
R / W	(2) AV	70	SAT_ALM_COOL	0	0	80	Supply Air Temperature Alarm Setpoint for Cooling
R / W	(2) AV	53	SAT_ALM_HEAT	0	0	120	Supply Air Temperature Alarm Setpoint for Heating
R / W	(5) BV	22	SAT_COOLING	n/a	n/a	n/a	Supply Air Temperature Limit for Cooling Enabled
R / W	(2) AV	3	SAT_COOL_SP	50	40	65	Supply Air Temperature Limit for Cooling Setpoint (degrees F)

TABLE 2: POINTS LIST IN DESCRIPTION ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R / W	(5) BV	24	SAT_HEATING	n/a	n/a	n/a	Supply Air Temperature Limit for Heating Enabled
R / W	(2) AV	52	SAT_HEAT_SP	135	100	180	Supply Air Temperature Limit for Heating Setpoint (degrees F)
R	(2) AI	34	SFAN_VFD_OUT	n/a	n/a	n/a	Supply Fan VFD Output Status (0-100%)
R	(2) AI	36	ALARM_1	n/a	n/a	n/a	System Alarm #1
R	(2) AI	37	ALARM_2	n/a	n/a	n/a	System Alarm #2
R	(2) AI	38	ALARM_3	n/a	n/a	n/a	System Alarm #3
R	(2) AI	39	ALARM_4	n/a	n/a	n/a	System Alarm #4
R	(2) AI	40	ALARM_5	n/a	n/a	n/a	System Alarm #5
R / W	(2) AV	29	TH_OFFSET	5	1	10	Temperature / Humidity % Humidity that = 1°F of Offset
R / W	(2) AV	26	TEM_HUM_STPT	50	20	80	Temperature / Humidity Setpoint (percent Humidity)
R / W	(5) BV	97	THERMO_CONTROL	n/a	n/a	n/a	Thermostat Only Control Enable
R / W	(5) BV	67	FAN_HEAT	n/a	n/a	n/a	Turn OFF Continuous Fan when Starting Heat Enabled (0=Continuous Fan ON)
R / W	(2) AV	2	UNOC_COOL_SP	85	46	99	Un-Occupied Cooling Setpoint
R / W	(2) AV	51	UNOC_HEAT_SP	60	45	98	Un-Occupied Heating Setpoint
R / W	(2) AV	75	UNOC_OVR_TP	60	0	240	Unoccupied Override Time Period
R	(5) BI	103	VAV_INTELLI_2_PRES	n/a	n/a	n/a	VAV / Intelli-Comfort 2 Expansion Board Present
R / W	(2) AV	65	VAV_CL_LO_SP	55	40	69	VAV Cooling Supply Air Temperature: Lower Setpoint (degrees F)
R / W	(2) AV	66	VAV_SAT_RSET	72	40	85	VAV Cooling Supply Air Temperature: Reset Setpoint (Space Temperature)(degrees F)
R / W	(2) AV	64	VAV_CL_HI_SP	60	41	70	VAV Cooling Supply Air Temperature: Upper Setpoint (degrees F)
R / W	(5) BV	5	VAV_OCC_HEAT	n/a	n/a	n/a	VAV Occupied Heating Enabled
R / W	(2) AV	60	VAV_OHEAT_SP	68	40	85	VAV Occupied Heating Setpoint (degrees F)
R / W	(5) BV	96	VAV_UNOCC_HEAT	n/a	n/a	n/a	VAV Unoccupied Heating Enabled

