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.

Object Identifier	Object Name	Description	Units	Configuration Dependency
AI- 10100	Active Cool/Heat Setpoint Temperature	Indicates the value of the active Cool/Heat Setpoint actively being used by the chiller	Temperature	Standard
AI- 10101	Active Demand Limit Setpoint	Indicates the demand limit setpoint value actively being used by the chiller	Percentage	Standard
AI- 10102	Active Base Loading Setpoint	Indicates the "active" Base Loading Setpoint resulting from arbitration.	Percentage	Base Loading
AI- 10103	Evaporator Entering Water Temperature	Indicates the Evaporator Entering or Return water temperature	Temperature	Standard
AI- 10104	Evaporator Leaving Water Temperature	Indicates the temperature of the water leaving the evaporator, which is the primary control point for normal cooling mode of operation.	Temperature	Standard
AI- 10105	Number of Circuits	Indicates the number of refrigeration circuits in the chiller	None	Standard
AI- 10106	Number of Compressors Circuit 1	Indicates the number of compressors on circuit 1 of the chiller	None	Standard
AI- 10107	Number of Compressors Circuit 2	Indicates the number of compressors on circuit 2 of the chiller	None	Standard
AI- 10108	Actual Running Capacity	Indicates the measurement of the power being consumed by the Chiller	Percentage	Standard
AI- 10109	Evaporator Refrigerant Absolute Pressure Circuit 1	Indicates the current absolute pressure of the refrigerant in the evaporator on circuit 1	Pressure, Fluidic	Standard
AI- 10110	Condenser Refrigerant Absolute Pressure Circuit 1	Indicates the current absolute pressure of the refrigerant in the condenser on circuit 1	Pressure, Fluidic	Standard
AI- 10111	Evaporator Saturated Refrigerant Temperature Circuit 1	Indicates the saturated refrigerant temperature of the evaporator on circuit 1	Temperature	Standard
AI- 10112	Condenser Saturated Refrigerant Temperature Circuit 1	Indicates the saturated refrigerant temperature of the condenser on circuit 1	Temperature	Standard
AI- 10113	Refrigerant Discharge Temperature - Compressor 1A	Indicates the current temperature of the refrigerant being discharged from Compressor 1A	Temperature	Standard
AI- 10114	High Side Oil Absolute Pressure - Compressor 1A	Indicates the absolute pressure of the oil on the high pressure side of Compressor 1A	Pressure, Fluidic	Standard
AI- 10115	Starts - Compressor 1A	Indicates the number of starts of Compressor 1A	None	Standard
AI- 10116	Run Time - Compressor 1A	Indicates the run time of Compressor 1A, in seconds	None	Standard
AI- 10117	Motor Winding Temperature 1 Circuit 1	Indicates the first temperaure sensor of the windings on motor 1A	Temperature	Motor Winding Temp
AI- 10118	Motor Winding Temperature 2 Circuit 1	Indicates the second temperaure sensor of the windings on motor 1A	Temperature	Motor Winding Temp
AI- 10119	Condenser Entering Water Temperature	Indicates the current temperature of the water entering the condenser	Temperature	Standard
AI- 10120	Condenser Leaving Water Temperature	Indicates the current temperature of the water leaving the condenser	Temperature	Standard
AI- 10121	Starter Voltage Phase AB	Indicates the measurement of voltage in Phase AB	Voltage	Line Voltage Sensing
AI- 10122	Starter Voltage Phase BC	Indicates the measurement of voltage in Phase BC	Voltage	Line Voltage Sensing
AI- 10123	Starter Voltage Phase CA	Indicates the measurement of voltage in Phase CA	Voltage	Line Voltage Sensing
AI- 10124	Line 1 Current - Compressor 1A	Indicates the current L1 on Compressor 1A	Current	Starter, Non Comm AFD, TR200 Modbus AFD
AI- 10125	Line 2 Current - Compressor 1A	Indicates the current L2 on Compressor 1A	Current	Starter, Non Comm AFD, TR200 Modbus AFD
AI- 10126	Line 3 Current - Compressor 1A	Indicates the current L3 on Compressor 1A	Current	Starter, Non Comm AFD, TR200 Modbus AFD
AI- 10127	Line 1 Current - Compressor 1A	Indicates the current L1 on Compressor 1A	Current	Local Comm AFD

Object Identifier	Object Name	Description	Units	Configuration Dependency
AI- 10128	Line 2 Current - Compressor 1A	Indicates the current L2 on Compressor 1A	Current	Local Comm AFD
AI- 10129	Line 3 Current - Compressor 1A	Indicates the current L3 on Compressor 1A	Current	Local Comm AFD
AI- 10130	Line 1 Current RLA - Compressor 1A	Indicates the line 1 starter current phase A in % RLA for the Compressor 1A	Percentage	Starter, Non Comm AFD, TR200 Modbus AFD
AI- 10131	Line 2 Current RLA - Compressor 1A	Indicates the line 2 starter current phase A in % RLA for the Compressor 1A	Percentage	Starter, Non Comm AFD, TR200 Modbus AFD
AI- 10132	Line 3 Current RLA - Compressor 1A	Indicates the line 3 starter current phase A in % RLA for the Compressor 1A	Percentage	Starter, Non Comm AFD, TR200 Modbus AFD
AI- 10133	Line 1 Current RLA - Compressor 1A	Indicates the line 1 starter current phase A in % RLA for the Compressor 1A	Percentage	Local Comm AFD
AI- 10134	Line 2 Current RLA - Compressor 1A	Indicates the line 2 starter current phase A in % RLA for the Compressor 1A	Percentage	Local Comm AFD
AI- 10135	Line 3 Current RLA - Compressor 1A	Indicates the line 3 starter current phase A in % RLA for the Compressor 1A	Percentage	Local Comm AFD
AI- 10136	Expansion Valve Position - Compressor 1A	Indicates the percent open of the exv valve	Percentage	Standard
AI- 10137	Drive Output Power Circuit 1	Indicates the power output from the AFD	Power, Electrical	Non Comm AFD, TR200 Modbus AFD, Local Comm AFD
AI- 10138	Chiller Design Capacity	Indicates the design capacity of chillller	Power, Cooling	Standard
AI- 10139	Active Chilled Water Setpoint	Indicates the value of the active Chilled Water Setpoint actively being used by the chiller	Temperature	Standard
AI- 10140	Active Hot Water Setpoint	Indicates the value of the active Hot Water Setpoint actively being used by the chiller	Temperature	Hot Water Control
AI- 10141	Evaporator Water Flow Rate	Indicates the flow of water through the evaporator	Flow, Fluidic	Evap Differential Water Pressure
AI- 10142	Condenser Water Flow Rate	Indicates the flow of water through the condenser	Flow, Fluidic	Cond Differential Water Pressure
AI- 10143	Condenser Differential Water Pressure	Indicates the water pressure differential of the condenser	Pressure, Fluidic	Cond Differential Water Pressure
AI- 10144	Evaporator Differential Water Pressure	Indicates the water pressure differential of the evaporator	Pressure, Fluidic	Evap Differential Water Pressure
AI- 10145	Evaporator Refrigerant Pressure Circuit 1	Indicates the current gauge pressure of the refrigerant in the evaporator on circuit 1	Pressure, Fluidic	Standard
AI- 10146	Condenser Refrigerant Pressure Circuit 1	Indicates the current gauge pressure of the refrigerant in the condenser on circuit 1	Pressure, Fluidic	Standard
AI- 10147	Condenser Control Output	Indicates the Head Pressure Control Output on the Condenser	Percentage	Head Pressure Control
AI- 10148	High Side Oil Pressure - Compressor 1A	Indicates the gauge pressure of the oil on the high pressure side of Compressor 1A	Pressure, Fluidic	Standard
AI- 10150	Evaporator Approach Temperature Circuit 1	Indicates the Evaporator Approach Temperature on circuit 1	Temperature, Delta	Standard
AI- 10151	Condenser Approach Temperature Circuit 1	Indicates the Condenser Approach Temperature on circuit 1	Temperature, Delta	Standard
AI- 10152	Line Frequency Circuit 1	Indicates the estimated input frequency at the AFD	None	Non Comm AFD, TR200 Modbus AFD, Local Comm AFD
AI- 10153	Heat Recovery Entering Water Temperature	Indicated the Entering Water Temp in Heat Recovery	Temperature	Heat Recovery
AI- 10154	Heat Recovery Leaving Water Temperature	Indicated the Leaving Water Temp in Heat Recovery	Temperature	Heat Recovery
AI- 10155	Heat Recovery Tank Water Temp	Indicates the Water Temp in the Heat Recovery Tank	Temperature	Heat Recovery

Object Identifier	Object Name	Description	Units	Configuration Dependency
AI- 10156	Heat Recovery Water Tank Temperature Setpoint Active	Indicates the active temperature setpoint for the heat recovery tank	Temperature	Heat Recovery
AI- 10157	Chilled Water Setpoint Status	Indicates the Chilled Water Setpoint after arbitration and limiting	Temperature	Standard
AI- 10158	Demand Limit Setpoint Status	Indicates the presently in use or "active" setting of the Demand Limit. This includes the effects of any ice building demand limiting.	Percentage	Ice Building
AI- 10159	Unit Source ID (Last Diagnostic Code)	Indicates the last diagnostic of the chiller Separately, individual diagnostics are reported with dedicated points, variables, registers	None	Standard
AI- 10160	Current L1	Current phase A in amps for the chiller	Current	Energy Meter
AI- 10161	Current L2	Current phase B in amps for the chiller	Current	Energy Meter
AI- 10162	Current L3	Current phase C in amps for the chiller	Current	Energy Meter
AI- 10163	Average Current	Average current in amps for the chiller	Current	Energy Meter
AI- 10164	Voltage L1-L2	Current phase A in amps for the chiller	Voltage	Energy Meter
AI- 10165	Voltage L2-L3	Line voltage Vab for the respective unit	Voltage	Energy Meter
AI- 10166	Voltage L1-L3	Line voltage Vbc for the respective unit	Voltage	Energy Meter
AI- 10167	Average Voltage L-L	Line voltage Vca for the respective unit	Voltage	Energy Meter
AI- 10168	Line Frequency	Average line voltage for the respective unit	None	Energy Meter
AI- 10169	Power Factor	Indicates the unit power factor	None	Energy Meter

