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 type.
- 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.

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Register Type	Register Value	Byte Order	Invalid Values
Analog	Float, 32-bit	High Word/High Byte First	NaN
Binary	Int, 16-bit, unsigned	High Byte first	0xFFFF
Multi-state	Int, 16-bit, unsigned	High Byte first	0xFFFF

BACnet Object Identifier	Modbus Register	Object Name	Units	Configuration Dependency
AI-10100	30011	Active Chilled Water Setpoint	Temperature	Standard
AI-10101	30013	Active Base Loading Setpoint	Percentage	Base Loading
AI-10102	30015	Active Cool/Heat Setpoint Temperature	Temperature	Standard
AI-10103	30017	Active Hot Water Setpoint	Temperature	Hot Water Control
AI-10104	30019	Active Demand Limit Setpoint	Percentage	Standard
AI-10105	30021	Demand Limit Setpoint Status	Percentage	Ice Building
AI-10106	30023	Chilled Water Setpoint Status	Temperature	Standard
AI-10107	30025	Drive Motor Average Current RLA Circuit 1	Percentage	Standard
AI-10108	30027	Drive Motor Voltage	Voltage	Standard
AI-10109	30029	Drive DC Bus Voltage Circuit 1	Voltage	Standard
AI-10110	30031	AFD Frequency Circuit 1	None	Standard
AI-10111	30033	AFD Transistor Temperature Circuit 1	Temperature	Standard
AI-10112	30035	Drive Motor Current U Circuit 1	Current	Standard
AI-10113	30037	Drive Motor Current U RLA Circuit 1	Percentage	Standard
AI-10114	30039	Drive Motor Current V Circuit 1	Current	Standard
AI-10115	30041	Drive Motor Current V RLA Circuit 1	Percentage	Standard
AI-10116	30043	Drive Motor Current W Circuit 1	Current	Standard
AI-10117	30045	Drive Motor Current W RLA Circuit 1	Percentage	Standard
AI-10118	30047	Drive Output Power Circuit 1	Power, Electrical	Standard
AI-10119	30049	Drive Speed Status Percent	Percentage	Standard
AI-10120	30051	Condenser Water Flow Rate	Flow, Fluidic	Cond Water Flow Measurement
AI-10121	30053	Evaporator Water Flow Rate	Flow, Fluidic	Evap Water Flow Measurement
AI-10122	30055	Calculated Chiller Capacity	Power, Cooling	Evap Water Flow Measurement
AI-10123	30057	Compressor Bearing Temperature 1 - Compressor 1A	Temperature	Standard
AI-10124	30059	Compressor Bearing Temperature 2 - Compressor 1A	Temperature	Standard
AI-10125	30061	Refrigerant Discharge Temperature - Compressor 1A	Temperature	Standard
AI-10126	30063	Run Time - Compressor 1A (in seconds)	None	Standard
AI-10127	30065	Starts - Compressor 1A	None	Standard
AI-10128	30067	Condenser Differential Water Pressure	Pressure, Fluidic	Cond Water Flow Measurement Differential Pressure or Dual Pressure Sensors

BACnet Object Identifier	Modbus Register	Object Name	Units	Configuration Dependency
AI-10129	30069	Condenser Entering Water Temperature	Temperature	Standard
AI-10130	30071	Condenser Leaving Water Temperature	Temperature	Standard
AI-10131	30073	Condenser Refrigerant Pressure Circuit 1	Pressure, Fluidic	Standard
AI-10132	30075	Condenser Saturated Refrigerant Temperature Circuit 1	Temperature	Standard
AI-10133	30077	Differential Refrigerant Pressure Circuit 1	Pressure, Fluidic	Standard
AI-10134	30079	Evaporator Differential Water Pressure	Pressure, Fluidic	Evap Water Flow Measurement Differential Pressure or Dual Pressure Sensors
AI-10135	30081	Evaporator Entering Water Temperature	Temperature	Standard
AI-10136	30083	Evaporator Leaving Water Temperature	Temperature	Standard
AI-10137	30085	Evaporator Refrigerant Pressure Circuit 1	Pressure, Fluidic	Standard
AI-10138	30087	Evaporator Saturated Refrigerant Temperature Circuit 1	Temperature	Standard
AI-10139	30089	Entering Condenser Water Pressure	Pressure, Fluidic	Cond Water Flow Measurement Differential Pressure or Dual Pressure Sensors
AI-10140	30091	Leaving Condenser Water Pressure	Pressure, Fluidic	Cond Water Flow Measurement Differential Pressure or Dual Pressure Sensors
AI-10141	30093	Entering Evaporator Water Pressure	Pressure, Fluidic	Evap Water Flow Measurement Differential Pressure or Dual Pressure Sensors
AI-10142	30095	Leaving Evaporator Water Pressure	Pressure, Fluidic	Evap Water Flow Measurement Differential Pressure or Dual Pressure Sensors
AI-10143	30097	Inlet Guide Vane 1 Percent Open Circuit 1	Percentage	Standard
AI-10144	30099	Motor Winding Temperature 1 Circuit 1	Temperature	Standard
AI-10145	30101	Motor Winding Temperature 2 Circuit 1	Temperature	Standard
AI-10146	30103	Motor Winding Temperature 3 Circuit 1	Temperature	Standard
AI-10147	30105	Number of Circuits	None	Standard
AI-10148	30107	Number of Compressors Circuit 1	None	Standard
AI-10149	30109	Number of Compressors Circuit 2	None	Standard
AI-10150	30111	Refrigerant Monitor	PPM	Refrigerant Monitor
AI-10151	30113	Unit Power Consumption	Power, Electrical	Standard
AI-10152	30115	Drive Input Voltage Calculated 1A	Voltage	Standard
AI-10153	30117	Actual Running Capacity	Percentage	Standard
AI-10154	30119	Unit Source ID	None	Standard