TABLE 3: POINTS LIST IN OBJECT ORDER

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R / W	(2) AV	1	OCC_COOL_SP	72	46	99	Occupied Cooling Setpoint
R / W	(2) AV	2	UNOC_COOL_SP	85	46	99	Un-Occupied Cooling Setpoint
R / W	(2) AV	3	SAT_COOL_SP	50	40	65	Supply Air Temperature Limit for Cooling Setpoint (degrees F)
R	(2) AI	4	SUP_AIR_TEMP	n/a	n/a	n/a	Supply Air Temperature
R	(2) AI	5	RET_AIR_TEMP	n/a	n/a	n/a	Return Air Temperature
R / W	(2) AV	6	SPACE_TEMP	n/a	n/a	n/a	Space (Indoor) Air Temperature
R / W	(2) AV	7	AMB_TEMP	n/a	n/a	n/a	Outside Air Temperature
R / W	(2) AV	8	IAQ_VALUE	n/a	0	5000	Demand Ventilation (IAQ) Value (PPM)
R	(2) AI	9	OAQ_VALUE	n/a	0	5000	Outside Demand Ventilation (OAQ) Value (PPM)
R / W	(2) AV	10	AMB_AIR_HUM	n/a	n/a	n/a	Outside Air Humidity
R	(2) AI	11	AMB_AIR_ENTH	n/a	n/a	n/a	Outside Air Enthalpy
R / W	(2) AV	12	RET_AIR_HUM	n/a	n/a	n/a	Return Air Humidity
R	(2) AI	13	RET_AIR_ENTH	n/a	n/a	n/a	Return Air Enthalpy
R / W	(2) AV	14	ACC_OVER_TME	n/a	n/a	n/a	Accumulated Unoccupied Override Time (in hours)
R	(2) AI	15	ACTIVE_ALARM	n/a	n/a	n/a	Active Alarm
R	(2) AI	16	NUMBER_COMPS	2		4	Number of Compressors Available
R	(2) AI	17	OP_COOL_STPT	n/a	n/a	n/a	Operating Cooling Setpoint
R / W	(2) AV	18	DEMVENT_STPT	1000	0	5000	Demand Ventilation Setpoint
R / W	(2) AV	19	ECON_MIN_POS	20	0	100	Economizer Minimum Position
R / W	(2) AV	20	ECO_1ST_STPT	55	40	65	Economizer First Stage Setpoint
R / W	(2) AV	21	ECO_2ND_STPT	50	40	65	Economizer Second Stage Setpoint
R / W	(2) AV	22	ECON_OAEN_SP	27	10	50	Economizer Outside Air Enthalpy Setpoint
R / W	(2) AV	23	ECON_OAT_ENA	55	40	80	Economizer Outside Air Temperature Enable Setpoint
R / W	(2) AV	24	COM_V_HI_SP	80	65	85	Comfort Ventilation Upper Setpoint (degrees F)
R / W	(2) AV	25	COM_V_LOW_SP	70	60	80	Comfort Ventilation LowerSetpoint (degrees F)
R / W	(2) AV	26	TEM_HUM_STPT	50	20	80	Temperature / Humidity Setpoint (percent Humidity)
R / W	(2) AV	27	HGR_HUM_STPT	50	0	100	Hot Gas Reheat Humidity Setpoint (percent Humidity)
R / W	(2) AV	28	MAX_TH_OFFSET	3	0	5	Max Temperature / Humidity Setpoint Offset

TABLE 3: POINTS LIST IN OBJECT ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R / W	(2) AV	29	TH_OFFSET	5	1	10	Temperature / Humidity % Humidity that = 1°F of Offset
R / W	(2) AV	30	MAX_DMV_ECON	50	0	100	Maximum Demand Ventillation Economizer Position
R	(2) AI	31	ECO_DAMP_OUT	n/a	n/a	n/a	Economizer Damper Output Status (0-100%)
R	(2) AI	32	EXH_DAMP_OUT	n/a	n/a	n/a	Exhaust Damper Output Status (0-100%)
R	(2) AI	33	BLDG_STATIC	n/a	n/a	n/a	Building Static Pressure
R	(2) AI	34	SFAN_VFD_OUT	n/a	n/a	n/a	Supply Fan VFD Output Status (0-100%)
R	(2) AI	35	DUCT_STATIC	n/a	n/a	n/a	Duct Static Pressure
R	(2) AI	36	ALARM_1	n/a	n/a	n/a	System Alarm #1
R	(2) AI	37	ALARM_2	n/a	n/a	n/a	System Alarm #2
R	(2) AI	38	ALARM_3	n/a	n/a	n/a	System Alarm #3
R	(2) AI	39	ALARM_4	n/a	n/a	n/a	System Alarm #4
R	(2) AI	40	ALARM_5	n/a	n/a	n/a	System Alarm #5
R	(2) AI	41	E_C1_ACM_HRS	n/a	n/a	n/a	Elite Compressor #1 Accumulated Run Time (in hours)
R	(2) AI	42	E_C2_ACM_HRS	n/a	n/a	n/a	Elite Compressor #2 Accumulated Run Time (in hours)
R	(2) AI	43	E_C3_ACM_HRS	n/a	n/a	n/a	Elite Compressor #3 Accumulated Run Time (in hours)
R	(2) AI	44	E_C4_ACM_HRS	n/a	n/a	n/a	Elite Compressor #4 Accumulated Run Time (in hours)
R	(2) AI	45	I_C1_ACM_HRS	n/a	n/a	n/a	Intelli-Comfort Compressor #1 Accumulated Run Time (in hours)
R	(2) AI	46	I_C2_ACM_HRS	n/a	n/a	n/a	Intelli-Comfort Compressor #2 Accumulated Run Time (in hours)
R	(2) AI	47	HGR_VLV_OUT	n/a	n/a	n/a	Hot Gas Reheat Valve Output Status (0-100%)
R	(2) AI	48	NUMBER_HEAT	n/a	n/a	n/a	Number of Heat Stages Available (0,0, 0 stage, 0,1= 1 stage, 1,0= 2 stage, 1,1= 3 stage)
R	(2) AI	49	OP_HEAT_STPT	68	45	99	Operating Heating Setpoint
R / W	(2) AV	50	OCC_HEAT_SP	68	45	98	Occupied Heating Setpoint
R / W	(2) AV	51	UNOC_HEAT_SP	60	45	98	Un-Occupied Heating Setpoint
R / W	(2) AV	52	SAT_HEAT_SP	135	100	180	Supply Air Temperature Limit for Heating Setpoint (degrees F)
R / W	(2) AV	53	SAT_ALM_HEAT	0	0	120	Supply Air Temperature Alarm Setpoint for Heating

