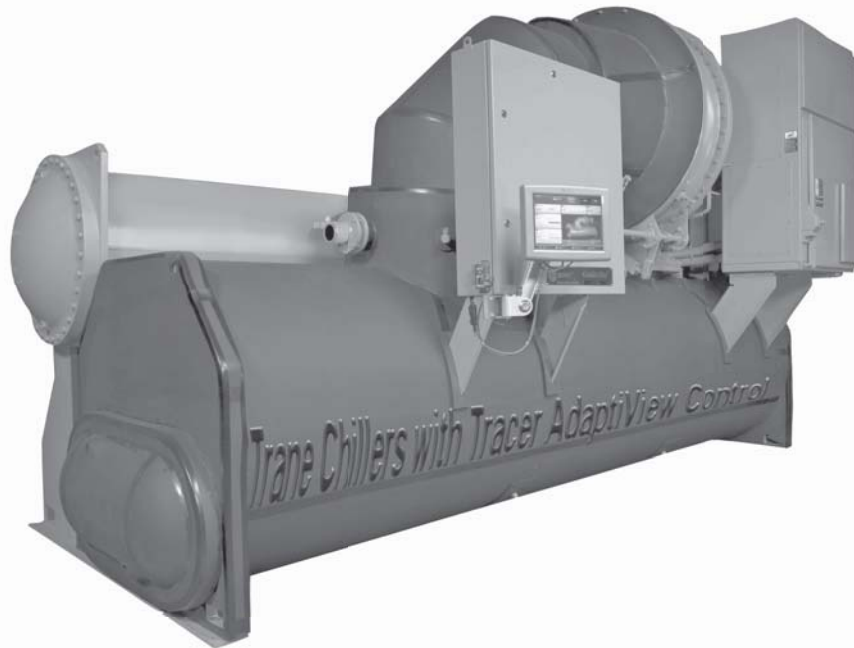# Integration Guide

BACnet™ and Modbus™ RTU Communication Interfaces

for Trane™ Chillers with Tracer AdaptiView™ Control

⚠SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

BAS-SVP01G-EN

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Warnings, Cautions, and Notices

Warnings, cautions, and notices are provided in appropriate places throughout this document:

⚠️**WARNING:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠️**CAUTION:** Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.

NOTICE: Indicates a situation that could result in equipment or property-damage-only accidents.

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Overview

Interoperability provides the capability for building control systems or devices from multiple vendors to communicate with each other through open, standard protocols.

Trane has adopted open, standard interoperable protocols to give customers the flexibility to choose the best possible vendor for their building subsystems and easily incorporate Trane products into legacy systems in existing buildings.

This guide will provide:

- A brief overview of two of these protocols supported by Trane—BACnet™ and Modbus™ Remote Terminal Unit (RTU)
- An equivalent listing of data points for both protocols for CenTraVac™ and Duplex CenTraVac chillers
- BACnet/Modbus RTU addressing
- BACnet/Modbus RTU data points and configuration property definitions
- Additional resources
- A glossary of terms

Note: *Users of this guide should have basic knowledge of BACnet/Modbus protocols. For more detailed information about these protocols, visit these company's web sites listed under* **"Additional Resources," p. 73**.

BACnet Protocol

The Building Automation and Control Network (BACnet and ANSI/ASHRAE Standard 135-2004) protocol is a standard that allows building automation systems or components from different manufacturers to share information and control functions. BACnet provides building owners the capability to connect various types of building control systems or subsystems together for a variety of reasons. In addition, multiple vendors can use this protocol to share information for monitoring and supervisory control between systems and devices in a multi-vendor interconnected system.

The BACnet protocol identifies standard objects (data points) called BACnet objects. Each object has a defined list of properties that provide information about that object. BACnet also defines a number of standard application services that are used to access data and manipulate these objects and provides a client/server communication between devices.

BACnet Testing Laboratory (BTL) Certification

All Tracer™ UC800 controllers are designed to support BACnet communication protocol. In addition, some particular revisions of the UC800 firmware have been tested and have achieved BTL certification by an official BACnet testing laboratory. For more details, refer to the BTL website at **www.bacnetassociation.org**.

Modbus RTU Protocol

Modicon Communication Bus (Modbus) is an application layer-messaging protocol that, like BACnet, provides client/server communication between devices over a variety of networks. During communications on a Modbus RTU network, the protocol determines how each controller will know its device address, recognize a message addressed to its device, determine what action to take, and extract any data or other information contained in the message.

Controllers communicate using a master/slave technique, whereby, only one device (master) can initiate transactions (queries). Other devices (slaves) respond by supplying the requested data to the master or by taking the action requested in the query.

The master can address individual slaves or it can initiate a broadcast message to all slaves. In turn, the slaves respond to queries that are addressed to them individually or broadcasted.

The Modbus RTU protocol establishes the format for the master's query by placing into it the device address, a function code defining the requested action, any data to be sent, and an error-checking field.

Tracer UC800 Controller Rotary Switches

This section provides information about the Tracer™ UC800 controller rotary switches and LED displays.

Communication Interfaces

The UC800 supports the communication interfaces listed below. There is one set of terminations (link) for BACnet and Modbus. LonTalk™ and Comm 4 communication interfaces connect to the IPC3 bus which is the MBUS connection.