BACnet Object Identifier	Modbus Register	Object Name	Units	Configuration Dependency
AI-10155	30121	Chiller Design Capacity	Power, Cooling	Standard
AI-10156	30123	Outdoor Air Temperature	Temperature	Outdoor Air Temp
AI-10157	30125	Energy Consumption Lifetime	Energy, Electrical	Standard
AI-10158	30127	Energy Consumption	Energy, Electrical	Standard
AI-10159	30129	Unit Power Demand	Power, Electrical	Standard
AI-10160	30131	Voltage L1-L2	Voltage	Energy Meter
AI-10161	30133	Voltage L2-L3	Voltage	Energy Meter
AI-10162	30135	Voltage L1-L3	Voltage	Energy Meter
AI-10163	30137	Current L1	Current	Energy Meter
AI-10164	30139	Current L2	Current	Energy Meter
AI-10165	30141	Current L3	Current	Energy Meter
AI-10166	30143	Line Frequency	None	Energy Meter
AI-10167	30145	Power Factor	None	Energy Meter
AI-10168	30147	Condenser Control Output	Percentage	Condenser Control Output
AI-10169	30149	Average Voltage L-L	Voltage	Energy Meter
AI-10170	30151	Average Current	Current	Energy Meter
AI-10171	30153	Condenser Approach Temperature Circuit 1	Temperature, Delta	Standard
AI-10172	30155	Evaporator Approach Temperature Circuit 1	Temperature, Delta	Standard
AI - 10173	30157	Condenser Refrigerant Gauge Pressure Circuit 1	Pressure, Fluidic	Standard
AI - 10174	30158	Entering Condenser Water Gauge Pressure	Pressure, Fluidic	Cond Water Flow Measurement Differential Pressure
AI - 10175	30159	Entering Evaporator Water Gauge Pressure	Pressure, Fluidic	Evap Water Flow Measurement Differential Pressure
AI - 10176	30160	Evaporator Refrigerant Gauge Pressure Circuit 1	Pressure, Fluidic	Standard
AI - 10177	30161	Leaving Condenser Water Gauge Pressure	Pressure, Fluidic	Cond Water Flow Measurement Differential Pressure
AI - 10178	30162	Leaving Evaporator Water Gauge Pressure	Pressure, Fluidic	Evap Water Flow Measurement Differential Pressure
AI - 10319	30249	Active Cooling Differential to Start	Temperature, Delta	Standard
AI - 10320	30251	Active Cooling Differential to Stop	Temperature, Delta	Standard
AI - 10321	30253	Active Heating Differential to Start	Temperature, Delta	Hot Water Control
AI - 10322	30255	Active Heating Differential to Stop	Temperature, Delta	Hot Water Control
AI - 10323	30257	Discharge Superheat Compressor 1A	Temperature, Delta	Standard

BACnet Object Identifier	Modbus Register	Object Name	Units	Configuration Dependency
AV-10100	40011	Chilled Water Setpoint	Temperature	Standard
AV-10101	40013	Demand Limit Setpoint	Percentage	Standard
AV-10102	40015	Hot Water Setpoint	Temperature	Hot Water Control
AV-10103	40017	Base Loading Setpoint	Percentage	Base Loading
AV-10104	40019	BAS Cooling Differential to Start	Temperature, Delta	Standard
AV-10105	40021	BAS Cooling Differential to Stop	Temperature, Delta	Standard
AV-10106	40023	BAS Heating Differential to Start	Temperature, Delta	Hot Water Control
AV-10107	40025	BAS Heating Differential to Stop	Temperature, Delta	Hot Water Control

BACnet Object Identifier	Modbus Register	Object Name	Object States	Configuration Dependency
BI-10100	33011	Diagnostic Present	0 = Normal 1 = In Alarm	Standard
BI-10101	33012	Diagnostic Shutdown Present	0 = Normal 1 = In Alarm	Standard
BI-10102	33013	Diagnostic: Manual Reset Required	0 = Normal 1 = In Alarm	Standard
BI-10103	33014	Diagnostic: Local Manual Reset Required	0 = Normal 1 = In Alarm	Standard
BI-10104	33015	Diagnostic Present: Information	0 = Normal 1 = In Alarm	Standard
BI-10105	33016	Diagnostic Present: Advisory	0 = Normal 1 = In Alarm	Standard
BI-10106	33017	Diagnostic Present: Critical	0 = Normal 1 = In Alarm	Standard
BI-10107	33018	Diagnostic Present: Service Required	0 = Normal 1 = In Alarm	Standard
BI-10108	33019	Base Loading Active	0 = Inactive 1 = Active	Base Loading
BI-10109	33020	Chiller Running State	0 = Off 1 = On	Standard
BI-10110	33021	Condenser Water Flow Status	0 = No Flow 1 = Flow	Standard
BI-10111	33022	Condenser Water Pump Request	0 = Off 1 = On	Standard
BI-10112	33023	Emergency Stop	0 = Auto 1 = Emergency Stop - Manual Reset Required	Standard
BI-10113	33024	Evaporator Water Flow Status	0 = No Flow 1 = Flow	Standard
BI-10114	33025	Evaporator Water Pump Request	0 = Off 1 = On	Standard
BI-10115	33026	Base Loading Request Active	0 = Off 1 = On	Base Loading
BI-10116	33027	Head Relief Request	0 = Off 1 = On	Standard
BI-10117	33028	Limit Mode Relay Status	0 = Off 1 = On	Standard
BI-10118	33029	Local Setpoint Control	0 = Remote Control 1 = Local Control	Standard
BI-10119	33030	Manual Override Exists	0 = Off 1 = On	Standard
BI-10120	33031	Maximum Capacity	0 = Off 1 = On	Standard
BI-10121	33032	Run Enabled	0 = Run Not Enabled 1 = Run Enabled	Standard
BI-10122	33033	Compressor 1A Status	0 = Off 1 = Running	Standard