TABLE 3: POINTS LIST IN OBJECT ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R / W	(2) AV	54	OAT_HEAT_L_O	75	0	100	Outdoor Air Temperature HeatingLockout Temperature
R	(2) AI	55	HW_VLV_OUT	n/a	n/a	n/a	Hot Water Valve Output Status (0-100%)
R	(2) AI	56	CV_VAV_SELEC	n/a	n/a	n/a	CV / VAV Selected (0= Valid CV, 1=Valid VAV, 2= Invalid Value)
R / W	(2) AV	57	BLDG_SP_STPT	0.15	-0.25	0.25	Building Static Pressure Setpoint
R / W	(2) AV	58	DUCT_SP_STPT	1.5	0	5	Duct Static Pressure Setpoint
R / W	(2) AV	59	DUCT_SD_STPT	4.5	0	5	Duct Static Pressure Shutdown Setpoint
R / W	(2) AV	60	VAV_OHEAT_SP	68	40	85	VAV Occupied Heating Setpoint (degrees F)
R / W	(2) AV	61	MWU_RAT_STPT	70	50	85	Morning Warm-Up and VAV Heating: Return Air Temperature Setpoint (degrees F)
R / W	(2) AV	62	HYD_S1_SA_SP	120	80	180	Hydronic Heating Stage #1 Supply Air Setpoint (degrees F)
R / W	(2) AV	63	HYD_S2_SA_SP	150	81	180	Hydronic Heating Stage #2 Supply Air Setpoint (degrees F)
R / W	(2) AV	64	VAV_CL_HI_SP	60	41	70	VAV Cooling Supply Air Temperature: Upper Setpoint (degrees F)
R / W	(2) AV	65	VAV_CL_LO_SP	55	40	69	VAV Cooling Supply Air Temperature: Lower Setpoint (degrees F)
R / W	(2) AV	66	VAV_SAT_RSET	72	40	85	VAV Cooling Supply Air Temperature: Reset Setpoint (Space Temperature)(degrees F)
R	(2) AI	67	REVISION	n/a	n/a	xx	Device Revision
R / W	(2) AV	69	OP_STPT_DIF	1	1	5	Operating Setpoint Differential
R / W	(2) AV	70	SAT_ALM_COOL	0	0	80	Supply Air Temperature Alarm Setpoint for Cooling
R / W	(2) AV	71	SPCE_ALM_TMP	0	0	25	Space Sensor Alarm Temperature (degrees F, 0 = disabled)
R / W	(2) AV	72	SPCE_ALM_TIM	0	0	120	Space Sensor Alarm Time (minutes F, 0 = disabled)
R / W	(2) AV	73	SP_OFF_RANGE	3	0	5	Space Temperature Sensor Offset Range (0-5 degrees)
R / W	(2) AV	74	OAT_COOL_L_O	45	0	100	Outdoor Air Temperature Cooling Lockout Temperature
R / W	(2) AV	75	UNOC_OVR_TP	60	0	240	Unoccupied Override Time Period
R	(2) AI	76	H1_ACCUM_HRS	n/a	n/a	n/a	Heating #1 Accumulated Run Time (in hours)