Object Identifier	Object Name	Description	Units	Configuration Dependency
AV-10100	Chilled Water Setpoint	The value is normally provided by the BAS to send the Chilled Water Setpoint. The value is subject to arbitration logic in the controller, in which case it may or may not be used for control purposes	Temperature	Standard
AV-10101	Demand Limit Setpoint	The value is normally provided by the BAS to send the Demand Limit Setpoint. The value is subject to arbitration logic in the controller, in which case it may or may not be used for control purposes	Percentage	Standard
AV-10102	Hot Water Setpoint	The value is normally provided by the BAS to send the Hot Water Setpoint. The value is subject to arbitration logic in the controller, in which case it may or may not be used for control purposes	Temperature	Hot Water Control
AV-10103	Base Loading Setpoint	The value is normally provided by the BAS to send the Base Loading Setpoint. The value is subject to arbitration logic in the controller, in which case it may or may not be used for control purposes	Percentage	Base Loading
AV-10104	Heat Recovery Water Tank Temperature Setpoint BAS	The value is normally provided by the BAS to send the Heat Recovery Leaving Water Temperature Setpoint. The value is subject to arbitration logic in the controller, in which case it may or may not be used for control purposes	Temperature	Heat Recovery

Object Identifier	Object Name	Description	Units	Configuration Dependency
BI-10100	Run Enabled	Indicates that chiller is available to run or is currently running	0 = Run Not Enabled 1 = Run Enabled	Standard
BI-10101	Local Setpoint Control	Indicates the which setpoint is used for control purposes, Remote (BAS) or Local	0 = Remote control 1 = Local control	Standard
BI-10102	Limit Mode Relay Status	Indicates the status of the chiller limit relay	0 = Off 1 = On	Standard
BI-10103	Chiller Running State	Indicates whether the chiller is on (currently doing either cooling) or is considered off(not currently doing cooling)	0 = Off 1 = On	Standard
BI-10104	Base Loading Request Active	Indicates the "active" Base Loading Request resulting from arbitration.	0 = Off 1 = On	Base Loading
BI-10105	Evaporator Water Flow Status	Indicates the flow of water through evaporator	0 = No Flow 1 = Flow	Standard
BI-10106	Diagnostic Present	Indicates whether diagnostic present	0 = Normal 1 = In Alarm	Standard
BI-10107	Diagnostic Shutdown Present	Indicates chiller is shut down due to diagnostics	0 = Normal 1 = In Alarm	Standard
BI-10108	Diagnostic: Manual Reset Required	Indicates when a diagnostic exists that requires manual reset	0 = Normal 1 = In Alarm	Standard
BI-10109	Diagnostic: Local Manual Reset Required	Indicates when a diagnostic exists that requires manual reset [Local only]	0 = Normal 1 = In Alarm	Standard
BI-10110	Diagnostic Present: Information	Indicates whether diagnostic present with Information Category	0 = Normal 1 = In Alarm	Standard
BI-10111	Diagnostic Present: Advisory	Indicates whether diagnostic present with Warning Category	0 = Normal 1 = In Alarm	Standard
BI-10112	Diagnostic Present: Critical	Indicates whether diagnostic present with Critical Category	0 = Normal 1 = In Alarm	Standard
BI-10113	Diagnostic Present: Service Required	Indicates whether diagnostic present with Service Required Category	0 = Normal 1 = In Alarm	Standard
BI-10114	Compressor 1A Status	Indicates running state fo Compressor 1A	0 = Off 1 = Running	Standard
BI-10115	Condenser Water Pump Request	This provides a status of the Chillers Condenser Water Pump output.	0= Normal 1= In Alarm	Standard
BI-10116	Evaporator Water Pump Request	This provides a status of the Chillers Evaporator Water Pump output.	0= Normal 1= In Alarm	Standard
BI-10117	Condenser Water Flow Status	Indication of water flow through the condenser	0= Normal 1= In Alarm	Standard
BI-10118	Heat Recovery Water Flow Status	Heat Recovery Water Flow Status	0= Off 1= Running	Heat Recovery
BI-10119	Heat Recovery Control Active Status	Heat Recovery Active	0= Off 1= Running	Heat Recovery
BI-10120	Heat Recovery Request Active	Active Heat Recovery Command	0= Off 1= Running	Heat Recovery
BI-10121	Front Panel Auto Stop	Indicates the auto/stop status of the Front Panel	0 = Stop 1 = Auto	Standard

Object Identifier	Object Name	Description	Units	Configuration Dependency
BI-10122	External Auto Stop Input Status	Indicates the status of the externally-wired auto/stop input	0 = Stop 1 = Auto	Standard
BI-10123	Head Relief Request	Head Relief Request Relay	0= Inactive 1= Active	Standard
BI-10124	Base Loading Active	Base Loading Active	0= Off 1= On	Base Loading

Object Identifier	Object Name	Units	Configuration Dependency
BI-11000	Comm Loss: Ext Base Loading Command	0 = Normal 1 = In Alarm	Base Loading
BI-11001	Comm Loss: Ext Base Loading Setpoint	0 = Normal 1 = In Alarm	Base Loading
BI-11002	Diagnostic: External Base Loading Setpoint	0 = Normal 1 = In Alarm	Base Loading
BI-11003	Comm Loss: Evap Entering Water Temp	0 = Normal 1 = In Alarm	Standard
BI-11004	Comm Loss: Evap Leaving Water Temp	0 = Normal 1 = In Alarm	Standard
BI-11005	Comm Loss: Outdoor Air Temperature	0 = Normal 1 = In Alarm	Outdoor Air Temperature
BI-11006	Diagnostic: Outdoor Air Temperature Sensor	0 = Normal 1 = In Alarm	Outdoor Air Temperature
BI-11007	Diagnostic: Software Error 1001: Call Trane Service	0 = Normal 1 = In Alarm	Standard
BI-11008	Diagnostic: AFD Drive Fault	0 = Normal 1 = In Alarm	Non Comm AFD TR200 Modbus AFD
BI-11009	Comm Loss: Cprsr Discharge Rfgt Temp	0 = Normal 1 = In Alarm	Standard
BI-11010	Comm Loss: Cond High Pressure Cutout	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD TR200 Modbus Comm AFD
BI-11011	Comm Loss: Primary Oil Line Solenoid Valve	0 = Normal 1 = In Alarm	Solid State Starter Non Comm AFD TR200 Modbus AFD Local Comm AFD
BI-11012	Comm Loss: Oil Loss Level Sensor Input	0 = Normal 1 = In Alarm	Standard
BI-11013	Comm Loss: Oil Pressure	0 = Normal 1 = In Alarm	Standard
BI-11014	Comm Loss: Oil Return Gas Pump Drain	0 = Normal 1 = In Alarm	Standard
BI-11015	Comm Loss: Oil Return Gas Pump Fill	0 = Normal 1 = In Alarm	Standard
BI-11016	Comm Loss: SSS/AFD Fault	0 = Normal 1 = In Alarm	Non Comm AFD
BI-11017	Diagnostic: Cprsr Discharge Refrigerant Temp Sensor	0 = Normal 1 = In Alarm	Standard
BI-11018	Diagnostic: High Cprsr Rfgt Discharge Temperature	0 = Normal 1 = In Alarm	Standard
BI-11019	Diagnostic: High Differential Refrigerant Pressure	0 = Normal 1 = In Alarm	Standard
BI-11020	Diagnostic: High Pressure Cutout	0 = Normal 1 = In Alarm	Standard
BI-11021	Diagnostic: High Refrigerant Pressure Ratio	0 = Normal 1 = In Alarm	Standard
BI-11022	Diagnostic: Loss of Oil at Compressor (Running)	0 = Normal 1 = In Alarm	Standard

Object Identifier	Object Name	Units	Configuration Dependency
BI-11023	Diagnostic: Loss of Oil at Compressor (Stopped)	0 = Normal 1 = In Alarm	Standard
BI-11024	Diagnostic: Low Differential Refrigerant Pressure	0 = Normal 1 = In Alarm	Standard
BI-11025	Diagnostic: Low Discharge Superheat	0 = Normal 1 = In Alarm	Standard
BI-11026	Diagnostic: Low Oil Flow	0 = Normal 1 = In Alarm	Standard
BI-11027	Diagnostic: No Differential Refrigerant Pressure	0 = Normal 1 = In Alarm	Standard
BI-11028	Diagnostic: Oil Flow Protection Fault	0 = Normal 1 = In Alarm	Standard
BI-11029	Diagnostic: Oil Pressure Transducer	0 = Normal 1 = In Alarm	Standard
BI-11030	Diagnostic: AFD Output Power Input	0 = Normal 1 = In Alarm	Non Comm AFD
BI-11031	Comm Loss: AFD Output Power Input	0 = Normal 1 = In Alarm	Non Comm AFD
BI-11032	Comm Loss: AFD Speed Signal Output	0 = Normal 1 = In Alarm	Non Comm AFD
BI-11033	Comm Loss: Adaptive Frequency Drive	0 = Normal 1 = In Alarm	TR200 Modbus AFD Local Comm AFD
BI-11034	Comm Loss: Economizer Bypass Valve	0 = Normal 1 = In Alarm	Economizer
BI-11035	Comm Loss: Economizer Pressure	0 = Normal 1 = In Alarm	Economizer
BI-11036	Comm Loss: Economizer Temperature	0 = Normal 1 = In Alarm	Economizer
BI-11037	Comm Loss: Economizer Valve	0 = Normal 1 = In Alarm	Economizer
BI-11038	Comm Loss: Hot Gas Bypass Valve	0 = Normal 1 = In Alarm	Variable Vi
BI-11039	Comm Loss: Liquid Line Bypass Valve	0 = Normal 1 = In Alarm	Liquid Line Bypass
BI-11040	Comm Loss: Oil Return Purge Valve	0 = Normal 1 = In Alarm	Variable Vi
BI-11041	Comm Loss: Slide Valve Load	0 = Normal 1 = In Alarm	Standard
BI-11042	Comm Loss: Slide Valve Unload	0 = Normal 1 = In Alarm	Standard
BI-11043	Diagnostic: Economizer Pressure Sensor	0 = Normal 1 = In Alarm	Economizer
BI-11044	Diagnostic: Economizer Temperature Sensor	0 = Normal 1 = In Alarm	Economizer
BI-11045	Diagnostic: Restart Inhibit	0 = Normal 1 = In Alarm	Standard