BACnet Object Identifier	Modbus Register	Object Name	Object States	Configuration Dependency
BI-10123	33034	Front Panel Auto Stop	0 = Stop 1 = Auto	Standard
BI-10124	33035	External Auto Stop Input Status	0 = Stop 1 = Auto	Standard

BACnet Object Identifier	Modbus Register	Object Name	Object States
BI-11000	34001	Comm Loss: Ext Base Loading Command	0 = Normal 1 = In Alarm
BI-11001	34002	Comm Loss: Ext Base Loading Setpoint	0 = Normal 1 = In Alarm
BI-11002	34003	Diagnostic: External Base Loading Setpoint	0 = Normal 1 = In Alarm
BI-11003	34004	Comm Loss: Energy Meter	0 = Normal 1 = In Alarm
BI-11004	34005	Comm Loss: Outdoor Air Temperature	0 = Normal 1 = In Alarm
BI-11005	34006	Diagnostic: Energy Meter Write Command Failure	0 = Normal 1 = In Alarm
BI-11006	34007	Diagnostic: Outdoor Air Temperature Sensor	0 = Normal 1 = In Alarm
BI-11007	34008	Diagnostic: Software Error 1001: Call Trane Service	0 = Normal 1 = In Alarm
BI-11008	34009	Diagnostic: Software Error 1002: Call Trane Service	0 = Normal 1 = In Alarm
BI-11009	34010	Diagnostic: Software Error 1003: Call Trane Service	0 = Normal 1 = In Alarm
BI-11010	34011	Comm Loss: Condenser Liquid Level Sensor Circuit 1	0 = Normal 1 = In Alarm
BI-11011	34012	Comm Loss: Condenser Rfgt Pressure Circuit 1	0 = Normal 1 = In Alarm
BI-11012	34013	Comm Loss: Drive Cooling Supply Temperature Circuit 1	0 = Normal 1 = In Alarm
BI-11013	34014	Comm Loss: Drive Cooling Valve Circuit 1	0 = Normal 1 = In Alarm
BI-11014	34015	Comm Loss: Evaporator Refrigerant Pressure Circuit 1	0 = Normal 1 = In Alarm
BI-11015	34016	Diagnostic: Condenser Liquid Level Sensor Circuit 1	0 = Normal 1 = In Alarm
BI-11016	34017	Diagnostic: Condenser Refrigerant Pressure Sensor Circuit 1	0 = Normal 1 = In Alarm
BI-11017	34018	Diagnostic: Drive Cooling Supply Temperature Sensor Circuit 1	0 = Normal 1 = In Alarm
BI-11018	34019	Diagnostic: Evaporator Refrigerant Pressure Sensor Circuit 1	0 = Normal 1 = In Alarm
BI-11019	34020	Diagnostic: High Condenser Liquid Level Circuit 1	0 = Normal 1 = In Alarm
BI-11020	34021	Diagnostic: Low Condenser Liquid Level Circuit 1	0 = Normal 1 = In Alarm
BI-11021	34022	Diagnostic: Inverted Condenser Approach Temperature	0 = Normal 1 = In Alarm
BI-11022	34023	Diagnostic: Inverted Evaporator Approach Temperature	0 = Normal 1 = In Alarm
BI-11023	34024	Diagnostic: Loss of Drive Cooling Control Circuit 1	0 = Normal 1 = In Alarm