TABLE 3: POINTS LIST IN OBJECT ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R	(2) AI	77	H2_ACCUM_HRS	n/a	n/a	n/a	Heating #2 Accumulated Run Time (in hours)
R	(2) AI	78	H3_ACCUM_HRS	n/a	n/a	n/a	Heating #3 Accumulated Run Time (in hours)
R / W	(2) AV	79	OAQ_STPT	1000	0	5000	Air Quality Setpoint Outside
R / W	(2) AV	80	IO_DVNT_STPT	700	0	2000	Indoor / Outdoor Demand Ventilation Setpoint
R / W	(2) AV	81	POP_HOURS	4	0	23	Pre-Occupancy Purge Time (hours)
R / W	(2) AV	82	POP_MINUTES	0	0	59	Pre-Occupancy Purge Time (minutes)
R / W	(2) AV	84	ECON_RAEN_SP	27	10	50	Economizer Return Air Enthalpy Setpoint
R / W	(2) AV	85	MIN_AMB_TEMP_SP	0	0	100%	Minimum Outdoor Air Temperature Setpoint (0-100%)
R	(2) AI	86	AIR_MON_INPUT	0	0	10	Air Monitor Station Input
R / W	(2) AV	87	ECON_MIN_POS_LP	25	0	100	Econ Minimum Position For Low Speed Fan
R / W	(2) AV	88	LOW_AMB_ECON_STPT	0	0	60	Low Ambient Economizer Temperature Setpoint (0 disables)
R / W	(2) AV	89	LOW_AMB_ECON_MIN	0	0	99	Low Ambient Economizer Minimum Position (Percent) (0 disables)
R / W	(2) AV	90	FAN_SPD_NO_HEAT_COOL	50	0	100	Fan Speed: No Heating No Cooling
R / W	(2) AV	91	FAN_SPD_1ST_COOL	70	0	100	Fan Speed: 1st Stage Cooling
R / W	(2) AV	92	FAN_SPD_1ST_HEAT	100	0	100	Fan Speed: 1st Stage Heating
R / W	(2) AV	93	FAN_SPD_ALL_COOL	100	0	100	Fan Speed: All Stages Cooling
R / W	(2) AV	94	FAN_SPD_ALL_HEAT	100	0	100	Fan Speed: All Stages Heating
R / W	(5) BV	1	OCCUPIED_ENA	n/a	n/a	n/a	Occupied Input Enabled
R / W	(5) BV	2	HYDRONC_HEAT	n/a	n/a	n/a	Hydronic Heat Enabled
R / W	(5) BV	3	HH_REVER_VLV	n/a	n/a	n/a	Hydronic Heat Reverse Actuated Valve Installed
R	(5) BI	4	REM_CONT_ENA	n/a	n/a	n/a	Remote Control Enabled
R / W	(5) BV	5	VAV_OCC_HEAT	n/a	n/a	n/a	VAV Occupied Heating Enabled
R / W	(5) BV	6	MORN_WARM-UP	n/a	n/a	n/a	Morning Warm-Up Enabled
R / W	(5) BV	7	ECONO_INST	n/a	n/a	n/a	Economizer Installed
R / W	(5) BV	8	PWR_EX_INST	n/a	n/a	n/a	Power Exhaust Installed
R / W	(5) BV	9	MOD_EX_INST	n/a	n/a	n/a	Modulating Exhaust Installed
R / W	(5) BV	10	EX_VFD_INST	n/a	n/a	n/a	Exhaust VFD Installed
R	(5) BI	11	MODBUS_ALARM	n/a	n/a	n/a	Modbus Communication Alarm

TABLE 3: POINTS LIST IN OBJECT ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R / W	(5) BV	12	REDLINE	n/a	n/a	n/a	Redline (0=clear redline, 1=set redline operation)
R / W	(5) BV	13	LOADSHED	n/a	n/a	n/a	Loadshed (0=clear loadshed, 1=set loadshed operation)
R	(5) BI	14	LOW_SUP_VOLT	n/a	n/a	n/a	Low Supply Voltage (0=comps not overridden by LSV, 1=comps overridden)
R	(5) BI	15	DIRT_FILT_SW	n/a	n/a	n/a	Dirty Filter Switch Status (0=open,1=closed / fault)
R	(5) BI	16	AIR_PROOF_SW	n/a	n/a	n/a	Air Proving Switch Status (1=closed, 0=open / no air flow)
R	(5) BI	17	PURGE_SWITCH	n/a	n/a	n/a	Purge Switch Status (0=open,1=closed)
R	(5) BI	18	HGR_STAT	n/a	n/a	n/a	Hot Gas Reheat Output Status (0=output is OFF, 1=output is ON)
R / W	(5) BV	19	LOW_AMB_OVRD	n/a	n/a	n/a	Low Ambient Temperature (0=comps not overridden by LAT, 1=comps overridden)
R / W	(5) BV	20	POP_ENABLED	n/a	n/a	n/a	Pre-Occupancy Purge Enabled
R / W	(5) BV	21	FAN_ON_W_SEN	n/a	n/a	n/a	CV-Indoor Fan Operates with Space Sensor Present Option Enabled
R / W	(5) BV	22	SAT_COOLING	n/a	n/a	n/a	Supply Air Temperature Limit for Cooling Enabled
R / W	(5) BV	23	COOLING_ENA	n/a	n/a	n/a	Cooling Mode Enabled
R / W	(5) BV	24	SAT_HEATING	n/a	n/a	n/a	Supply Air Temperature Limit for Heating Enabled
R / W	(5) BV	25	HEATING_ENA	n/a	n/a	n/a	Heating Mode Enabled
R / W	(5) BV	26	SEN_FAULT_EN	n/a	n/a	n/a	Space Sensor Fault Override (Construction Mode) Enabled
R / W	(5) BV	28	INTELLI-STRT	n/a	n/a	n/a	Intelli-Start Enabled
R / W	(5) BV	29	BP_SENS_INST	n/a	n/a	n/a	Building Static Pressure Sensor Installed
R	(5) BI	30	EX_FAN_STAT	n/a	n/a	n/a	Exhaust Fan Output Status (0=output is OFF, 1=output is ON)
R	(5) BI	31	ECONO_STATUS	n/a	n/a	n/a	Economizer Output Status (0=not Free Cooling, 1= Free Cooling)
R	(5) BI	32	FRECOOL_STAT	n/a	n/a	n/a	Free Cooling Mode Status (0=comps not overridden by Econo, 1=comps overridden)
R	(5) BI	33	COM_VENT_STA	n/a	n/a	n/a	Comfort Ventilation Mode Status (1=control is in Comfort Vent mode, 0= it is not)