Object Identifier	Object Name	Units	Configuration Dependency
BI-11046	Comm Loss: Cond Refrigerant Pressure	0 = Normal 1 = In Alarm	Standard
BI-11047	Diagnostic: Condenser Refrigerant Pressure Xdcr	0 = Normal 1 = In Alarm	Standard
BI-11048	Diagnostic: Excessive Condenser Pressure	0 = Normal 1 = In Alarm	Standard
BI-11049	Comm Loss: Condenser Water Flow Switch	0 = Normal 1 = In Alarm	Standard
BI-11050	Comm Loss: Condenser Water Pump Relay	0 = Normal 1 = In Alarm	Standard
BI-11051	Comm Loss: Cond Diff Water Pressure	0 = Normal 1 = In Alarm	Cond Differential Water Pressure
BI-11052	Diagnostic: Condenser Diff Water Pressure Xdcr	0 = Normal 1 = In Alarm	Cond Differential Water Pressure
BI-11053	Diagnostic: Condenser Water Flow Lost	0 = Normal 1 = In Alarm	Standard
BI-11054	Diagnostic: Condenser Water Flow Overdue	0 = Normal 1 = In Alarm	Standard
BI-11055	Comm Loss: Condenser Entering Water Temp	0 = Normal 1 = In Alarm	Standard
BI-11056	Comm Loss: Condenser Leaving Water Temp	0 = Normal 1 = In Alarm	Standard
BI-11057	Diagnostic: Condenser Entering Water Temp Sensor	0 = Normal 1 = In Alarm	Standard
BI-11058	Diagnostic: Condenser Leaving Water Temp Sensor	0 = Normal 1 = In Alarm	Standard
BI-11059	Comm Loss: Evaporator Rfgt Liquid Level	0 = Normal 1 = In Alarm	Standard
BI-11060	Diagnostic: Evaporator Liquid Level Sensor	0 = Normal 1 = In Alarm	Standard
BI-11061	Diagnostic: High Evaporator Liquid Level	0 = Normal 1 = In Alarm	Standard
BI-11062	Diagnostic: Low Evaporator Liquid Level	0 = Normal 1 = In Alarm	Standard
BI-11063	Diagnostic: Low Evaporator Refrigerant Pressure	0 = Normal 1 = In Alarm	Standard
BI-11064	Diagnostic: Low Evaporator Refrigerant Temperature	0 = Normal 1 = In Alarm	Standard
BI-11065	Diagnostic: Low Evaporator Temp: Unit Off	0 = Normal 1 = In Alarm	Standard
BI-11066	Comm Loss: Evaporator Water Flow Switch	0 = Normal 1 = In Alarm	Standard
BI-11067	Comm Loss: Evaporator Water Pump Relay	0 = Normal 1 = In Alarm	Standard
BI-11068	Comm Loss: Evap Diff Water Pressure	0 = Normal 1 = In Alarm	Evap Differential Water Pressure

Object Identifier	Object Name	Units	Configuration Dependency
BI-11069	Diagnostic: Evaporator Diff Water Pressure Xdcr	0 = Normal 1 = In Alarm	Evap Differential Water Pressure
BI-11070	Diagnostic: Evaporator Water Flow Lost	0 = Normal 1 = In Alarm	Standard
BI-11071	Diagnostic: Evaporator Water Flow Overdue	0 = Normal 1 = In Alarm	Standard
BI-11072	Diagnostic: High Evaporator Refrigerant Pressure	0 = Normal 1 = In Alarm	Standard
BI-11073	Diagnostic: High Evaporator Water Temperature	0 = Normal 1 = In Alarm	Standard
BI-11074	Diagnostic: Low Evaporator Water Flow	0 = Normal 1 = In Alarm	Standard
BI-11075	Diagnostic: Evap Water Flow (Entering Water Temp)	0 = Normal 1 = In Alarm	Standard
BI-11076	Diagnostic: Evaporator Entering Water Temp Sensor	0 = Normal 1 = In Alarm	Standard
BI-11077	Diagnostic: Evaporator Leaving Water Temp Sensor	0 = Normal 1 = In Alarm	Standard
BI-11078	Diagnostic: Low Evaporator Water Temp (Unit On)	0 = Normal 1 = In Alarm	Standard
BI-11079	Diagnostic: Low Evaporator Water Temp (Unit Off)	0 = Normal 1 = In Alarm	Standard
BI-11080	Comm Loss: Electronic Expansion Valve 1	0 = Normal 1 = In Alarm	Standard
BI-11081	Comm Loss: Electronic Expansion Valve 2	0 = Normal 1 = In Alarm	Dual Expansion Valve
BI-11082	Comm Loss: Evaporator Rfgt Pressure	0 = Normal 1 = In Alarm	Standard
BI-11083	Diagnostic: Evaporator Rfgt Pressure Transducer	0 = Normal 1 = In Alarm	Standard
BI-11084	Comm Loss: Compressor % RLA Output	0 = Normal 1 = In Alarm	Motor Current Analog Output
BI-11085	Comm Loss: Cond Head Press Cntrl Output	0 = Normal 1 = In Alarm	Head Pressure Control
BI-11086	Comm Loss: Cond Rfgt Pressure Output	0 = Normal 1 = In Alarm	Delta P, HPC Setting
BI-11087	Comm Loss: Emergency Stop	0 = Normal 1 = In Alarm	Standard
BI-11088	Comm Loss: Ext Chilled/Hot Water Setpoint	0 = Normal 1 = In Alarm	Ext Chilled Water Setpoint
BI-11089	Comm Loss: External Auto/Stop	0 = Normal 1 = In Alarm	Standard
BI-11090	Comm Loss: External Demand Limit Setpoint	0 = Normal 1 = In Alarm	Ext Demand Limit Setpoint
BI-11091	Comm Loss: External Hot Water Command	0 = Normal 1 = In Alarm	Hot Water Control

Object Identifier	Object Name	Units	Configuration Dependency
BI-11092	Comm Loss: Op Status Programmable Relays	0 = Normal 1 = In Alarm	Programmable Status Relay
BI-11093	Comm Loss: Refrigerant Monitor Input	0 = Normal 1 = In Alarm	Refrigerant Monitor
BI-11094	Diagnostic: Emergency Stop	0 = Normal 1 = In Alarm	Standard
BI-11095	Diagnostic: External Chilled/Hot Water Setpoint	0 = Normal 1 = In Alarm	Ext Chilled Water Setpoint
BI-11096	Diagnostic: External Demand Limit Setpoint	0 = Normal 1 = In Alarm	Ext Demand Limit Setpoint
BI-11097	Diagnostic: Refrigerant Monitor Input	0 = Normal 1 = In Alarm	Refrigerant Monitor
BI-11098	Comm Loss: External Heat Recovery Command	0 = Normal 1 = In Alarm	Ext Heat Recovery Setpoint
BI-11099	Comm Loss: External Heat Recovery Setpoint	0 = Normal 1 = In Alarm	Ext Heat Recovery Setpoint
BI-11100	Comm Loss: HR Entering Water Temp Sensor	0 = Normal 1 = In Alarm	Heat Recovery
BI-11101	Comm Loss: HR Leaving Water Temp Sensor	0 = Normal 1 = In Alarm	Heat Recovery
BI-11102	Comm Loss: Heat Recovery Tank Water Temp	0 = Normal 1 = In Alarm	Heat Recovery
BI-11103	Comm Loss: Heat Recovery Water Flow Switch	0 = Normal 1 = In Alarm	Heat Recovery
BI-11104	Comm Loss: Heat Recovery Water Pump Relay	0 = Normal 1 = In Alarm	Heat Recovery
BI-11105	Diagnostic: Ext Heat Recovery Temp Setpoint Sensor	0 = Normal 1 = In Alarm	Ext Heat Recovery Setpoint
BI-11106	Diagnostic: Heat Recovery Entering Water Temperature Sensor	0 = Normal 1 = In Alarm	Heat Recovery
BI-11107	Diagnostic: Heat Recovery Leaving Water Temperature Sensor	0 = Normal 1 = In Alarm	Heat Recovery
BI-11108	Diagnostic: Heat Recovery Tank Water Temp Sensor	0 = Normal 1 = In Alarm	Heat Recovery
BI-11109	Diagnostic: Heat Recovery Water Flow Lost	0 = Normal 1 = In Alarm	Heat Recovery
BI-11110	Diagnostic: Heat Recovery Water Flow Overdue	0 = Normal 1 = In Alarm	Heat Recovery
BI-11111	Diagnostic: Unexpected Heat Recovery Water Flow	0 = Normal 1 = In Alarm	Heat Recovery
BI-11112	Diagnostic: Unexpected Condenser Water Flow	0 = Normal 1 = In Alarm	Heat Recovery
BI-11113	Comm Loss: External Ice Building Command	0 = Normal 1 = In Alarm	Ice Building
BI-11114	Comm Loss: Ice Building Relay	0 = Normal 1 = In Alarm	Ice Building

Object Identifier	Object Name	Units	Configuration Dependency
BI-11115	Comm Loss: SSS/AFD Fault	0 = Normal 1 = In Alarm	Solid State Starter
BI-11116	Comm Loss: Starter	0 = Normal 1 = In Alarm	Solid State Starter Non-Comm AFD
BI-11117	Diagnostic: Solid State Starter Fault	0 = Normal 1 = In Alarm	Solid State Starter
BI-11118	Diagnostic: Starter Failed to Arm/Start	0 = Normal 1 = In Alarm	Standard
BI-11119	Diagnostic: Unexpected Starter Shutdown	0 = Normal 1 = In Alarm	Standard
BI-11120	Diagnostic: AFD Bus Over Voltage	0 = Normal 1 = In Alarm	Local Comm AFD
BI-11121	Diagnostic: AFD Bus Under Voltage	0 = Normal 1 = In Alarm	Local Comm AFD
BI-11122	Diagnostic: AFD Comm Loss: Main Processor	0 = Normal 1 = In Alarm	Local Comm AFD
BI-11123	Diagnostic: AFD Emergency Stop Fault	0 = Normal 1 = In Alarm	Local Comm AFD
BI-11124	Diagnostic: AFD General Failure	0 = Normal 1 = In Alarm	Local Comm AFD
BI-11125	Diagnostic: AFD Ground Fault	0 = Normal 1 = In Alarm	Local Comm AFD
BI-11126	Diagnostic: AFD Instantaneous Current Overload	0 = Normal 1 = In Alarm	Local Comm AFD
BI-11127	Diagnostic: AFD Interrupt Failure	0 = Normal 1 = In Alarm	Local Comm AFD
BI-11128	Diagnostic: AFD Inverter Heatsink Over Temp	0 = Normal 1 = In Alarm	Local Comm AFD
BI-11129	Diagnostic: AFD Motor Current Overload	0 = Normal 1 = In Alarm	Local Comm AFD
BI-11130	Diagnostic: AFD Output Phase Loss	0 = Normal 1 = In Alarm	Local Comm AFD
BI-11131	Diagnostic: AFD Rated Current Out of Range	0 = Normal 1 = In Alarm	Local Comm AFD
BI-11132	Diagnostic: At Speed Input Opened	0 = Normal 1 = In Alarm	Solid State Starter Non-comm AFD
BI-11133	Diagnostic: At Speed Input Shorted	0 = Normal 1 = In Alarm	Solid State Starter Non-comm AFD
BI-11134	Comm Loss: Motor Winding Temperature 1	0 = Normal 1 = In Alarm	Motor Winding Temp
BI-11135	Comm Loss: Motor Winding Temperature 2	0 = Normal 1 = In Alarm	Motor Winding Temp
BI-11136	Diagnostic: Cprsr Did Not Accelerate: Transition	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11137	Diagnostic: Compressor Did Not Accelerate Fully	0 = Normal 1 = In Alarm	Solid State Starter Non-comm AFD