BACnet Object Identifier	Modbus Register	Object Name	Object States
BI-11024	34025	Diagnostic: Loss of Evaporator EXV Control Circuit 1	0 = Normal 1 = In Alarm
BI-11025	34026	Diagnostic: Low Evaporator Refrigerant Temperature Circuit 1	0 = Normal 1 = In Alarm
BI-11026	34027	Comm Loss: Cprsr Discharge Rfgt Temp Circuit 1	0 = Normal 1 = In Alarm
BI-11027	34028	Comm Loss: Economizer Valve Circuit 1	0 = Normal 1 = In Alarm
BI-11028	34029	Comm Loss: Economizer Pressure Circuit 1	0 = Normal 1 = In Alarm
BI-11029	34030	Comm Loss: Economizer Temperature Circuit 1	0 = Normal 1 = In Alarm
BI-11030	34031	Comm Loss: IGV First Stage Actuator Circuit 1	0 = Normal 1 = In Alarm
BI-11031	34032	Comm Loss: Interstage Bypass Valve Circuit 1	0 = Normal 1 = In Alarm
BI-11032	34033	Diagnostic: Compressor Refrigerant Discharge Temperature Sensor Circuit 1	0 = Normal 1 = In Alarm
BI-11033	34034	Diagnostic: Economizer Pressure Sensor Circuit 1	0 = Normal 1 = In Alarm
BI-11034	34035	Diagnostic: Economizer Temperature Sensor Circuit 1	0 = Normal 1 = In Alarm
BI-11035	34036	Diagnostic: Extended Compressor Surge Circuit 1	0 = Normal 1 = In Alarm
BI-11036	34037	Diagnostic: Condenser Water Flow Lost	0 = Normal 1 = In Alarm
BI-11037	34038	Diagnostic: Condenser Water Flow Overdue	0 = Normal 1 = In Alarm
BI-11038	34039	Diagnostic: High Condenser Pressure Circuit 1	0 = Normal 1 = In Alarm
BI-11039	34040	Comm Loss: Condenser Entering Water Pressure	0 = Normal 1 = In Alarm
BI-11040	34041	Comm Loss: Condenser Entering Water Temp	0 = Normal 1 = In Alarm
BI-11041	34042	Comm Loss: Condenser Leaving Water Pressure	0 = Normal 1 = In Alarm
BI-11042	34043	Comm Loss: Condenser Leaving Water Temp	0 = Normal 1 = In Alarm
BI-11043	34044	Comm Loss: Condenser Water Flow Measurement Sensor	0 = Normal 1 = In Alarm
BI-11044	34045	Comm Loss: Condenser Water Flow Switch	0 = Normal 1 = In Alarm
BI-11045	34046	Comm Loss: Condenser Water Pump Relay	0 = Normal 1 = In Alarm
BI-11046	34047	Diagnostic: Condenser Entering Water Pressure	0 = Normal 1 = In Alarm
BI-11047	34048	Diagnostic: Condenser Entering Water Temp Sensor	0 = Normal 1 = In Alarm

BACnet Object Identifier	Modbus Register	Object Name	Object States
BI-11048	34049	Diagnostic: Condenser Leaving Water Pressure	0 = Normal 1 = In Alarm
BI-11049	34050	Diagnostic: Condenser Leaving Water Temp Sensor	0 = Normal 1 = In Alarm
BI-11050	34051	Diagnostic: Condenser Water Flow Measurement Sensor	0 = Normal 1 = In Alarm
BI-11051	34052	Diagnostic: Inverted Condenser Water Temperature	0 = Normal 1 = In Alarm
BI-11052	34053	Diagnostic: Evaporator Water Flow Lost	0 = Normal 1 = In Alarm
BI-11053	34054	Diagnostic: Evaporator Water Flow Overdue	0 = Normal 1 = In Alarm
BI-11054	34055	Diagnostic: High Evaporator Refrigerant Pressure	0 = Normal 1 = In Alarm
BI-11055	34056	Diagnostic: High Evaporator Water Temperature	0 = Normal 1 = In Alarm
BI-11056	34057	Diagnostic: Low Evaporator Water Flow	0 = Normal 1 = In Alarm
BI-11057	34058	Comm Loss: Evap Entering Water Temp	0 = Normal 1 = In Alarm
BI-11058	34059	Comm Loss: Evap Leaving Water Temp	0 = Normal 1 = In Alarm
BI-11059	34060	Comm Loss: Evaporator Entering Water Pressure	0 = Normal 1 = In Alarm
BI-11060	34061	Comm Loss: Evaporator Leaving Water Pressure	0 = Normal 1 = In Alarm
BI-11061	34062	Comm Loss: Evaporator Water Flow Measurement Sensor	0 = Normal 1 = In Alarm
BI-11062	34063	Comm Loss: Evaporator Water Flow Switch	0 = Normal 1 = In Alarm
BI-11063	34064	Comm Loss: Evaporator Water Pump Relay	0 = Normal 1 = In Alarm
BI-11064	34065	Diagnostic: Evaporator Entering Water Pressure	0 = Normal 1 = In Alarm
BI-11065	34066	Diagnostic: Evaporator Entering Water Temp Sensor	0 = Normal 1 = In Alarm
BI-11066	34067	Diagnostic: Evaporator Leaving Water Pressure	0 = Normal 1 = In Alarm
BI-11067	34068	Diagnostic: Evaporator Leaving Water Temp Sensor	0 = Normal 1 = In Alarm
BI-11068	34069	Diagnostic: Evaporator Water Flow Measurement Sensor	0 = Normal 1 = In Alarm
BI-11069	34070	Diagnostic: Inverted Evaporator Water Temperature	0 = Normal 1 = In Alarm
BI-11070	34071	Diagnostic: Low Evap Leaving Water Temp: Unit Off	0 = Normal 1 = In Alarm
BI-11071	34072	Diagnostic: Low Evap Leaving Water Temp: Unit On	0 = Normal 1 = In Alarm