TABLE 3: POINTS LIST IN OBJECT ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R / W	(5) BV	34	CVM_COOLING	n/a	n/a	n/a	Comfort Ventilation Mode for Cooling Enabled
R / W	(5) BV	35	CVM_HEATING	n/a	n/a	n/a	Comfort Ventilation Mode for Heating Enabled
R / W	(5) BV	36	ECO_L_TO_SAT	n/a	n/a	n/a	Economizer Loading to Control Supply Air Temperature Enabled
R / W	(5) BV	37	OAH_SENSOR	n/a	n/a	n/a	Outside Air Humidity Sensor Enabled
R / W	(5) BV	38	RAH_SENSOR	n/a	n/a	n/a	Return/Inside Air Humidity Sensor Enabled
R / W	(5) BV	39	DEMAND_VENT	n/a	n/a	n/a	Demand Ventilation (using Inside Sensor) Enabled
R	(5) BI	40	E_IFAN_STAT	n/a	n/a	n/a	Elite Indoor Fan Output Status (0=output is OFF, 1=output is ON)
R	(5) BI	41	E_FAN_OVER	n/a	n/a	n/a	Elite Fan Overload Switch Input Status (1=closed, 0=open / fault)
R	(5) BI	42	E_COMP1_STAT	n/a	n/a	n/a	Elite Compressor #1 Output Status (0=output is OFF, 1=output is ON)
R	(5) BI	43	E_LPS1	n/a	n/a	n/a	Elite Low Pressure Switch for Compressor #1 Input Status (1=closed, 0=open / fault)
R	(5) BI	44	E_HPS1	n/a	n/a	n/a	Elite High Pressure Switch for Compressor #1 Input Status (1=closed, 0=open / fault)
R	(5) BI	45	E_C1_OVRLOAD	n/a	n/a	n/a	Elite Compressor #1 Overload Switch Input Status (1=closed, 0=open / fault)
R	(5) BI	46	E_COMP2_STAT	n/a	n/a	n/a	Elite Compressor #2 Output Status (0=output is OFF, 1=output is ON)
R	(5) BI	47	E_LPS2	n/a	n/a	n/a	Elite Low Pressure Switch for Compressor #2 Input Status (1=closed, 0=open / fault)
R	(5) BI	48	E_HPS2	n/a	n/a	n/a	Elite High Pressure Switch for Compressor #2 Input Status (1=closed, 0=open / fault)
R	(5) BI	49	E_C2_OVRLOAD	n/a	n/a	n/a	Elite Compressor #2 Overload Switch Input Status (1=closed, 0=open / fault)
R	(5) BI	50	E_CFAN1_STAT	n/a	n/a	n/a	Elite Condenser Fan #1 Output Status (0=output is OFF, 1=output is ON)
R	(5) BI	51	E_COMP3_STAT	n/a	n/a	n/a	Elite Compressor #3 Output Status (0=output is OFF, 1=output is ON)
R	(5) BI	52	E_LPS3	n/a	n/a	n/a	Elite Low Pressure Switch for Compressor #3 Input Status (1=closed, 0=open / fault)