Object Identifier	Object Name	Units	Configuration Dependency
BI-11138	Diagnostic: Compressor Did Not Accelerate: Shutdown	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11139	Diagnostic: High Motor Winding Temperature	0 = Normal 1 = In Alarm	Motor Winding Temp
BI-11140	Diagnostic: High Pressure Cutout	0 = Normal 1 = In Alarm	Local Comm AFD
BI-11141	Diagnostic: Momentary Power Loss	0 = Normal 1 = In Alarm	Line Voltage Sensing
BI-11142	Diagnostic: Motor Current Overload	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11143	Diagnostic: Motor Winding Temp Sensor - Cprsr1A	0 = Normal 1 = In Alarm	Motor Winding Temp
BI-11144	Diagnostic: Over Voltage	0 = Normal 1 = In Alarm	Line Voltage Sensing
BI-11145	Diagnostic: Phase Loss	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11146	Diagnostic: Phase Reversal	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11147	Diagnostic: Power Loss	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11148	Diagnostic: Severe Current Unbalance	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11149	Starter Comm Loss: Main Processor	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11150	Diagnostic: Starter Contactor Interrupt Failure	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11151	Diagnostic: Starter Did Not Transition	0 = Normal 1 = In Alarm	Wye-Delta Starter
BI-11152	Diagnostic: Starter Dry Run Test	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11153	Diagnostic: Starter Fault Type I	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11154	Diagnostic: Starter Fault Type II	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11155	Diagnostic: Starter Fault Type III	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11156	Diagnostic: Starter Module Memory Error Type 1	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11157	Diagnostic: Starter Module Memory Error Type 2	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
BI-11158	Diagnostic: Transition Complete Input Opened	0 = Normal 1 = In Alarm	Wye-Delta Starter
BI-11159	Diagnostic: Transition Complete Input Shorted	0 = Normal 1 = In Alarm	Wye-Delta Starter
BI-11160	Diagnostic: Under Voltage	0 = Normal 1 = In Alarm	Line Voltage Sensing

Object Identifier	Object Name	Units	Configuration Dependency
BI-11161	Diagnostic: MP: Invalid Configuration	0 = Normal 1 = In Alarm	Standard
BI-11162	Diagnostic: MP: Reset Has Occurred	0 = Normal 1 = In Alarm	Standard

Object Identifier	Object Name	Description	Units	Configuration Dependency
BV-10100	Chiller Auto Stop Command BAS	Normally used by the BMS to command the chiller to start running if operating conditions are satisfied, or to stop the chiller from running.	0 = Stop 1 = Auto	Standard
BV-10101	Reset Diagnostic	Normally used by the BMS to initiate a request to reset any controller diagnostics	0 = Normal 1 = Reset	Standard
BV-10102	Base Loading Request	Normally used by the BMS to command the chiller to enter a mode of operation where the	0 = Normal 1 = Reduce Noise	Base Loading
BV-10103	Heat Recovery Enable BAS	Normally used by the BMS to command the heat recovery to start running if operating conditions are satisfied, or to stop the heat recovery from running.	0 = Off 1 = On	Heat Recovery
BV-10104	Evaporator Water Pump Request BAS	Normally used by the BMS to lockout the Evaporator Water Pump	0 = Normal 1 = Locked Out	Standard
BV-10105	Condenser Water Pump Request BAS	Normally used by the BMS to lockout the Condenser Water Pump	0 = Normal 1 = Locked Out	Standard

Object Identifier	Object Name	Description	Units	Configuration Dependency
MI-10100	Running Mode	Indicates the running state 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	Standard
MI-10101	Operating Mode	Indicates the operating mode of the chiller	1 = Cool 2 = Heat 3= Ice Making 4= Free Cooling	Standard
MI-10102	Refrigerant Type	Indicates the chiller refrigerant type	1 = R-11 2 = R-12 3= R-22 4= R-123 5 = R-134a 6 = R-407C 7 = R-410A 8 = R-113 9 = R-114 10 = R-500 11 = R-502 12 = R-404A 13 = R-513A 14 = R-1233zd(E) 15 = R-514A 16 = R-1234ze(E)	Standard
MI-10103	Manufacture Location	Indicates the location that the 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	Standard
MI-10104	Cooling Type	Indicates the cooling Type of chiller	1 = Water Cooled 2 = Air Cooled	Standard

Object Identifier	Object Name	Description	Units	Configuration Dependency
MI-10105	Model Information [GEN2]	Indicates the model information of chiller	1 = CVHF 2 = CVGF 3= CVHS 4= RTAE 5 = RTAF 6 = RTHA 7 = RTHB 8 = RTHC 9 = RTHD 10 = RTWE 11 = CTVD 12 = CVR 13 = CVHH 14 = CDHH 15 = VMAX 16 = GVAF 17 = RTWF 18 = RTHF 19 = RTAC 20 = CVHM 21 = RTAG 22 = CGAF 23 = RTXG 24 = GVWF 25 = HDWA 26 = CMAC 27 = IPAK 28 = CXAF 29 = ACSA 30 = RTSF 31 = HSWA 32 = ACRA 33 = RTEG 34 = ACXA 35 = CMAF 36 = ACRB Large 37 = ACRB Small	Standard

Object Identifier	Object Name	Description	Units	Configuration Dependency
MV-10100	Chiller Mode Command BAS	Normally used by the BMS to command the chiller Mode	1 = Cool 2 = Heat 3= Ice Making 4= Free Cooling	Standard

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.

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

Modbus Register	Object Nmae	Description	Object States	Configuration Dependency
30011	Active Cool/Heat Setpoint Temperature	Indicates the value of the active Cool/Heat Setpoint actively being used by the chiller	Temperature	Standard
30013	Active Demand Limit Setpoint	Indicates the demand limit setpoint value actively being used by the chiller	Percentage	Standard
30015	Active Base Loading Setpoint	Indicates the "active" Base Loading Setpoint resulting from arbitration	Percentage	Base Loading
30017	Evaporator Entering Water Temperature	Indicates the Evaporator Entering or Return water temperature.	Temperature	Standard
30019	Evaporator Leaving Water Temperature	Indicates the temperature of the water leaving the evaporator, which is the primary control point for normal cooling mode of operation.	Temperature	Standard
30021	Number of Circuits	Indicates the number of refrigeration circuits in the chiller	None	Standard
30023	Number of Compressors Circuit 1	Indicates the number of compressors on circuit 1 of the chiller	None	Standard
30025	Number of Compressors Circuit 2	Indicates the number of compressors on circuit 2 of the chiller	None	Standard
30027	Actual Running Capacity	Indicates the measurement of the power being consumed by the Chiller	Percentage	Standard
30029	Evaporator Refrigerant Absolute Pressure Circuit 1	Indicates the current absolute pressure of the refrigerant in the evaporator on circuit 1	Pressure, Fluidic	Standard
30031	Condenser Refrigerant Absolute Pressure Circuit 1	Indicates the current absolute pressure of the refrigerant in the condenser on circuit 1	Pressure, Fluidic	Standard
30033	Evaporator Saturated Refrigerant Temperature Circuit 1	Indicates the saturated refrigerant temperature of the evaporator on circuit 1	Temperature	Standard
30035	Condenser Saturated Refrigerant Temperature Circuit 1	Indicates the saturated refrigerant temperature of the condenser on circuit 1	Temperature	Standard
30037	Refrigerant Discharge Temperature - Compressor 1A	Indicates the current temperature of the refrigerant being discharged from Compressor 1A	Temperature	Standard
30039	High Side Oil Absolute Pressure - Compressor 1A	Indicates the absolute pressure of the oil on the high pressure side of Compressor 1A	Pressure, Fluidic	Standard
30041	Starts - Compressor 1A	Indicates the number of starts of Compressor 1A	None	Standard
30043	Run Time - Compressor 1A	Indicates the run time of Compressor 1A, in seconds	None	Standard
30045	Motor Winding Temperature 1 Circuit 1	Indicates the first temperaure sensor of the windings on motor 1A	Temperature	Motor Winding Temp
30047	Motor Winding Temperature 2 Circuit 1	Indicates the second temperaure sensor of the windings on motor 1A	Temperature	Motor Winding Temp
30049	Condenser Entering Water Temperature	Indicates the current temperature of the water entering the condenser	Temperature	Standard
30051	Condenser Leaving Water Temperature	Indicates the current temperature of the water leaving the condenser	Temperature	Standard
30053	Starter Voltage Phase AB	Indicates the measurement of voltage in Phase AB	Voltage	Line Voltage Sensing
30055	Starter Voltage Phase BC	Indicates the measurement of voltage in Phase BC	Voltage	Line Voltage Sensing
30057	Starter Voltage Phase CA	Indicates the measurement of voltage in Phase CA	Voltage	Line Voltage Sensing
30059	Line 1 Current - Compressor 1A	Indicates the current L1 on Compressor 1A	Current	Starter Non Comm AFD TR200 Modbus AFD
30061	Line 2 Current - Compressor 1A	Indicates the current L2 on Compressor 1A	Current	Starter Non Comm AFD TR200 Modbus AFD

Modbus Register	Object Nmae	Description	Object States	Configuration Dependency
30063	Line 3 Current - Compressor 1A	Indicates the current L3 on Compressor 1A	Current	Starter Non Comm AFD TR200 Modbus AFD
30065	Line 1 Current - Compressor 1A	Indicates the current L1 on Compressor 1A	Current	Local Comm AFD
30067	Line 2 Current - Compressor 1A	Indicates the current L2 on Compressor 1A	Current	Local Comm AFD
30069	Line 3 Current - Compressor 1A	Indicates the current L3 on Compressor 1A	Current	Local Comm AFD
30071	Line 1 Current RLA - Compressor 1A	Indicates the line 1 starter current phase A in % RLA for the Compressor 1A	Percentage	Starter Non Comm AFD TR200 Modbus AFD
30073	Line 2 Current RLA - Compressor 1A	Indicates the line 2 starter current phase A in % RLA for the Compressor 1A	Percentage	Starter Non Comm AFD TR200 Modbus AFD
30075	Line 3 Current RLA - Compressor 1A	Indicates the line 3 starter current phase A in % RLA for the Compressor 1A	Percentage	Starter Non Comm AFD TR200 Modbus AFD
30077	Line 1 Current RLA - Compressor 1A	Indicates the line 1 starter current phase A in % RLA for the Compressor 1A	Percentage	Local Comm AFD
30079	Line 2 Current RLA - Compressor 1A	Indicates the line 2 starter current phase A in % RLA for the Compressor 1A	Percentage	Local Comm AFD
30081	Line 3 Current RLA - Compressor 1A	Indicates the line 3 starter current phase A in % RLA for the Compressor 1A	Percentage	Local Comm AFD
30083	Expansion Valve Position - Compressor 1A	Indicates the percent open of the exv valve	Percentage	Standard
30085	Drive Output Power Circuit 1	Indicates the power output from the AFD	Power, Electrical	Non Comm AFD TR200 Modbus AFD Local Comm AFD
30087	Chiller Design Capacity	Indicates the design capacity of chilller	Power, Cooling	Standard
30089	Active Chilled Water Setpoint	Indicates the value of the active Chilled Water Setpoint actively being used by the chiller	Temperature	Standard
30091	Active Hot Water Setpoint	Indicates the value of the active Hot Water Setpoint actively being used by the chiller	Temperature	Hot Water Control
30093	Evaporator Water Flow Rate	Indicates the flow of water through the evaporator	Flow, Fluidic	Evap Differential Water Pressure
30095	Condenser Water Flow Rate	Indicates the flow of water through the condenser	Flow, Fluidic	Cond Differential Water Pressure
30097	Condenser Differential Water Pressure	Indicates the water pressure differential of the condenser	Pressure, Fluidic	Cond Differential Water Pressure
30099	Evaporator Differential Water Pressure	Indicates the water pressure differential of the evaporator	Pressure, Fluidic	Evap Differential Water Pressure
30101	Evaporator Refrigerant Pressure Circuit 1	Indicates the current gauge pressure of the refrigerant in the evaporator on circuit 1	Pressure, Fluidic	Standard
30103	Condenser Refrigerant Pressure Circuit 1	Indicates the current gauge pressure of the refrigerant in the condenser on circuit 1	Pressure, Fluidic	Standard
30105	Condenser Control Output	Indicates the Head Pressure Control Output on the Condenser	Percentage	Head Pressure Control
30107	High Side Oil Pressure - Compressor 1A	Indicates the gauge pressure of the oil on the high pressure side of Compressor 1A	Pressure, Fluidic	Standard
30111	Evaporator Approach Temperature Circuit 1	Indicates the Evaporator Approach Temperature on circuit 1	Temperature, Delta	Standard
30113	Condenser Approach Temperature Circuit 1	Indicates the Condenser Approach Temperature on circuit 1	Temperature, Delta	Standard