BACnet Object Identifier	Modbus Register	Object Name	Object States
BI-11072	34073	Comm Loss: Evaporator EXV Circuit 1	0 = Normal 1 = In Alarm
BI-11073	34074	Comm Loss: Chiller % Capacity Output	0 = Normal 1 = In Alarm
BI-11074	34075	Comm Loss: Condenser Rfgt Pressure Output	0 = Normal 1 = In Alarm
BI-11075	34076	Comm Loss: Emergency Stop	0 = Normal 1 = In Alarm
BI-11076	34077	Comm Loss: Ext Chilled/Hot Water Setpoint	0 = Normal 1 = In Alarm
BI-11077	34078	Comm Loss: Ext Demand Limit Setpoint	0 = Normal 1 = In Alarm
BI-11078	34079	Comm Loss: External Auto/Stop	0 = Normal 1 = In Alarm
BI-11079	34080	Comm Loss: External Hot Water Command	0 = Normal 1 = In Alarm
BI-11080	34081	Comm Loss: Programmable Relay Board 1	0 = Normal 1 = In Alarm
BI-11081	34082	Comm Loss: Programmable Relay Board 2	0 = Normal 1 = In Alarm
BI-11082	34083	Diagnostic: Emergency Stop	0 = Normal 1 = In Alarm
BI-11083	34084	Diagnostic: External Chilled/Hot Water Setpoint	0 = Normal 1 = In Alarm
BI-11084	34085	Diagnostic: External Demand Limit Setpoint	0 = Normal 1 = In Alarm
BI-11085	34086	Comm Loss: Refrigerant Monitor Input	0 = Normal 1 = In Alarm
BI-11086	34087	Diagnostic: Refrigerant Monitor Input	0 = Normal 1 = In Alarm
BI-11087	34088	Comm Loss: External Ice Building Command	0 = Normal 1 = In Alarm
BI-11088	34089	Comm Loss: Ice Building Status Relay	0 = Normal 1 = In Alarm
BI-11089	34090	Diagnostic: MBC Bearing Temperature 1 Circuit 1	0 = Normal 1 = In Alarm
BI-11090	34091	Diagnostic: MBC Bearing Temperature 2 Circuit 1	0 = Normal 1 = In Alarm
BI-11091	34092	Diagnostic: MBC Failed Centering Circuit 1	0 = Normal 1 = In Alarm
BI-11092	34093	Comm Loss: MBC Cooling Valve Circuit 1	0 = Normal 1 = In Alarm
BI-11093	34094	Comm Loss: Magnetic Bearing Controller Circuit 1	0 = Normal 1 = In Alarm
BI-11094	34095	Comm Loss: UPS Fault Circuit 1	0 = Normal 1 = In Alarm
BI-11095	34096	Diagnostic: Loss of MBC Cooling Control Circuit 1	0 = Normal 1 = In Alarm

BACnet Object Identifier	Modbus Register	Object Name	Object States
BI-11096	34097	Diagnostic: MBC Not Centered Circuit 1	0 = Normal 1 = In Alarm
BI-11097	34098	Diagnostic: MBC Not Ready To Rotate Circuit 1	0 = Normal 1 = In Alarm
BI-11098	34099	Diagnostic: MBC Over Voltage Circuit 1	0 = Normal 1 = In Alarm
BI-11099	34100	Diagnostic: MBC Parameter Table Not Set Circuit 1	0 = Normal 1 = In Alarm
BI-11100	34101	Diagnostic: MBC Rotor Elongation Circuit 1	0 = Normal 1 = In Alarm
BI-11101	34102	Diagnostic: MBC Rotor Unbalance Alarm Circuit 1	0 = Normal 1 = In Alarm
BI-11102	34103	Diagnostic: MBC: Shutdown Request Circuit 1	0 = Normal 1 = In Alarm
BI-11103	34104	Diagnostic: MBC Under Voltage Circuit 1	0 = Normal 1 = In Alarm
BI-11104	34105	Diagnostic: MBC Overspeed Circuit 1	0 = Normal 1 = In Alarm
BI-11105	34106	Diagnostic: MBC PCB Temperature Circuit 1	0 = Normal 1 = In Alarm
BI-11106	34107	Diagnostic: MBC Rotation Detected Without Levitation Circuit 1	0 = Normal 1 = In Alarm
BI-11107	34108	Diagnostic: MBC Speed Sensor Circuit 1	0 = Normal 1 = In Alarm
BI-11108	34109	Diagnostic: UPS Fault Circuit 1	0 = Normal 1 = In Alarm
BI-11109	34110	Comm Loss: Motor Cooling Valve Circuit 1	0 = Normal 1 = In Alarm
BI-11110	34111	Comm Loss: Motor Winding Temperature 1 Circuit 1	0 = Normal 1 = In Alarm
BI-11111	34112	Comm Loss: Motor Winding Temperature 2 Circuit 1	0 = Normal 1 = In Alarm
BI-11112	34113	Comm Loss: Motor Winding Temperature 3 Circuit 1	0 = Normal 1 = In Alarm
BI-11113	34114	Diagnostic: High Compressor Refrigerant Discharge Temperature Circuit 1	0 = Normal 1 = In Alarm
BI-11114	34115	Diagnostic: High Motor Winding Temperature 1 Circuit 1	0 = Normal 1 = In Alarm
BI-11115	34116	Diagnostic: High Motor Winding Temperature 2 Circuit 1	0 = Normal 1 = In Alarm
BI-11116	34117	Diagnostic: High Motor Winding Temperature 3 Circuit 1	0 = Normal 1 = In Alarm
BI-11117	34118	Diagnostic: High Vacuum Lockout Circuit 1	0 = Normal 1 = In Alarm
BI-11118	34119	Diagnostic: Loss of Motor Cooling Control Circuit 1	0 = Normal 1 = In Alarm
BI-11119	34120	Diagnostic: Motor Winding Temperature 1 Sensor Circuit 1	0 = Normal 1 = In Alarm

