Symbio™ 800 Integration Points List
BACnet®
RTHD (CH530)

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Reference Document: BAS-SVP083*-EN

Object Naming Conventions

The communicated points for the Symbio™ controllers are generally named according to their function. While many of the points are read-only, others include both read and write capability. The established naming convention helps to identify the capabilities of each point. For most points, the suffix identifies the capability according to the following definition. While there are some exceptions, the majority of the points have been defined according to these guidelines.

Suffix	Description
Status	Points with the Status suffix are defined as read-only. The status point reports the value being used by the controller.
Local	Points with the Local suffix are defined as read-only. The local point reports values associated with controller sensors, both wired and wireless. The local value may or may not be actively used by the controller, depending on the presence or absence of a communicated value (BAS). When both a local and communicated value exist, the communicated value is used.
Active	Points with the Active suffix are defined as read-only. Points designated as active are normally the result of the arbitration between a communicated value(BAS) and at least one value local to the equipment, such as a sensor or default setpoint. The active point reports the value being input to the controller.
Setpoint	Points with the Setpoint suffix are defined as either read-only or read/write. For BACnet®, the binary input, analog input and multi-state input points are all read-only. These setpoints report the value currently in use by the controller. The analog value, binary value and multi-state value points are all read/write. These points are provided for use by the building automation system (BAS). When used, these points are written internally to arbitration logic. This defines the interaction with hardwired points, editable software configuration points and the relinquish default value/state. Refer to the Appendix for additional information.
Input	Points with the Input suffix are defined as read-only. These points normally reflect the status of a sensor input, either hardwired or communicating wirelessly (Air-Fi®). However, the input point reflects the arbitrated result of the controller sensor input and a communicated value, if present. When both a controller sensor and communicated value exist, the controller will use and report the communicated value.
Arbitrator	Points with the “Arbitrator” suffix are to be used as read-only. The arbitrator prioritizes inputs from communicating points, hardwired points and stored defaults points. The priority array of the arbitration point displays each of the values provided, including the active status, indicating which of the input sources is being used. Refer to the Appendix for additional information.
BAS	Points with the BAS suffix are defined as read/write. These points are provided for use by the building automation system (BAS). When used, these points are written to arbitration logic. This defines the interaction with hardwired points, editable software configuration points and the relinquished default value/state. Refer to the Appendix for additional information.
Command	Points with the Command suffix are defined as read/write. These points are written to change the default behavior of the controller. Once written, these point values may be persisted.
Request	Points with the Request suffix are defined as read/write. These points are written to request a change the operating behavior of the controller.

Object Data Points and Diagnostic Data Points

The following tables are sorted as follows:

- Tables are listed by input/output type and sorted by object identifier. These tables provide the user with the unit's type for each object
- Tables are sorted by object name and provide a complete list of object names, types, values/ranges, and descriptions.

Note: Not all points are available to the user. The available data points are defined during self-configuration and are dependent on the type of equipment.

Object Identifier	Object Name	Description	Units	Configuration Dependency
Analog Input, 1	Active Cool/Heat Setpoint Temperature	Active chiller water or hot water setpoint.	Temperature	
Analog Input, 2	Active Current Limit Setpoint	Active capacity current limit setpoint.	Percent	
Analog Input 4	Active Base Loading Setpoint	Value of base loading setpoint currently being used by the chiller.	Percent	
Analog Input, 5	Actual Running Capacity	Level of capacity that the chiller is currently running at.	Percent	
Analog Input, 6	Evaporator Refrigerant Pressure- Ckt1	Circuit 1 evaporator refrigerant pressure.	Pressure	
Analog Input, 9	Evaporator Refrigerant Pressure- Ckt 2	Circuit 2 evaporator refrigerant pressure.	Pressure	
Analog Input, 12	Evaporator Saturated Refrigerant Temperature- Ckt 1	Circuit 2 evaporator refrigerant temperature.	Temperature	
Analog Input, 16	Condenser Refrigerant Pressure- Ckt 1	Circuit 1 condenser refrigerant pressure.	Pressure	
Analog Input, 18	Condenser Refrigerant Pressure- Ckt 2	Circuit 2 condenser refrigerant pressure.	Pressure	
Analog Input, 20	Condenser Saturated Refrigerant Temperature- Ckt 1	Circuit 1 condenser refrigerant temperature.	Temperature	
Analog Input, 22	Condenser Saturated Refrigerant Temperature- Ckt 2	Circuit 2 condenser refrigerant temperature.	Temperature	
Analog Input, 25	Local Atmospheric Pressure	Local atmospheric pressure.	Pressure	
Analog Input, 26	Starts- Compressor 1A	Number of starts for compressor 1A.		
Analog Input, 34	Run Time- Compressor 1A	Total run time of compressor 1A.	Time	