Modbus Register	Object Nmae	Description	Object States	Configuration Dependency
30115	Line Frequency Circuit 1	Indicates the estimated input frequency at the AFD	None	Non Comm AFD TR200 Modbus AFD Local Comm AFD
30117	Heat Recovery Entering Water Temperature	Indicated the Entering Water Temp in Heat Recovery	Temperature	Heat Recovery
30119	Heat Recovery Leaving Water Temperature	Indicated the Leaving Water Temp in Heat Recovery	Temperature	Heat Recovery
30121	Heat Recovery Tank Water Temp	Indicates the Water Temp in the Heat Recovery Tank	Temperature	Heat Recovery
30123	Heat Recovery Water Tank Temperature Setpoint Active	Indicates the active temperature setpoint for the heat recovery tank	Temperature	Heat Recovery
30125	Chilled Water Setpoint Status	Indicates the Chilled Water Setpoint after arbitration and limiting	Temperature	Standard
30127	Demand Limit Setpoint Status	Indicates the presently in use or "active" setting of the Demand Limit. This includes the effects of any ice building demand limiting	Percentage	Ice Building
30129	Unit Source ID (Last Diagnostic Code)	Indicates the last diagnostic of the chiller. Separately, individual diagnostics are reported with dedicated points, variables, registers	None	Standard
30131	Current L1	Current phase A in amps for the chiller	Current	Energy Meter
30133	Current L2	Current phase B in amps for the chiller	Current	Energy Meter
30135	Current L3	Current phase C in amps for the chiller	Current	Energy Meter
30137	Average Current	Average current in amps for the chiller	Current	Energy Meter
30139	Voltage L1-L2	Current phase A in amps for the chiller	Voltage	Energy Meter
30141	Voltage L2-L3	Line voltage Vab for the respective unit	Voltage	Energy Meter
30143	Voltage L1-L3	Line voltage Vbc for the respective unit	Voltage	Energy Meter
30145	Average Voltage L-L	Line voltage Vca for the respective unit	Voltage	Energy Meter
30147	Line Frequency	Average line voltage for the respective unit	None	Energy Meter
30149	Power Factor	Indicates the unit power factor	None	Energy Meter

Modbus Register	Object Nmae	Description	Object States	Configuration Dependency
40011	Chilled Water Setpoint	The value is normally provided by the BAS to send the Chilled Water Setpoint. The value is subject to arbitration logic in the controller, in which case it may or may not be used for control purposes.	Temperature	Standard
40013	Demand Limit Setpoint	The value is normally provided by the BAS to send the Demand Limit Setpoint. The value is subject to arbitration logic in the controller, in which case it may or may not be used for control purposes.	Percentage	Standard
40015	Hot Water Setpoint	The value is normally provided by the BAS to send the Hot Water Setpoint. The value is subject to arbitration logic in the controller, in which case it may or may not be used for control purposes.	Temperature	Hot Water Control
40017	Base Loading Setpoint	The value is normally provided by the BAS to send the Base Loading Setpoint. The value is subject to arbitration logic in the controller, in which case it may or may not be used for control purposes.	Percentage	Base Loading
40019	Heat Recovery Water Tank Temperature Setpoint BAS	The value is normally provided by the BAS to send the Heat Recovery Leaving Water Temperature Setpoint. The value is subject to arbitration logic in the controller, in which case it may or may not be used for control purposes.	Temperature	Heat Recovery

Modbus Register	Object Nmae	Description	Object States	Configuration Dependency
33011	Run Enabled	Indicates that chiller is available to run or is currently running	0 = Run Not Enabled 1 = Run Enabled	Standard
33012	Local Setpoint Control	Indicates the which setpoint is used for control purposes, Remote (BAS) or Local	0 = Remote control 1 = Local control	Standard
33013	Limit Mode Relay Status	Indicates the status of the chiller limit relay	0 = Off 1 = On	Standard
33014	Chiller Running State	Indicates whether the chiller is on (currently doing either cooling) or is considered off(not currently doing cooling)	0 = Off 1 = On	Standard
33015	Base Loading Request Active	Indicates the "active" Base Loading Request resulting from arbitration.	0 = Off 1 = On	Base Loading
33016	Evaporator Water Flow Status	Indicates the flow of water through evaporator	0 = No Flow 1 = Flow	Standard
33017	Diagnostic Present	Indicates whether diagnostic present	0 = Normal 1 = In Alarm	Standard
33018	Diagnostic Shutdown Present	Indicates chiller is shut down due to diagnostics	0 = Normal 1 = In Alarm	Standard
33019	Diagnostic: Manual Reset Required	Indicates when a diagnostic exists that requires manual reset	0 = Normal 1 = In Alarm	Standard
33020	Diagnostic: Local Manual Reset Required	Indicates when a diagnostic exists that requires manual reset [Local only]	0 = Normal 1 = In Alarm	Standard
33021	Diagnostic Present: Information	Indicates whether diagnostic present with Information Category	0 = Normal 1 = In Alarm	Standard
33022	Diagnostic Present: Advisory	Indicates whether diagnostic present with Warning Category	0 = Normal 1 = In Alarm	Standard
33023	Diagnostic Present: Critical	Indicates whether diagnostic present with Critical Category	0 = Normal 1 = In Alarm	Standard
33024	Diagnostic Present: Service Required	Indicates whether diagnostic present with Service Required Category	0 = Normal 1 = In Alarm	Standard
33025	Compressor 1A Status	Indicates running state fo Compressor 1A	0 = Off 1 = Running	Standard
33026	Condenser Water Pump Request	This provides a status of the Chillers Condenser Water Pump output.	0= Normal 1= In Alarm	Standard
33027	Evaporator Water Pump Request	This provides a status of the Chillers Evaporator Water Pump output.	0= Normal 1= In Alarm	Standard
33028	Condenser Water Flow Status	Indication of water flow through the condenser	0= Normal 1= In Alarm	Standard
33029	Heat Recovery Water Flow Status	Heat Recovery Water Flow Status	0= Off 1= Running	Heat Recovery
33030	Heat Recovery Control Active Status	Heat Recovery Active	0= Off 1= Running	Heat Recovery
33031	Heat Recovery Request Active	Active Heat Recovery Command	0= Off 1= Running	Heat Recovery
33032	Front Panel Auto Stop	Indicates the auto/stop status of the Front Panel	0 = Stop 1 = Auto	Standard

Modbus Register	Object Nmae	Description	Object States	Configuration Dependency
33033	External Auto Stop Input Status	Indicates the status of the externally-wired auto/stop input	0 = Stop 1 = Auto	Standard
33034	Head Relief Request	Head Relief Request Relay	0= Inactive 1= Active	Standard
33035	Base Loading Active	Base Loading Active	0= Off 1= On	Base Loading

Modbus Register	Object Nmae	Object States	Configuration Dependency
34001	Comm Loss: Ext Base Loading Command	0 = Normal 1 = In Alarm	Base Loading
34002	Comm Loss: Ext Base Loading Setpoint	0 = Normal 1 = In Alarm	Base Loading
34003	Diagnostic: External Base Loading Setpoint	0 = Normal 1 = In Alarm	Base Loading
34004	Comm Loss: Evap Entering Water Temp	0 = Normal 1 = In Alarm	Standard
34005	Comm Loss: Evap Leaving Water Temp	0 = Normal 1 = In Alarm	Standard
34006	Comm Loss: Outdoor Air Temperature	0 = Normal 1 = In Alarm	Outdoor Air Temperature
34007	Diagnostic: Outdoor Air Temperature Sensor	0 = Normal 1 = In Alarm	Outdoor Air Temperature
34008	Diagnostic: Software Error 1001: Call Trane Service	0 = Normal 1 = In Alarm	Standard
34009	Diagnostic: AFD Drive Fault	0 = Normal 1 = In Alarm	Non Comm AFD TR200 Modbus AFD
34010	Comm Loss: Cprsr Discharge Rfgt Temp	0 = Normal 1 = In Alarm	Standard
34011	Comm Loss: Cond High Pressure Cutout	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD TR200 Modbus Comm AFD
34012	Comm Loss: Primary Oil Line Solenoid Valve	0 = Normal 1 = In Alarm	Solid State Starter Non Comm AFD TR200 Modbus AFD Local Comm AFD
34013	Comm Loss: Oil Loss Level Sensor Input	0 = Normal 1 = In Alarm	Standard
34014	Comm Loss: Oil Pressure	0 = Normal 1 = In Alarm	Standard
34015	Comm Loss: Oil Return Gas Pump Drain	0 = Normal 1 = In Alarm	Standard
34016	Comm Loss: Oil Return Gas Pump Fill	0 = Normal 1 = In Alarm	Standard
34017	Comm Loss: SSS/AFD Fault	0 = Normal 1 = In Alarm	Non Comm AFD
34018	Diagnostic: Cprsr Discharge Refrigerant Temp Sensor	0 = Normal 1 = In Alarm	Standard
34019	Diagnostic: High Cprsr Rfgt Discharge Temperature	0 = Normal 1 = In Alarm	Standard
34020	Diagnostic: High Differential Refrigerant Pressure	0 = Normal 1 = In Alarm	Standard
34021	Diagnostic: High Pressure Cutout	0 = Normal 1 = In Alarm	Standard
34022	Diagnostic: High Refrigerant Pressure Ratio	0 = Normal 1 = In Alarm	Standard