TABLE 3: POINTS LIST IN OBJECT ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R	(5) BI	53	E_HPS3	n/a	n/a	n/a	Elite High Pressure Switch for Compressor #3 Input Status (1=closed, 0=open / fault)
R	(5) BI	54	E_C3_OVRLOAD	n/a	n/a	n/a	Elite Compressor #3 Overload Switch Input Status (1=closed, 0=open / fault)
R	(5) BI	55	E_COMP4_STAT	n/a	n/a	n/a	Elite Compressor #4 Output Status (0=output is OFF, 1=output is ON)
R	(5) BI	56	E_LPS4	n/a	n/a	n/a	Elite Low Pressure Switch for Compressor #4 Input Status (1=closed, 0=open / fault)
R	(5) BI	57	E_HPS4	n/a	n/a	n/a	Elite High Pressure Switch for Compressor #4 Input Status (1=closed, 0=open / fault)
R	(5) BI	58	E_C4_OVRLOAD	n/a	n/a	n/a	Elite Compressor #4 Overload Switch Input Status (1=closed, 0=open / fault)
R	(5) BI	59	E_CFAN2_STAT	n/a	n/a	n/a	Elite Condenser Fan #2 Output Status Input Status (0=output is OFF, 1=output is ON)
R	(5) BI	60	E_GAS_VLVE1	n/a	n/a	n/a	Elite Gas Valve #1 Input Status (1=energized, 0=not energized)
R	(5) BI	61	E_LIMIT_1	n/a	n/a	n/a	Elite Limit Switch #1 Input Status (1=closed, 0=open / fault)
R	(5) BI	62	E_GAS_VLVE2	n/a	n/a	n/a	Elite Gas Valve #2 Input Status (1=energized, 0=not energized)
R	(5) BI	63	E_LIMIT_2	n/a	n/a	n/a	Elite Limit Switch #2 Input Status (1=closed, 0=open / fault)
R	(5) BI	64	E_GAS_VLVE3	n/a	n/a	n/a	Elite Gas Valve #3 Input Status (1=energized, 0=not energized)
R	(5) BI	65	E_LIMIT_3	n/a	n/a	n/a	Elite Limit Switch #3 Input Status (1=closed, 0=open / fault)
R	(5) BI	66	E_FREEZE_ST	n/a	n/a	n/a	Hot H2O Freeze Thermostat Switch Input Status (1=closed, 0=open / fault)
R / W	(5) BV	67	FAN_HEAT	n/a	n/a	n/a	Turn OFF Continuous Fan when Starting Heat Enabled (0=Continuous Fan ON)
R	(5) BI	68	HEAT_1_STAT	n/a	n/a	n/a	H1 Heating Output #1 Status (0=output is OFF, 1=output is ON)
R	(5) BI	69	HEAT_2_STAT	n/a	n/a	n/a	H2 Heating Output #2 Status (0=output is OFF, 1=output is ON)
R	(5) BI	70	HEAT_3_STAT	n/a	n/a	n/a	H3 Heating Output #3 Status (0=output is OFF, 1=output is ON)

TABLE 3: POINTS LIST IN OBJECT ORDER (CONTINUED)

Read/Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R	(5) BI	71	I_IFAN_STAT	n/a	n/a	n/a	Intelli-Comfort Indoor Fan Output Status (0=output is OFF, 1=output is ON)
R	(5) BI	72	I_FAN_OVER	n/a	n/a	n/a	Intelli-Comfort Fan Overload Switch Input Status (0=open,1=closed)
R	(5) BI	73	I_COMP1_STAT	n/a	n/a	n/a	Intelli-Comfort Compressor #1 Input Status (0=output is OFF, 1=output is ON)
R	(5) BI	74	I_LPS1	n/a	n/a	n/a	Intelli-Comfort Low Pressure Switch for Compressor #1 Input Status (1=closed, 0=open / fault)
R	(5) BI	75	I_HPS1	n/a	n/a	n/a	Intelli-Comfort High Pressure Switch for Compressor #1 Input Status (1=closed, 0=open / fault)
R	(5) BI	76	I_COMP2_STAT	n/a	n/a	n/a	Intelli-Comfort Compressor #2 Input Status (0=output is OFF, 1=output is ON)
R	(5) BI	77	I_LPS2	n/a	n/a	n/a	Intelli-Comfort Low Pressure Switch for Compressor #2 Input Status (1=closed, 0=open / fault)
R	(5) BI	78	I_HPS2	n/a	n/a	n/a	Intelli-Comfort High Pressure Switch for Compressor #2 Input Status (1=closed, 0=open / fault)
R	(5) BI	79	I_CFAN_STAT	n/a	n/a	n/a	Intelli-Comfort Condenser Fan #1 Input Status (0=output is OFF, 1=output is ON)
R	(5) BI	80	I_GAS_VLVE1	n/a	n/a	n/a	Intelli-Comfort Gas Valve #1 Input Status
R	(5) BI	81	I_LIMIT_1	n/a	n/a	n/a	Intelli-Comfort Limit Switch #1 Input Status
R	(5) BI	82	I_FREEZE_1	n/a	n/a	n/a	Intelli-Comfort Freeze Thermostat Switch #1 Input Status (0=open,1=closed)
R	(5) BI	83	I_FREEZE_2	n/a	n/a	n/a	Intelli-Comfort Freeze Thermostat Switch #2 Input Status (0=open,1=closed)
R	(5) BI	85	ALARM_1_ON	n/a	n/a	n/a	Alarm Buffer #1 (0=Alarm has cleared, 1=Alarm is still active)
R	(5) BI	86	ALARM_2_ON	n/a	n/a	n/a	Alarm Buffer #2 (0=Alarm has cleared, 1=Alarm is still active)
R	(5) BI	87	ALARM_3_ON	n/a	n/a	n/a	Alarm Buffer #3 (0=Alarm has cleared, 1=Alarm is still active)
R	(5) BI	88	ALARM_4_ON	n/a	n/a	n/a	Alarm Buffer #4 (0=Alarm has cleared, 1=Alarm is still active)