BACnet Object Identifier	Modbus Register	Object Name	Object States
BI-11120	34121	Diagnostic: Motor Winding Temperature 2 Sensor Circuit 1	0 = Normal 1 = In Alarm
BI-11121	34122	Diagnostic: Motor Winding Temperature 3 Sensor Circuit 1	0 = Normal 1 = In Alarm
BI-11122	34123	Diagnostic: MP: Invalid Configuration	0 = Normal 1 = In Alarm
BI-11123	34124	Diagnostic: MP: Reset Has Occurred	0 = Normal 1 = In Alarm
BI-11124	34125	Diagnostic: AFD Comm Loss: Main Processor Circuit 1	0 = Normal 1 = In Alarm
BI-11125	34126	Diagnostic: AFD Failure to Arm or Start Circuit 1	0 = Normal 1 = In Alarm
BI-11126	34127	Diagnostic: AFD Fault Circuit 1	0 = Normal 1 = In Alarm
BI-11127	34128	Diagnostic: AFD Ground Fault Circuit 1	0 = Normal 1 = In Alarm
BI-11128	34129	Diagnostic: AFD Interrupt Failure Circuit 1	0 = Normal 1 = In Alarm
BI-11129	34130	Diagnostic: AFD Mains Failure Circuit 1	0 = Normal 1 = In Alarm
BI-11130	34131	Diagnostic: AFD Motor Current Overload Circuit 1	0 = Normal 1 = In Alarm
BI-11131	34132	Diagnostic: AFD Safe Stop Circuit 1	0 = Normal 1 = In Alarm
BI-11132	34133	Diagnostic: AFD Short Circuit Circuit 1	0 = Normal 1 = In Alarm
BI-11133	34134	Diagnostic: AFD Speed Configuration Mismatch Circuit 1	0 = Normal 1 = In Alarm
BI-11134	34135	Comm Loss: Adaptive Frequency Drive Circuit 1	0 = Normal 1 = In Alarm
BI-11135	34136	Diagnostic: Unexpected Starter Shutdown Circuit 1	0 = Normal 1 = In Alarm
BI-11136	34137	Diagnostic: Software Error 1005: Call Trane Service	0 = Normal 1 = In Alarm
BI-11137	34138	Comm Loss: Starter Panel High Temp Limit Compressor 1A	0 = Normal 1 = In Alarm
BI-11138	34139	Diagnostic: Starter Panel High Temp Limit Compressor 1A	0 = Normal 1 = In Alarm
BI-11139	34140	Comm Loss: Subcooled Liquid Temp Circuit 1	0 = Normal 1 = In Alarm
BI-11140	34141	Comm Loss: External Ckt Lockout Circuit 1	0 = Normal 1 = In Alarm
BI-11141	34142	Diagnostic: Subcooled Liquid Temperature Sensor Circuit 1	0 = Normal 1 = In Alarm
BI-11142	34143	Diagnostic: Evaporator Saturated Refrigerant Temp Sensor Circuit 1	0 = Normal 1 = In Alarm
BI-11143	34144	Comm Loss: Evap Saturated Rfgt Temp Circuit 1	0 = Normal 1 = In Alarm

BACnet Object Identifier	Modbus Register	Object Name	Object States
BI-11144	34145	Diagnostic: Low Suction Refrigerant Pressure Circuit 1	0 = Normal 1 = In Alarm
BI-11145	34146	Diagnostic: High Differential Refrigerant Pressure Circuit 1	0 = Normal 1 = In Alarm
BI-11146	34147	Diagnostic: High Refrigerant Pressure Ratio Circuit 1	0 = Normal 1 = In Alarm
BI-11147	34148	Diagnostic: Starts/Hours Modified Compressor 1A	0 = Normal 1 = In Alarm
BI-11149	34150	Diagnostic: High Evaporator Refrigerant Temperature Circuit 1	0 = Normal 1 = In Alarm
BI-11150	34151	Comm Loss: Off-cycle Freeze Protection Relay Circuit 1	0 = Normal 1 = In Alarm
BI-11151	34152	Comm Loss: Condenser Head Pressure Cntrl Output Circuit 1	0 = Normal 1 = In Alarm
BI-11152	34153	Comm Loss: Ext Noise Reduction Request Circuit 1	0 = Normal 1 = In Alarm
BI-11153	34154	Diagnostic: MBC Failed Clearance Check Circuit 1	0 = Normal 1 = In Alarm
BI-11154	34155	Diagnostic: Check Clock	0 = Normal 1 = In Alarm
BI-11155	34156	Diagnostic: MP: Non-Volatile Block Test Error	0 = Normal 1 = In Alarm
BI-11156	34157	Diagnostic: Under Voltage Circuit 1	0 = Normal 1 = In Alarm
BI-11157	34158	Diagnostic: Over Voltage Circuit 1	0 = Normal 1 = In Alarm
BI-11248	34249	Comm Loss: IGV Second Stage Actuator Circuit 1	0 = Normal 1 = In Alarm

BACnet Object Identifier	Modbus Register	Object Name	Object States	Configuration Dependency
BV-10100	43011	Base Loading Request	0 = Off 1 = On	Base Loading
BV-10101	43012	Reset Diagnostic	0 = Normal 1 = Reset	Standard
BV-10102	43013	Chiller Auto Stop Command BAS	0 = Stop 1 = Auto	Standard
BV-10103	43014	Energy Consumption Reset	0 = Accumulating 1 = Reset	Standard
BV-10104	43015	Evaporator Water Pump Request BAS	1 = Auto 1 = On	Standard
BV-10105	43016	Condenser Water Pump Request BAS	1 = Auto 1 = On	Standard