Modbus Register	Object Nmae	Object States	Configuration Dependency
34023	Diagnostic: Loss of Oil at Compressor (Running)	0 = Normal 1 = In Alarm	Standard
34024	Diagnostic: Loss of Oil at Compressor (Stopped)	0 = Normal 1 = In Alarm	Standard
34025	Diagnostic: Low Differential Refrigerant Pressure	0 = Normal 1 = In Alarm	Standard
34026	Diagnostic: Low Discharge Superheat	0 = Normal 1 = In Alarm	Standard
34027	Diagnostic: Low Oil Flow	0 = Normal 1 = In Alarm	Standard
34028	Diagnostic: No Differential Refrigerant Pressure	0 = Normal 1 = In Alarm	Standard
34029	Diagnostic: Oil Flow Protection Fault	0 = Normal 1 = In Alarm	Standard
34030	Diagnostic: Oil Pressure Transducer	0 = Normal 1 = In Alarm	Standard
34031	Diagnostic: AFD Output Power Input	0 = Normal 1 = In Alarm	Non Comm AFD
34032	Comm Loss: AFD Output Power Input	0 = Normal 1 = In Alarm	Non Comm AFD
34033	Comm Loss: AFD Speed Signal Output	0 = Normal 1 = In Alarm	Non Comm AFD
34034	Comm Loss: Adaptive Frequency Drive	0 = Normal 1 = In Alarm	TR200 Modbus AFD Local Comm AFD
34035	Comm Loss: Economizer Bypass Valve	0 = Normal 1 = In Alarm	Economizer
34036	Comm Loss: Economizer Pressure	0 = Normal 1 = In Alarm	Economizer
34037	Comm Loss: Economizer Temperature	0 = Normal 1 = In Alarm	Economizer
34038	Comm Loss: Economizer Valve	0 = Normal 1 = In Alarm	Economizer
34039	Comm Loss: Hot Gas Bypass Valve	0 = Normal 1 = In Alarm	Variable Vi
34040	Comm Loss: Liquid Line Bypass Valve	0 = Normal 1 = In Alarm	Liquid Line Bypass
34041	Comm Loss: Oil Return Purge Valve	0 = Normal 1 = In Alarm	Variable Vi
34042	Comm Loss: Slide Valve Load	0 = Normal 1 = In Alarm	Standard
34043	Comm Loss: Slide Valve Unload	0 = Normal 1 = In Alarm	Standard
34044	Diagnostic: Economizer Pressure Sensor	0 = Normal 1 = In Alarm	Economizer

Modbus Register	Object Nmae	Object States	Configuration Dependency
34045	Diagnostic: Economizer Temperature Sensor	0 = Normal 1 = In Alarm	Economizer
34046	Diagnostic: Restart Inhibit	0 = Normal 1 = In Alarm	Standard
34047	Comm Loss: Cond Refrigerant Pressure	0 = Normal 1 = In Alarm	Standard
34048	Diagnostic: Condenser Refrigerant Pressure Xdcr	0 = Normal 1 = In Alarm	Standard
34049	Diagnostic: Excessive Condenser Pressure	0 = Normal 1 = In Alarm	Standard
34050	Comm Loss: Condenser Water Flow Switch	0 = Normal 1 = In Alarm	Standard
34051	Comm Loss: Condenser Water Pump Relay	0 = Normal 1 = In Alarm	Standard
34052	Comm Loss: Cond Diff Water Pressure	0 = Normal 1 = In Alarm	Cond Differential Water Pressure
34053	Diagnostic: Condenser Diff Water Pressure Xdcr	0 = Normal 1 = In Alarm	Cond Differential Water Pressure
34054	Diagnostic: Condenser Water Flow Lost	0 = Normal 1 = In Alarm	Standard
34055	Diagnostic: Condenser Water Flow Overdue	0 = Normal 1 = In Alarm	Standard
34056	Comm Loss: Condenser Entering Water Temp	0 = Normal 1 = In Alarm	Standard
34057	Comm Loss: Condenser Leaving Water Temp	0 = Normal 1 = In Alarm	Standard
34058	Diagnostic: Condenser Entering Water Temp Sensor	0 = Normal 1 = In Alarm	Standard
34059	Diagnostic: Condenser Leaving Water Temp Sensor	0 = Normal 1 = In Alarm	Standard
34060	Comm Loss: Evaporator Rfgt Liquid Level	0 = Normal 1 = In Alarm	Standard
34061	Diagnostic: Evaporator Liquid Level Sensor	0 = Normal 1 = In Alarm	Standard
34062	Diagnostic: High Evaporator Liquid Level	0 = Normal 1 = In Alarm	Standard
34063	Diagnostic: Low Evaporator Liquid Level	0 = Normal 1 = In Alarm	Standard
34064	Diagnostic: Low Evaporator Refrigerant Pressure	0 = Normal 1 = In Alarm	Standard
34065	Diagnostic: Low Evaporator Refrigerant Temperature	0 = Normal 1 = In Alarm	Standard
34066	Diagnostic: Low Evaporator Temp: Unit Off	0 = Normal 1 = In Alarm	Standard

Modbus Register	Object Nmae	Object States	Configuration Dependency
34067	Comm Loss: Evaporator Water Flow Switch	0 = Normal 1 = In Alarm	Standard
34068	Comm Loss: Evaporator Water Pump Relay	0 = Normal 1 = In Alarm	Standard
34069	Comm Loss: Evap Diff Water Pressure	0 = Normal 1 = In Alarm	Evap Differential Water Pressure
34070	Diagnostic: Evaporator Diff Water Pressure Xdcr	0 = Normal 1 = In Alarm	Evap Differential Water Pressure
34071	Diagnostic: Evaporator Water Flow Lost	0 = Normal 1 = In Alarm	Standard
34072	Diagnostic: Evaporator Water Flow Overdue	0 = Normal 1 = In Alarm	Standard
34073	Diagnostic: High Evaporator Refrigerant Pressure	0 = Normal 1 = In Alarm	Standard
34074	Diagnostic: High Evaporator Water Temperature	0 = Normal 1 = In Alarm	Standard
34075	Diagnostic: Low Evaporator Water Flow	0 = Normal 1 = In Alarm	Standard
34076	Diagnostic: Evap Water Flow (Entering Water Temp)	0 = Normal 1 = In Alarm	Standard
34077	Diagnostic: Evaporator Entering Water Temp Sensor	0 = Normal 1 = In Alarm	Standard
34078	Diagnostic: Evaporator Leaving Water Temp Sensor	0 = Normal 1 = In Alarm	Standard
34079	Diagnostic: Low Evaporator Water Temp (Unit On)	0 = Normal 1 = In Alarm	Standard
34080	Diagnostic: Low Evaporator Water Temp (Unit Off)	0 = Normal 1 = In Alarm	Standard
34081	Comm Loss: Electronic Expansion Valve 1	0 = Normal 1 = In Alarm	Standard
34082	Comm Loss: Electronic Expansion Valve 2	0 = Normal 1 = In Alarm	Dual Expansion Valve
34083	Comm Loss: Evaporator Rfgt Pressure	0 = Normal 1 = In Alarm	Standard
34084	Diagnostic: Evaporator Rfgt Pressure Transducer	0 = Normal 1 = In Alarm	Standard
34085	Comm Loss: Compressor % RLA Output	0 = Normal 1 = In Alarm	Motor Current Analog Output
34086	Comm Loss: Cond Head Press Cntrl Output	0 = Normal 1 = In Alarm	Head Pressure Control
34087	Comm Loss: Cond Rfgt Pressure Output	0 = Normal 1 = In Alarm	Delta P HPC Setting
34088	Comm Loss: Emergency Stop	0 = Normal 1 = In Alarm	Standard

Modbus Register	Object Nmae	Object States	Configuration Dependency
34089	Comm Loss: Ext Chilled/Hot Water Setpoint	0 = Normal 1 = In Alarm	Ext Chilled Water Setpoint
34090	Comm Loss: External Auto/Stop	0 = Normal 1 = In Alarm	Standard
34091	Comm Loss: External Demand Limit Setpoint	0 = Normal 1 = In Alarm	Ext Demand Limit Setpoint
34092	Comm Loss: External Hot Water Command	0 = Normal 1 = In Alarm	Hot Water Control
34093	Comm Loss: Op Status Programmable Relays	0 = Normal 1 = In Alarm	Programmable Status Relay
34094	Comm Loss: Refrigerant Monitor Input	0 = Normal 1 = In Alarm	Refrigerant Monitor
34095	Diagnostic: Emergency Stop	0 = Normal 1 = In Alarm	Standard
34096	Diagnostic: External Chilled/Hot Water Setpoint	0 = Normal 1 = In Alarm	Ext Chilled Water Setpoint
34097	Diagnostic: External Demand Limit Setpoint	0 = Normal 1 = In Alarm	Ext Demand Limit Setpoint
34098	Diagnostic: Refrigerant Monitor Input	0 = Normal 1 = In Alarm	Refrigerant Monitor
34099	Comm Loss: External Heat Recovery Command	0 = Normal 1 = In Alarm	Ext Heat Recovery Setpoint
34100	Comm Loss: External Heat Recovery Setpoint	0 = Normal 1 = In Alarm	Ext Heat Recovery Setpoint
34101	Comm Loss: HR Entering Water Temp Sensor	0 = Normal 1 = In Alarm	Heat Recovery
34102	Comm Loss: HR Leaving Water Temp Sensor	0 = Normal 1 = In Alarm	Heat Recovery
34103	Comm Loss: Heat Recovery Tank Water Temp	0 = Normal 1 = In Alarm	Heat Recovery
34104	Comm Loss: Heat Recovery Water Flow Switch	0 = Normal 1 = In Alarm	Heat Recovery
34105	Comm Loss: Heat Recovery Water Pump Relay	0 = Normal 1 = In Alarm	Heat Recovery
34106	Diagnostic: Ext Heat Recovery Temp Setpoint Sensor	0 = Normal 1 = In Alarm	Ext Heat Recovery Setpoint
34107	Diagnostic: Heat Recovery Entering Water Temperature Sensor	0 = Normal 1 = In Alarm	Heat Recovery
34108	Diagnostic: Heat Recovery Leaving Water Temperature Sensor	0 = Normal 1 = In Alarm	Heat Recovery
34109	Diagnostic: Heat Recovery Tank Water Temp Sensor	0 = Normal 1 = In Alarm	Heat Recovery
34110	Diagnostic: Heat Recovery Water Flow Lost	0 = Normal 1 = In Alarm	Heat Recovery