Object Identifier	Object Name	Description	Units	Configuration Dependency
Analog Input, 44	Evaporator Entering Water Temp	Temperature of the water entering the evaporator.	Temperature	
Analog Input, 45	Evaporator Leaving Water Temp	Temperature of the water leaving the evaporator.	Temperature	
Analog Input, 46	Condenser Entering Water Temp	Temperature of the water entering the condenser.	Temperature	
Analog Input, 47	Condenser Leaving Water Temp	Temperature of the water leaving the condenser.	Temperature	
Analog Input, 48	High Side Oil Pressure- Compressor 1A	Pressure of the oil at the high side of compressor 1A.	Pressure	
Analog Input, 56	Refrigerant Disch Temp- Ckt 1	Temperature of the refrigerant being discharged from Ckt 1.	Temperature	
Analog Input, 58	Condenser Control Output	Percentage of condenser water flow being requested by the chiller.	Percent	
Analog Input, 59	Phase AB Voltage- Compressor 1A	Phase AB voltage, compressor 1A.	Voltage	
Analog Input, 60	Phase BC Voltage- Compressor 1A	Phase BC voltage, compressor 1A.	Voltage	
Analog Input, 61	Phase CA Voltage- Compressor 1A	Phase CA voltage, compressor 1A.	Voltage	
Analog Input, 71	Line 1 Current (in Amps)- Compressor 1A	Line 1 Current (in Amps)- Compressor 1A	Current	
Analog Input, 72	Line 2 Current (in Amps)- Compressor 1A	Line 2 Current (in Amps)- Compressor 1A	Current	
Analog Input, 73	Line 3 Current (in Amps)- Compressor 1A	Line 3 Current (in Amps)- Compressor 1A	Current	
Analog Input, 83	Line 1 Current (%RLA)- Compressor 1A	Line 1 Current (%RLA)- Compressor 1A	Percent	

Object Identifier	Object Name	Description	Units	Configuration Dependency
Analog Input, 84	Line 2 Current (%RLA)- Compressor 1A	Line 2 Current (%RLA)- Compressor 1A	Percent	
Analog Input, 85	Line 3 Current (%RLA)- Compressor 1A	Line 3 Current (%RLA)- Compressor 1A	Percent	
Analog Input, 95	Number of Circuits	Number of Circuits	None	
Analog Input, 96	Number of Compressors, Ckt 1	Number of Compressors, Ckt 1	None	
Analog Input, 97	Number of Compressors, Ckt 2	Number of Compressors, Ckt 2	None	
Analog Input, 98	Chiller Design Capacity	Design Capacity of the Chiller	None	

Object Identifier	Object Name	Description	Dimensionality	Valid Range	Relinquish Default
Analog Output 1	Chilled Water Setpoint	Desired leaving water temperature if chiller is in cooling mode.	Temperature	0°F to 75°F (-17.8°C to 23.8°C)	44°F (6.7°C)
Analog Output 2	Current Limit Setpoint	Sets the maximum capacity that the chiller can use.	Percent	0% to 120%	100%
Analog Output 4	Hot Water Setpoint	Desired leaving water temperature if chiller is in heating mode.	Temperature	80°F to 140°F (26.7°C to 60°C)	120°F (48.9°C)
Analog Output 5	Base Loading Setpoint	Capacity level to which the chiller should control when base loading is active.	Percent	0% to 100%	50%