BACnet Object Identifier	Modbus Register	Object Name	Object States	Configuration Dependency
MI-10100	32011	Operating Mode	1 = Cool 2 = Heat 3 = Ice Making 4 = Free Cooling	Standard
MI-10101	32012	Running Mode	1 = Chiller Off 2 = Chiller In Start Mode 3 = Chiller In Run Mode 4 = Chiller In Pre-Shutdown Mode 5 = Chiller In Service Mode	Standard
MI-10102	32013	Manufacturing Location	2 = La Crosse	Standard
MI-10103	32014	Chiller Setpoint Source	1 = BAS 2 = External 3 = Front Panel	Standard
MI-10104	32015	Refrigerant Type	5 = R-134a 13 = R-513A 16 = R-1234ze(E) 18 = R-515B	Standard
MI-10105	32016	Cooling Type	1 = Water Cooled	Standard
MI-10106	32017	Model Information [GEN2]	25 = HDWA	Standard

Bacnet Object Identifier	Modbus Register	Object Name	Object States	Configuration Dependency
MV-10100	42011	Chiller Mode Command BAS	1 = Cool 2 = Heat 3 = Ice Making 4 = Free Cooling	Standard

Diagnostic Code (Dec)	Diagnostic Name
1001	MP: Invalid Configuration
1003	Check Clock
1005	MP: Non-Volatile Block Test Error
1006	MP: Reset Has Occurred
21001	Comm Loss: Outdoor Air Temperature
21002	Outdoor Air Temp Sensor
21003	Software Error 1001: Call Trane Service
21004	Software Error 1002: Call Trane Service
21005	Software Error 1003: Call Trane Service
21006	Software Error 1005: Call Trane Service
21008	Comm Loss: Starter Panel High Temp Limit Compressor 1A
21009	Starter Panel High Temp Limit Compressor 1A
31001	External Base Loading Setpoint
31002	Comm Loss: Ext Base Loading Setpoint
31003	Comm Loss: Ext Base Loading Command
41001	Comm Loss: Condenser Rfgt Pressure
41002	Comm Loss: Evaporator Refrigerant Pressure
41003	Comm Loss: Subcooled Liquid Temp
41005	Condenser Refrigerant Pressure Sensor
41006	Evaporator Refrigerant Pressure Sensor
41009	Cond Liquid Level Sensor
41010	Comm Loss: Cond Rfgt Liquid Level
41013	Comm Loss: External Ckt Lockout
41016	Subcooled Liquid Temperature Sensor
41018	Evaporator Saturated Refrigerant Temp Sensor
41019	Comm Loss: Evap Saturated Rfgt Temp
41021	Drive Cooling Supply Temp Sensor
41022	Comm Loss: Drive Cooling Supply Temp
41023	Comm Loss: Drive Cooling Valve
41024	Low Condenser Liquid Level
41025	High Condenser Liquid Level
42001	Comm Loss: Condenser Rfgt Pressure
42002	Comm Loss: Suction Pressure Transducer
42003	Comm Loss: Subcooled Liquid Temp
42005	Condenser Refrigerant Pressure Sensor

Diagnostic Code (Dec)	Diagnostic Name
42006	Evaporator Refrigerant Pressure Sensor
42009	Evap Liquid Level Sensor
42010	Comm Loss: Evap Rfgt Liquid Level
42013	Comm Loss: External Ckt Lockout
42016	Subcooled Liquid Temperature Sensor
42018	Evaporator Refrigerant Pool Temperature Sensor
42019	Comm Loss: Evaporator Refrigerant Pool Temperature
42021	Drive Cooling Supply Temp Sensor
42022	Comm Loss: Drive Cooling Supply Temp
42023	Comm Loss: Drive Cooling Valve
42024	Comm Loss: Drive Cooling Inline Valve
61001	Comm Loss: Evaporator Water Pump Relay
61002	Comm Loss: Evaporator Water Flow Switch
61003	Comm Loss: Off-cycle Freeze Protection Relay
61004	Comm Loss: Evap Entering Water Temp
61005	Evaporator Entering Water Temp Sensor
61006	Comm Loss: Evap Leaving Water Temp
61007	Evaporator Leaving Water Temp Sensor
61008	Low Evap Water Temp: Unit On
61009	Inverted Evaporator Water Temperature
61010	Low Evap Water Temp: Unit Off
61011	Comm Loss: Evaporator Water Flow Measurement Sensor
61012	Evaporator Water Flow Measurement Sensor
61013	Evaporator Entering Water Pressure
61014	Comm Loss: Evaporator Entering Water Pressure
61015	Evaporator Leaving Water Pressure
61016	Comm Loss: Evaporator Leaving Water Pressure
71001	Comm Loss: Condenser Water Pump Relay
71002	Comm Loss: Condenser Water Flow Switch
71003	Comm Loss: Condenser Entering Water Temp
71004	Comm Loss: Condenser Leaving Water Temp
71005	Condenser Entering Water Temp Sensor
71006	Condenser Leaving Water Temp Sensor
71008	Inverted Condenser Water Temperature
71009	Comm Loss: Condenser Water Flow Measurement Sensor