TABLE 3: POINTS LIST IN OBJECT ORDER (CONTINUED)

Read/ Write	BACnet Object Type	BACnet Object Inst	Descriptor	Default	Min	Max	Point Description
R	(5) BI	89	ALARM_5_ON	n/a	n/a	n/a	Alarm Buffer #5 (0=Alarm has cleared, 1=Alarm is still active)
R / W	(5) BV	90	DF_SW_INST	n/a	n/a	n/a	Dirty Filter Switch Installed
R / W	(5) BV	93	OCC_COMS_ENA	n/a	n/a	n/a	Occupied Thermostat or Communication Input Enabled
R / W	(5) BV	96	VAV_UNOCC_HEAT	n/a	n/a	n/a	VAV Unoccupied Heating Enabled
R / W	(5) BV	97	THERMO_CONTROL	n/a	n/a	n/a	Thermostat Only Control Enable
R / W	(5) BV	98	DIFF_ENTH_MODE	n/a	n/a	n/a	Differential enthalpy mode enabled
R / W	(5) BV	99	COMM_RH	n/a	n/a	n/a	Accept Comm Value for RH
R / W	(5) BV	100	COMM_OH	n/a	n/a	n/a	Accept Comm Value for OH
R / W	(5) BV	101	COMM_OAT	n/a	n/a	n/a	Accept Comm Value for OAT
R	(5) BI	102	4_STG_EXP_PRES	n/a	n/a	n/a	Four Stage Expansion board Present
R	(5) BI	103	VAV_INTELLI_2_PRES	n/a	n/a	n/a	VAV / Intelli-Comfort 2 Expansion Board Present
R	(5) BI	104	FREEZE_STAT_1	n/a	n/a	n/a	Freeze Stat # 1
R	(5) BI	105	FREEZE_STAT_2	n/a	n/a	n/a	Freeze Stat # 2
R	(5) BI	106	FREEZE_STAT_3	n/a	n/a	n/a	Freeze Stat # 3
R	(5) BI	107	FREEZE_STAT_4	n/a	n/a	n/a	Freeze Stat # 4
R / W	(5) BV	108	COMM_ST	n/a	n/a	n/a	Accept Comm Value for Space Temperature
R / W	(5) BV	109	COMM_IAQ	n/a	n/a	n/a	Accept Comm Value for Indoor Quality Sensor
R / W	(5) BV	110	MIN_AMB_SEN	n/a	n/a	n/a	Minimum Outdoor Air Sensor Enabled
R / W	(5) BV	111	REM_CONT_BAS_ECO N	n/a	n/a	n/a	Remote Control Third Party BAS Economizer Enable

TROUBLESHOOTING

TABLE 4: SIMPLICITY®LINC GATEWAY LED TROUBLESHOOTING

Light	Description
PWR	This is the power light and should show steady green at all times when the Simplicity Linc is powered.
SYS ERROR	The SYS ERR LED will go on solid 15 seconds after power up. It will turn off after 5 seconds. A steady red light will indicate there is a system error on the Simplicity Linc. If this occurs, contact UP Tech Services at 1-877-874-7378
COMM ERROR	COMM ERR LED will go on solid 15 seconds after power up. It will turn off after 5 seconds. A steady red light will indicate the communications problem if there is a configured node connected to the Simplicity Linc that is offline.
Config ERROR	Config ERR LED will go on solid 15 seconds after power up. It will turn off after 5 seconds. A steady amber light will indicate a configuration error exists in the active configuration. If this occurs, contact UP Tech Services at 1-877-874-7378
Node Offline	Node Offline LED will go on solid 15 seconds after power up. It will turn off after 5 seconds. If the Node Offline LED stays on solid, a node offline condition has occurred.
Unused	15 seconds after powering up the 4 unused LEDs will turn on solid for 5 seconds, then turn off.
RX	On normal operation of Simplicity Linc, the RX LED will flash when a message is received on the field port.
TX	On normal operation of Simplicity Linc, the TX LED will flash when a message is sent on the field port.
RUN	RUN LED will flash 20 seconds after power up, signifying normal operation. During the first 20 seconds, the LED should be off.