Modbus Register	Object Nmae	Object States	Configuration Dependency
34111	Diagnostic: Heat Recovery Water Flow Overdue	0 = Normal 1 = In Alarm	Heat Recovery
34112	Diagnostic: Unexpected Heat Recovery Water Flow	0 = Normal 1 = In Alarm	Heat Recovery
34113	Diagnostic: Unexpected Condenser Water Flow	0 = Normal 1 = In Alarm	Heat Recovery
34114	Comm Loss: External Ice Building Command	0 = Normal 1 = In Alarm	Ice Building
34115	Comm Loss: Ice Building Relay	0 = Normal 1 = In Alarm	Ice Building
34116	Comm Loss: SSS/AFD Fault	0 = Normal 1 = In Alarm	Solid State Starter
34117	Comm Loss: Starter	0 = Normal 1 = In Alarm	Solid State Starter Non-Comm AFD
34118	Diagnostic: Solid State Starter Fault	0 = Normal 1 = In Alarm	Solid State Starter
34119	Diagnostic: Starter Failed to Arm/Start	0 = Normal 1 = In Alarm	Standard
34120	Diagnostic: Unexpected Starter Shutdown	0 = Normal 1 = In Alarm	Standard
34121	Diagnostic: AFD Bus Over Voltage	0 = Normal 1 = In Alarm	Local Comm AFD
34122	Diagnostic: AFD Bus Under Voltage	0 = Normal 1 = In Alarm	Local Comm AFD
34123	Diagnostic: AFD Comm Loss: Main Processor	0 = Normal 1 = In Alarm	Local Comm AFD
34124	Diagnostic: AFD Emergency Stop Fault	0 = Normal 1 = In Alarm	Local Comm AFD
34125	Diagnostic: AFD General Failure	0 = Normal 1 = In Alarm	Local Comm AFD
34126	Diagnostic: AFD Ground Fault	0 = Normal 1 = In Alarm	Local Comm AFD
34127	Diagnostic: AFD Instantaneous Current Overload	0 = Normal 1 = In Alarm	Local Comm AFD
34128	Diagnostic: AFD Interrupt Failure	0 = Normal 1 = In Alarm	Local Comm AFD
34129	Diagnostic: AFD Inverter Heatsink Over Temp	0 = Normal 1 = In Alarm	Local Comm AFD
34130	Diagnostic: AFD Motor Current Overload	0 = Normal 1 = In Alarm	Local Comm AFD
34131	Diagnostic: AFD Output Phase Loss	0 = Normal 1 = In Alarm	Local Comm AFD
34132	Diagnostic: AFD Rated Current Out of Range	0 = Normal 1 = In Alarm	Local Comm AFD

Modbus Register	Object Nmae	Object States	Configuration Dependency
34133	Diagnostic: At Speed Input Opened	0 = Normal 1 = In Alarm	Solid State Starter Non-comm AFD
34134	Diagnostic: At Speed Input Shorted	0 = Normal 1 = In Alarm	Solid State Starter Non-comm AFD
34135	Comm Loss: Motor Winding Temperature 1	0 = Normal 1 = In Alarm	Motor Winding Temp
34136	Comm Loss: Motor Winding Temperature 2	0 = Normal 1 = In Alarm	Motor Winding Temp
34137	Diagnostic: Cprsr Did Not Accelerate: Transition	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34138	Diagnostic: Compressor Did Not Accelerate Fully	0 = Normal 1 = In Alarm	Solid State Starter Non-comm AFD
34139	Diagnostic: Compressor Did Not Accelerate: Shutdown	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34140	Diagnostic: High Motor Winding Temperature	0 = Normal 1 = In Alarm	Motor Winding Temp
34141	Diagnostic: High Pressure Cutout	0 = Normal 1 = In Alarm	Local Comm AFD
34142	Diagnostic: Momentary Power Loss	0 = Normal 1 = In Alarm	Line Voltage Sensing
34143	Diagnostic: Motor Current Overload	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34144	Diagnostic: Motor Winding Temp Sensor - Cprsr1A	0 = Normal 1 = In Alarm	Motor Winding Temp
34145	Diagnostic: Over Voltage	0 = Normal 1 = In Alarm	Line Voltage Sensing
34146	Diagnostic: Phase Loss	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34147	Diagnostic: Phase Reversal	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34148	Diagnostic: Power Loss	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34149	Diagnostic: Severe Current Unbalance	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34150	Starter Comm Loss: Main Processor	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34151	Diagnostic: Starter Contactor Interrupt Failure	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34152	Diagnostic: Starter Did Not Transition	0 = Normal 1 = In Alarm	Wye-Delta Starter
34153	Diagnostic: Starter Dry Run Test	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34154	Diagnostic: Starter Fault Type I	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD

Modbus Register	Object Nmae	Object States	Configuration Dependency
34155	Diagnostic: Starter Fault Type II	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34156	Diagnostic: Starter Fault Type III	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34157	Diagnostic: Starter Module Memory Error Type 1	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34158	Diagnostic: Starter Module Memory Error Type 2	0 = Normal 1 = In Alarm	Wye-Delta Starter Solid State Starter Non-comm AFD
34159	Diagnostic: Transition Complete Input Opened	0 = Normal 1 = In Alarm	Wye-Delta Starter
34160	Diagnostic: Transition Complete Input Shorted	0 = Normal 1 = In Alarm	Wye-Delta Starter
34161	Diagnostic: Under Voltage	0 = Normal 1 = In Alarm	Line Voltage Sensing
34162	Diagnostic: MP: Invalid Configuration	0 = Normal 1 = In Alarm	Standard
34163	Diagnostic: MP: Reset Has Occurred	0 = Normal 1 = In Alarm	Standard

Modbus Register	Object Nmae	Description	Object States	Configuration Dependency
33011	Run Enabled	Indicates that chiller is available to run or is currently running	0 = Run Not Enabled 1 = Run Enabled	Standard
33012	Local Setpoint Control	Indicates the which setpoint is used for control purposes, Remote (BAS) or Local	0 = Remote control 1 = Local control	Standard
33013	Limit Mode Relay Status	Indicates the status of the chiller limit relay	0 = Off 1 = On	Standard
33014	Chiller Running State	Indicates whether the chiller is on (currently doing either cooling) or is considered off(not currently doing cooling)	0 = Off 1 = On	Standard
33015	Base Loading Request Active	Indicates the "active" Base Loading Request resulting from arbitration.	0 = Off 1 = On	Base Loading
33016	Evaporator Water Flow Status	Indicates the flow of water through evaporator	0 = No Flow 1 = Flow	Standard
33017	Diagnostic Present	Indicates whether diagnostic present	0 = Normal 1 = In Alarm	Standard
33018	Diagnostic Shutdown Present	Indicates chiller is shut down due to diagnostics	0 = Normal 1 = In Alarm	Standard
33019	Diagnostic: Manual Reset Required	Indicates when a diagnostic exists that requires manual reset	0 = Normal 1 = In Alarm	Standard
33020	Diagnostic: Local Manual Reset Required	Indicates when a diagnostic exists that requires manual reset [Local only]	0 = Normal 1 = In Alarm	Standard
33021	Diagnostic Present: Information	Indicates whether diagnostic present with Information Category	0 = Normal 1 = In Alarm	Standard
33022	Diagnostic Present: Advisory	Indicates whether diagnostic present with Warning Category	0 = Normal 1 = In Alarm	Standard
33023	Diagnostic Present: Critical	Indicates whether diagnostic present with Critical Category	0 = Normal 1 = In Alarm	Standard
33024	Diagnostic Present: Service Required	Indicates whether diagnostic present with Service Required Category	0 = Normal 1 = In Alarm	Standard
33025	Compressor 1A Status	Indicates running state fo Compressor 1A	0 = Off 1 = Running	Standard
33026	Condenser Water Pump Request	This provides a status of the Chillers Condenser Water Pump output.	0= Normal 1= In Alarm	Standard
33027	Evaporator Water Pump Request	This provides a status of the Chillers Evaporator Water Pump output.	0= Normal 1= In Alarm	Standard
33028	Condenser Water Flow Status	Indication of water flow through the condenser	0= Normal 1= In Alarm	Standard
33029	Heat Recovery Water Flow Status	Heat Recovery Water Flow Status	0= Off 1= Running	Heat Recovery
33030	Heat Recovery Control Active Status	Heat Recovery Active	0= Off 1= Running	Heat Recovery
33031	Heat Recovery Request Active	Active Heat Recovery Command	0= Off 1= Running	Heat Recovery
33032	Front Panel Auto Stop	Indicates the auto/stop status of the Front Panel	0 = Stop 1 = Auto	Standard

Modbus Register	Object Nmae	Description	Object States	Configuration Dependency
43011	Chiller Auto Stop Command BAS	Normally used by the BMS to command the chiller to start running if operating conditions are satisfied, or to stop the chiller from running.	0 = Stop 1 = Auto	Standard
43012	Reset Diagnostic	Normally used by the BMS to initiate a request to reset any controller diagnostics	0 = Normal 1 = Reset	Standard
43013	Base Loading Request	Normally used by the BMS to command the chiller to enter a mode of operation where the	0 = Normal 1 = Reduce Noise	Base Loading
43014	Heat Recovery Enable BAS	Normally used by the BMS to command the heat recovery to start running if operating conditions are satisfied, or to stop the heat recovery from running.	0 = Off 1 = On	Heat Recovery
43015	Evaporator Water Pump Request BAS	Normally used by the BMS to lockout the Evaporator Water Pump	0 = Normal 1 = Locked Out	Standard
43016	Condenser Water Pump Request BAS	Normally used by the BMS to lockout the Condenser Water Pump	0 = Normal 1 = Locked Out	Standard

Modbus Register	Object Nmae	Description	Object States	Configuration Dependency
32011	Running Mode	Indicates the running state 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	Standard
32012	Operating Mode	Indicates the operating mode of the chiller	1 = Cool 2 = Heat 3= Ice Making 4= Free Cooling	Standard
32013	Refrigerant Type	Indicates the chiller refrigerant type	1 = R-11 2 = R-12 3= R-22 4= R-123 5 = R-134a 6 = R-407C 7 = R-410A 8 = R-113 9 = R-114 10 = R-500 11 = R-502 12 = R-404A 13 = R-513A 14 = R-1233zd(E) 15 = R-514A 16 = R-1234ze(E)	Standard
32014	Manufacture Location	Indicates the location that the 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	Standard
32015	Cooling Type	Indicates the cooling Type of chiller	1 = Water Cooled 2 = Air Cooled	Standard