Diagnostic Code (Dec)	Diagnostic Name
71010	Condenser Water Flow Measurement Sensor
71011	Condenser Entering Water Pressure
71012	Comm Loss: Condenser Entering Water Pressure
71013	Condenser Leaving Water Pressure
71014	Comm Loss: Condenser Leaving Water Pressure
81001	Comm Loss: External Auto/Stop
81002	Comm Loss: Emergency Stop
81003	Emergency Stop diag
81005	External Chilled/Hot Water Setpoint
81006	Comm Loss: Ext Chilled/Hot Wtr Setpoint
81007	Comm Loss: Programmable Relay Board 1
81008	External Demand Limit Setpoint Diag
81009	Comm Loss: Ext Demand Limit Setpoint
81010	Comm Loss: External Hot Water Command
81011	Comm Loss: Condenser Head Pressure Cntrl Output
81012	Comm Loss: Chiller % Capacity Output
81013	Comm Loss: Condenser Refrigerant Pressure Output
81014	Comm Loss: Ext Noise Reduction Request
81015	Comm Loss: Programmable Relay Board 2
81016	Refrigerant Monitor Input Out of Range
81017	Refrigerant Monitor Input Comm Loss
101001	Low Evaporator Refrigerant Temperature
101002	Low Suction Refrigerant Pressure
101003	High Differential Refrigerant Pressure
101004	High Refrigerant Pressure Ratio
101006	Inverted Evaporator Approach Temperature
101007	Inverted Condenser Approach Temperature
101008	Loss of Drive Cooling Control
101009	Loss of Evaporator EXV Control
102001	Low Refrigerant Temperature
102002	Low Suction Refrigerant Pressure
102003	High Differential Refrigerant Pressure
102004	High Refrigerant Pressure Ratio
102006	Evaporator Approach Error
111001	High Evaporator Pressure

Diagnostic Code (Dec)	Diagnostic Name
111002	High Evaporator Water Temperature
111003	Evaporator Water Flow Overdue
111004	Evaporator Water Flow Lost
111005	High Evaporator Refrigerant Temperature
111006	Low Evaporator Water Flow
141001	Condenser Water Flow Lost
141002	Condenser Water Flow Overdue
141006	High Condenser Pressure
171001	Comm Loss: External Ice Building Command
171002	Comm Loss: Ice Building Status Relay
201001	Comm Loss: Local BAS Interface
201002	BAS Failed to Establish Communication
201003	BAS Communication Lost
201004	LCI-C Software Mismatch: Use BAS Tool
291001	Comm Loss: Evaporator EXV
292001	Comm Loss: Electronic Expansion Valve
331001	Oil Analysis Recommended
331002	Oil Filter Change Recommended
341001	Comm Loss: IGV First Stage Actuator
341003	Starts/Hours Modified
341012	Comm Loss: Economizer Temperature
341013	Economizer Temperature Sensor
341014	Comm Loss: Economizer Pressure
341015	Economizer Pressure Sensor
341016	Comm Loss: Compressor Discharge Refrigerant Temperature
341017	Compressor Discharge Refrigerant Temp Sensor
341018	Extended Compressor Surge
341019	Comm Loss: Economizer EXV
351003	Starts/Hours Modified
381002	Comm Loss: Motor Cooling EXV
381003	Loss of Motor Cooling Control
381005	High Vacuum Lockout
381006	High Compressor Refrigerant Discharge Temperature
381160	High Motor Winding Temp 1
381161	High Motor Winding Temp 2

Diagnostic Code (Dec)	Diagnostic Name
381162	High Motor Winding Temp 3
381163	Comm Loss: Motor Winding Temperature 1
381164	Comm Loss: Motor Winding Temperature 2
381165	Comm Loss: Motor Winding Temperature 3
381174	Winding Temp 1 Sensor
381175	Winding Temp 2 Sensor
381176	Winding Temp 3 Sensor
401001	AFD Failure to Arm or Start
401003	Comm Loss: Adaptive Frequency Drive
401005	Unexpected Starter Shutdown
401006	AFD Speed Mismatch
401007	AFD Interrupt Failure
401027	Under Voltage
401028	Over Voltage
401041	AFD Comm Loss: Main Processor
401042	AFD Fault
401047	AFD Ground Current
401075	AFD Motor Current Overload
401076	AFD Short Circuit
401077	AFD Safe Stop
401078	AFD Mains Failure
411001	Starter Failed to Arm/Start
411003	Comm Loss: AFD Starter
411005	Unexpected Starter Shutdown
411007	AFD Interrupt Failure
411042	AFD Fault
411047	AFD Ground Current
411075	AFD Current Overload
411076	AFD Short Circuit
411077	AFD Safe Stop
471001	Comm Loss: Magnetic Bearing Controller
471002	MBC Not Ready To Rotate
471003	MBC Shutdown Request
471004	Rotation Detected
471006	Speed Sensor

Diagnostic Code (Dec)	Diagnostic Name
471007	PCB Temperature
471008	Bearing 1 Temperature
471009	Bearing 2 Temperature
471010	Over Speed
471011	MBC Rotor Elongation
471012	MBC Rotor Unbalance
471013	MBC Under Voltage
471014	MBC Over Voltage
471015	UPS Fault
471016	Comm Loss: UPS Fault
471017	Comm Loss: MBC EXV
471018	Centering Failed
471019	MBC Failed Clearance Check
471020	Loss of MBC Cooling Control
471021	MBC Parameter Table Not Set
471022	MBC Not Centered