Object Identifier	Object Name	Description	Units	Configuration Dependency
Binary Input, 1	Run Enabled	Indicates if the chiller is available to run or is currently running.	Inactive = Stop Active = Auto	
Binary Input, 2	Local Setpoint Control	Indicates if the chiller is being controlled by local setpoints instead of BAS setpoints.	Inactive =Remote Control Active = Local Control	
Binary Input, 3	Capacity Limited	Indicates if conditions may exist that prevent the chiller from reaching setpoint.	Inactive = Not Limited Active = Limited	
Binary Input, 4	Chiller Running State	Indicates if the chiller is running or stopped.	Inactive = Off Active = On	
Binary Input, 5	Condenser Water Flow Status	Condenser water flow status.	Inactive = No Flow Active = Flow	
Binary Input, 7	Head Relief Request	Indicates if the chiller is asking an outside system to provide more heat rejection from the condenser water loop.	Inactive = Off Active = On	
Binary Input, 8	Base Loading Active	Indicates if the base loading control method is currently being used.	Inactive = Inactive Active = Active	
Binary Input, 9	Compressor 1A Running	Indicates if compressor 1A is running.	Inactive = Off Active = Running	
Binary Input, 17	Evaporator Water Pump Request	Indicates a request from the chiller to turn on the evaporator water pump.	Inactive = Off Active = On	
Binary Input, 19	Condenser Water Pump Request	Indicates a request from the chiller to turn on the condenser water pump.	Inactive = Off Active = On	
Binary Input, 22	Evaporator Water Flow Status	Indicates if water is flowing through the evaporator.	Inactive = No Flow Active = Flow	
Binary Input, 23	Alarm Present	Indicates if an alarm is active.	Inactive = No Alarm Active = Alarm	
Binary Input, 24	Shutdown Alarm Present	Indicates if a shutdown alarm is active.	Inactive = No Alarm Active = None	
Binary Input, 25	Last Diagnostic	Indicates last diagnostic for the chiller.	Inactive = Off Active = On	

Object Identifier	Object Name	Description	Object States	Relinquish Default
Binary Output, 1	Chiller Auto Stop Command	Allows the chiller to run if conditions for running are met.	Inactive = Stop Active = Auto	True
Binary Output, 2	Remote Diagnostic Reset Command	Resets remotely diagnostics that can be reset.	Inactive = No Reset Request Active = Reset Request	False
Binary Output, 3	Base Loading Auto/ On Request	Requests chiller to use base loading.	Inactive = Auto Active = On	False

Object Identifier	Object Name	Description	Object States	Configuration Dependency
Multi-State Input, 1	Running Mode	Indicates the primary running mode of the chiller.	1 = Chiller Off 2 = Chiller in Start Mode 3 = Chiller in Run Mode 4 = Chiller in Pre-shutdown Mode 5 = Chiller in Service Mode	
Multi-State Input, 2	Operating Mode	Indicates the primary operating mode of the chiller.	1 = HVAC_Cool 2 = HVAC_Heat **3 = HVAC_Ice** (a) 4 = Not Used	
Multi-State Input, 3	MP Communication Status	***Do Not Use This Point***	***Do Not Use This Point***	
Multi-State Input, 4	Refrigerant Type	Refrigerant type.	1 = R-11 2 = R-12 3 = R-22 4 = R-123 5 = R-134A 6 = R407C 7 = R-410A	

Object Identifier	Object Name	Description	Object States	Configuration Dependency
Multi-State Input, 5	Model Information	Indicates the model type of the chiller.	1 = RTA 2 = CVH 3 = CVG 4 = CVR 5 = CDH 6 = RTH 7 = CGW 8 = CGA 9 = CCA 10 = RTW 11 = RTX 12 = RTU 13 = CCU 14 = CXA 15 = CGC 16 = RAU	
Multi-State Input, 6	Cooling Type	Cooling type of the condenser.	1 = Water Cooled 2 = Air Cooled	
Multi-State Input, 7	Manufacturing Location	Location where chiller was manufactured.	1 = Field Applied 2 = La Crosse□ 3 = Pueblo 4 = Charmes 5 = Rushville 6 = Macon 7 = Waco 8 = Lexington 9 = Forsyth 10 = Clarksville 11 = Ft. Smith 12 = Penang 13 = Colchester 14 = Curitiba 15 = Taicang 16 = Taiwan 17 = Epinal 18 = Golbey	

Object Identifier	Object Name	Description	Object States	Relinquish Default
Multi-State Output, 1	Chiller Mode Command	Mode of operation of the chiller.	1 = HVAC _Cool 2 = HVAC_Heat 3 = HVAC_Ice (a) 4 = Not Used	1 = Cool