Modbus Register	Object Nmae	Description	Object States	Configuration Dependency
32016	Model Information [GEN2]	Indicates the model information of chiller	1 = CVHF 2 = CVGF 3= CVHS 4= RTAE 5 = RTAF 6 = RTHA 7 = RTHB 8 = RTHC 9 = RTHD 10 = RTWE 11 = CTVD 12 = CVR 13 = CVHH 14 = CDHH 15 = VMAX 16 = GVAF 17 = RTWF 18 = RTHF 19 = RTAC 20 = CVHM 21 = RTAG 22 = CGAF 23 = RTXG 24 = GVWF 25 = HDWA 26 = CMAC 27 = IPAK 28 = CXAF 29 = ACSA 30 = RTSF 31 = HSWA 32 = ACRA 33 = RTEG 34 = ACXA 35 = CMAF 36 = ACRB Large 37 = ACRB Small	Standard

Modbus Register	Object Nmae	Description	Object States	Configuration Dependency
42011	Chiller Mode Command BAS	Normally used by the BMS to command the chiller Mode	1 = Cool 2 = Heat 3= Ice Making 4= Free Cooling	Standard

Diagnostics Code

Diagnostic Code (decimal)	Diagnostic Code (hex)	Diagnostic Name
1001	3E9	MP: Invalid Configuration
1006	3EE	MP: Reset Has Occurred
111001	1B199	Comm Loss: Evap Leaving Water Temp
111002	1B19A	Comm Loss: Evap Entering Water Temp
111003	1B19B	Comm Loss: Outdoor Air Temperature
111005	1B19D	Outdoor Air Temperature Sensor
111006	1B19E	Software Error 1001: Call Trane Service
131001	1FFB9	Low Evaporator Water Temp (Unit On)
131002	1FFBA	Evaporator Entering Water Temp Sensor
131003	1FFBB	Evaporator Leaving Water Temp Sensor
131005	1FFBD	Low Evaporator Water Temp (Unit Off)
131006	1FFBE	Evap Water Flow (Entering Water Temp)
141001	226C9	High Pressure Cutout
141002	226CA	Low Oil Flow
141003	226CB	Oil Pressure Transducer
141004	226CC	High Cprsr Rfgt Discharge Temperature
141005	226CD	Cprsr Discharge Refrigerant Temp Sensor
141006	226CE	Comm Loss: Cond High Pressure Cutout
141007	226CF	Comm Loss: Oil Pressure
141008	226D0	Comm Loss: Cprsr Discharge Rfgt Temp
141009	226D1	Oil Flow Protection Fault
141010	226D2	Low Differential Refrigerant Pressure
141011	226D3	No Differential Refrigerant Pressure
141012	226D4	Comm Loss: Oil Loss Level Sensor Input
141013	226D5	Loss of Oil at Compressor (Stopped)
141014	226D6	Loss of Oil at Compressor (Running)
141015	226D7	Low Discharge Superheat
141016	226D8	Comm Loss: Primary Oil Line Solenoid Valve
141017	226D9	High Differential Refrigerant Pressure
141018	226DA	High Refrigerant Pressure Ratio
141019	226DB	Comm Loss: Oil Return Gas Pump Drain

Diagnostic Code (decimal)	Diagnostic Code (hex)	Diagnostic Name
141020	226DC	Comm Loss: Oil Return Gas Pump Fill
141021	226DD	AFD Drive Fault
141022	226DE	Comm Loss: SSS/AFD Fault
151001	24DD9	Comm Loss: Cond Refrigerant Pressure
151002	24DDA	Condenser Refrigerant Pressure Xdcr
151003	24DDB	Excessive Condenser Pressure
161001	274E9	Comm Loss: Starter
161002	274EA	Starter Failed to Arm/Start
161003	274EB	Comm Loss: SSS/AFD Fault
161004	274EC	Solid State Starter Fault
161005	274ED	Unexpected Starter Shutdown
171003	29BFB	Starter Comm Loss: Main Processor
171004	29BFC	Starter Fault Type I
171005	29BFD	Starter Fault Type II
171006	29BFE	Starter Fault Type III
171007	29BFF	Starter Contactor Interrupt Failure
171008	29C00	Starter Did Not Transition
171009	29C01	Transition Complete Input Shorted
171010	29C02	Phase Loss
171011	29C03	Phase Reversal
171012	29C04	Severe Current Unbalance
171013	29C05	Power Loss
171014	29C06	Momentary Power Loss
171015	29C07	Motor Current Overload
171016	29C08	Compressor Did Not Accelerate: Shutdown
171018	29C0A	Cprsr Did Not Accelerate: Transition
171019	29C0B	Transition Complete Input Opened
171020	29C0C	Starter Module Memory Error Type 1
171021	29C0D	Starter Module Memory Error Type 2
171022	29C0E	Starter Dry Run Test
171023	29C0F	Over Voltage

Diagnostic Code (decimal)	Diagnostic Code (hex)	Diagnostic Name
171024	29C10	Under Voltage
171027	29C13	At Speed Input Shorted
171028	29C14	Compressor Did Not Accelerate Fully
171029	29C15	At Speed Input Opened
171030	29C16	AFD Bus Over Voltage
171031	29C17	AFD Bus Under Voltage
171032	29C18	AFD Comm Loss: Main Processor
171033	29C19	AFD Emergency Stop Fault
171034	29C1A	AFD General Failure
171035	29C1B	AFD Ground Fault
171036	29C1C	AFD Instantaneous Current Overload
171037	29C1D	AFD Inverter Heatsink Over Temp
171038	29C1E	AFD Motor Current Overload
171039	29C1F	AFD Output Phase Loss
171040	29C20	High Pressure Cutout
171041	29C21	Comm Loss: Motor Winding Temperature 1
171042	29C22	Comm Loss: Motor Winding Temperature 2
171043	29C23	Motor Winding Temp Sensor - Cprsr1A
171044	29C24	High Motor Winding Temperature
171045	29C25	AFD Rated Current Out of Range
171046	29C26	AFD Interrupt Failure
191001	2EA19	External Base Loading Setpoint
191002	2EA1A	Comm Loss: Ext Base Loading Setpoint
191003	2EA1B	Comm Loss: Ext Base Loading Command
21001	5209	Comm Loss: Electronic Expansion Valve 1
21002	520A	Comm Loss: Electronic Expansion Valve 2
21003	520B	Comm Loss: Evaporator Rfgt Pressure
21004	520C	Evaporator Rfgt Pressure Transducer
211001	33839	Comm Loss: Evaporator Water Pump Relay
211002	3383A	Comm Loss: Evaporator Water Flow Switch
211003	3383B	Evaporator Water Flow Overdue

Diagnostic Code (decimal)	Diagnostic Code (hex)	Diagnostic Name
211004	3383C	Evaporator Water Flow Lost
211005	3383D	High Evaporator Refrigerant Pressure
211006	3383E	High Evaporator Water Temperature
211007	3383F	Low Evaporator Water Flow
211008	33840	Comm Loss: Evap Diff Water Pressure
211009	33841	Evaporator Diff Water Pressure Xdcr
241001	3AD69	Comm Loss: External Ice Building Command
241002	3AD6A	Comm Loss: Ice Building Relay
261001	3FB89	Comm Loss: Condenser Water Pump Relay
261002	3FB8A	Comm Loss: Condenser Water Flow Switch
261003	3FB8B	Condenser Water Flow Overdue
261004	3FB8C	Condenser Water Flow Lost
261005	3FB8D	Condenser Diff Water Pressure Xdcr
261006	3FB8E	Comm Loss: Cond Diff Water Pressure
31001	7919	Comm Loss: Condenser Leaving Water Temp
31002	791A	Comm Loss: Condenser Entering Water Temp
31003	791B	Condenser Leaving Water Temp Sensor
31004	791C	Condenser Entering Water Temp Sensor
351001	55B19	Comm Loss: Heat Recovery Tank Water Temp
351002	55B1A	Heat Recovery Tank Water Temp Sensor
351003	55B1B	Comm Loss: HR Entering Water Temp Sensor
351004	55B1C	Heat Recovery Entering Water Temperature Sensor
351005	55B1D	Comm Loss: HR Leaving Water Temp Sensor
351006	55B1E	Heat Recovery Leaving Water Temperature Sensor
351007	55B1F	Comm Loss: External Heat Recovery Command
351008	55B20	Comm Loss: External Heat Recovery Setpoint
351009	55B21	Ext Heat Recovery Temp Setpoint Sensor
351010	55B22	Comm Loss: Heat Recovery Water Flow Switch
351011	55B23	Comm Loss: Heat Recovery Water Pump Relay
351012	55B24	Heat Recovery Water Flow Lost
351013	55B25	Heat Recovery Water Flow Overdue

Diagnostic Code (decimal)	Diagnostic Code (hex)	Diagnostic Name
351014	55B26	Unexpected Condenser Water Flow
351015	55B27	Unexpected Heat Recovery Water Flow
41001	A029	Low Evaporator Refrigerant Temperature
41002	A02A	Low Evaporator Refrigerant Pressure
41003	A02B	Low Evaporator Liquid Level
41004	A02C	High Evaporator Liquid Level
41005	A02D	Evaporator Liquid Level Sensor
41006	A02E	Comm Loss: Evaporator Rfgt Liquid Level
41007	A02F	Low Evaporator Temp: Unit Off
61001	EE49	Comm Loss: Slide Valve Unload
61002	EE4A	Comm Loss: Slide Valve Load
61005	EE4D	Restart Inhibit
61006	EE4E	AFD Output Power Input
61007	EE4F	Comm Loss: AFD Output Power Input
61008	EE50	Comm Loss: AFD Speed Signal Output
61009	EE51	Comm Loss: Adaptive Frequency Drive
61010	EE52	Comm Loss: Economizer Valve
61011	EE53	Comm Loss: Economizer Temperature
61012	EE54	Economizer Temperature Sensor
61013	EE55	Comm Loss: Economizer Pressure
61014	EE56	Economizer Pressure Sensor
61015	EE57	Comm Loss: Oil Return Purge Valve
61016	EE58	Comm Loss: Hot Gas Bypass Valve
61019	EE5B	Comm Loss: Liquid Line Bypass Valve
61020	EE5C	Comm Loss: Economizer Bypass Valve
81001	13C69	Emergency Stop
81002	13C6A	External Chilled/Hot Water Setpoint
81003	13C6B	External Demand Limit Setpoint
81004	13C6C	Comm Loss: External Auto/Stop
81005	13C6D	Comm Loss: Emergency Stop
81006	13C6E	Comm Loss: Ext Chilled/Hot Water Setpoint

Diagnostic Code (decimal)	Diagnostic Code (hex)	Diagnostic Name
81007	13C6F	Comm Loss: External Demand Limit Setpoint
81008	13C70	Comm Loss: Op Status Programmable Relays
81009	13C71	Refrigerant Monitor Input
81010	13C72	Comm Loss: Refrigerant Monitor Input
81011	13C73	Comm Loss: Compressor % RLA Output
81012	13C74	Comm Loss: Cond Rfgt Pressure Output
81013	13C75	Comm Loss: Cond Head Press Cntrl Output
81014	13C76	Comm Loss: External Hot Water Command