General

Power Source	24 ± 15% VAC (Obtained from the Roof Top Unit)
Frequency	45 to 65 HZ
Power Consumption	Nominal >2 VA
Operating Environment	-40 to 160° F (-40 to 70° C) 10 to 95% non-condensing
Size (H x W x D)	5.0 x 2.4 x 1.8 in. (128 x 61 x 45.75 cm)
Weight	0.2 lb. (0.09 kg)

Processor

Type	Microchip
SDRAM Memory	2048 bytes
FLASH Memory	1024 bytes w/1,000,000 write cycle capability

Interface

Port 1 Type	BACnet MS/TP
Port 1 Speeds	9.6, 19.2, 38.4, 76.8 kbaud
Port 1 Connector	3-pin screw terminals
Port 2 Type	Modbus RTU (RS485)
Port 2 Speeds	9.6, 19,2 kbaud
Port 2 Connector	6-pin screw terminals
LAN Cable	Screened Twisted-Pair (Belden 9272 or 89272)
LEDs	Controller Status; BACnet; Modbus
Switch Selections	MAC Address (1-99), Baud Rate

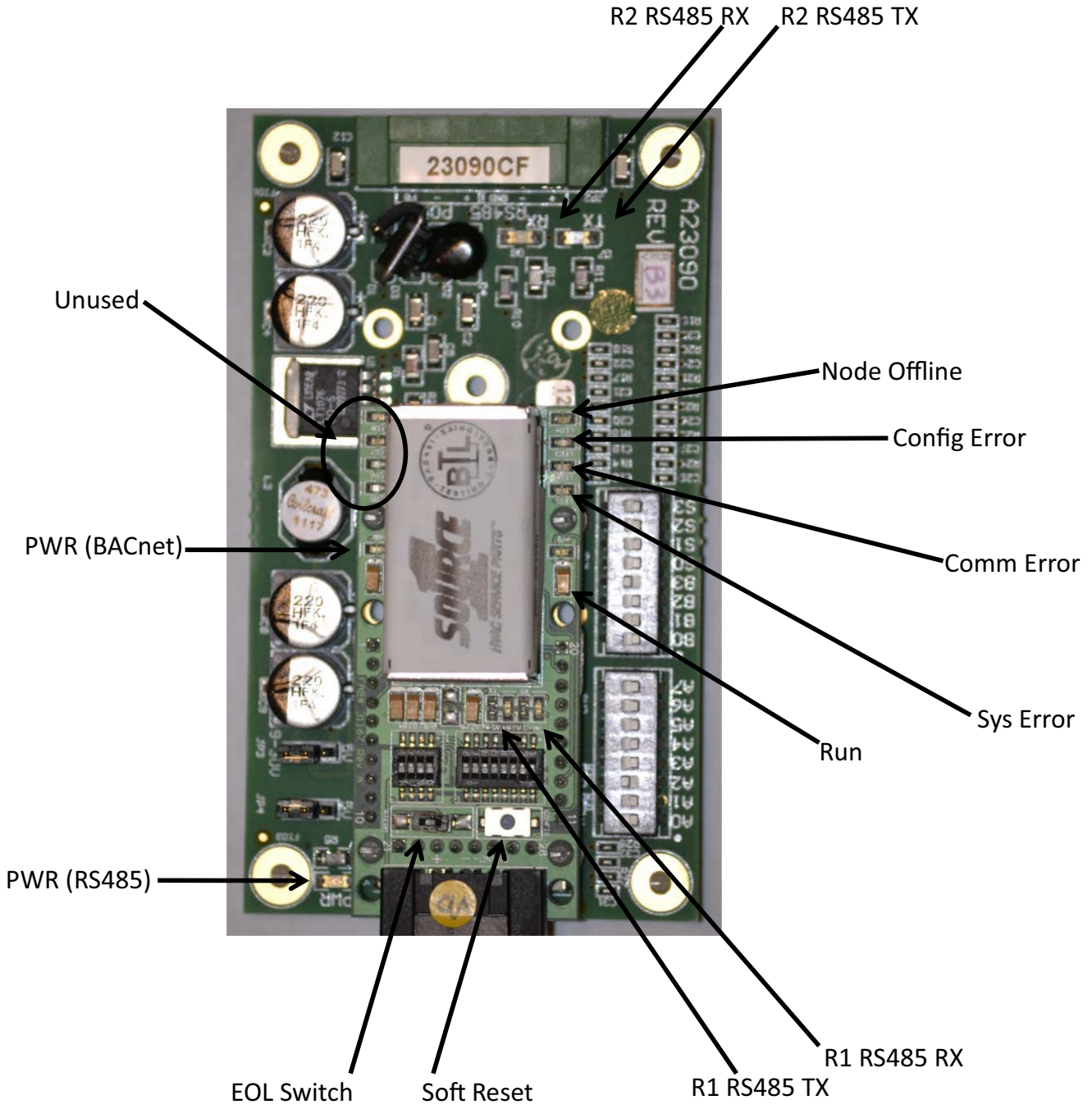


FIGURE 3: SIMPLICITY®LINC BOARD AND LED LAYOUT