- BACnet MS/TP
- Modbus Slave
- LonTalk using LCI-C (from the IPC3 bus)

  Note: Refer to *"Additional Resources," p. 73*.

- Comm 4 using TCI (from the IPC3 bus)

Rotary Switches

There are three rotary switches on the front of the UC800 (see **Figure 1, p. 8**). Use these switches to define a three-digit address when the UC800 is installed in a BACnet or Modbus RTU system (for example, 107, 127, and so on).

Note: *Valid MAC addresses are 001 to 127 for BACnet and 001 to 247 for Modbus RTU. For additional information about setting higher addresses, refer to* **"Device ID," p. 22**.

LED Description and Operation

There are 10 LEDs on the front of the UC800. **Figure 1** shows the locations of each LED and a description of its behavior in specific instances.

Figure 1. LED locations

Example of before and after setting addresses
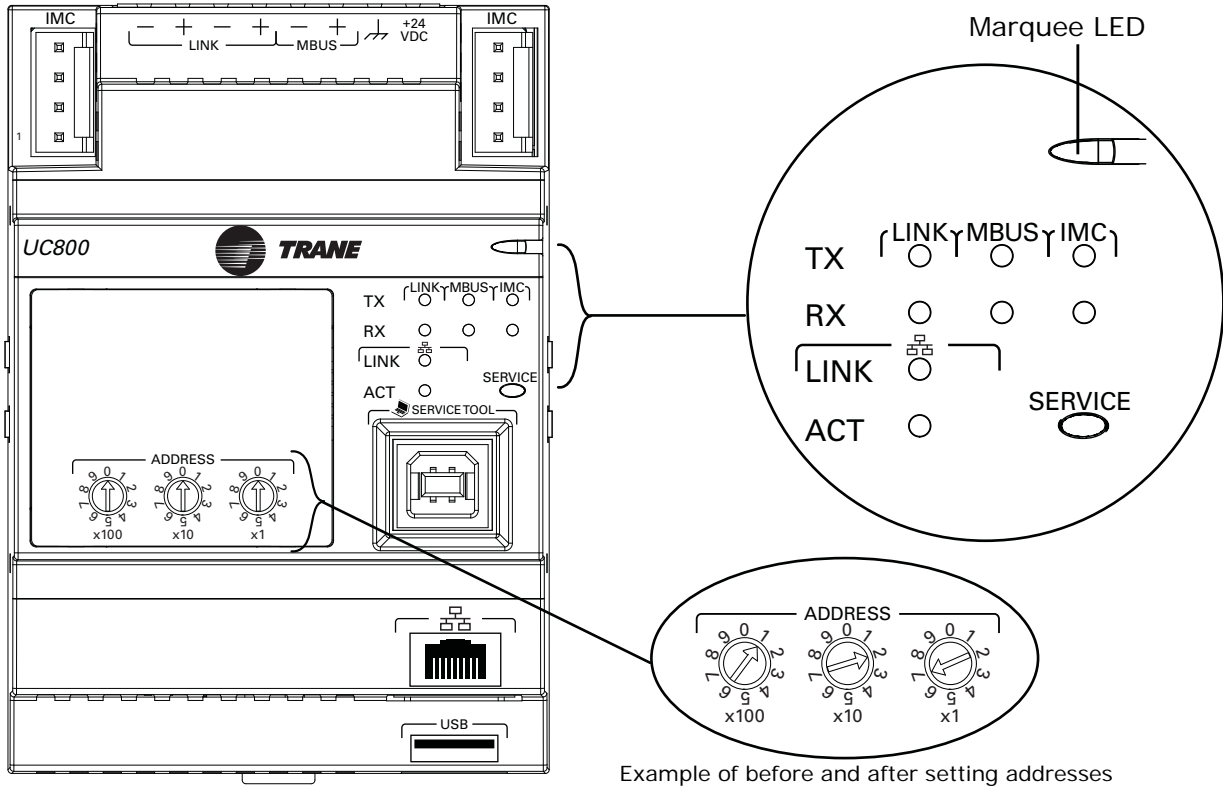
Marquee LED

- Shows solid green when the UC800 is **powered** and operating normally.
- Shows solid red when the UC800 is powered, but represents **low power** or a **malfunction**.
- Blinks red when an **alarm** exists.

LINK, MBUS, IMC

- The **TX** LED blinks green at the data transfer rate when the UC800 transfers data to other devices on the link.
- The **RX** LED blinks yellow at the data transfer rate when the UC800 receives data from other devices on the link.

Ethernet Link

- The **LINK** LED shows solid green if the Ethernet link is connected and communicating.
- The **ACT** LED blinks yellow at the data transfer rate when data flow is active on the link.

SERVICE

- Shows solid green when pressed. (For more details, refer to the document, *Installation, Operation, and Maintenance Guide for CVHE, CVHF, and CVHG Water-cooled CenTraVac Chillers with Tracer AdaptiView Control listed in the section,* **"Additional Resources," p. 73**.)

Equivalent Data Points Reference List for CenTraVac Chillers: BACnet, Modbus RTU

The following table provides a quick reference to equivalent data point objects names for CenTraVac chillers when using either BACnet or Modbus RTU communications. This table is sorted alphabetically by data point names.

Note: *The information contained in the following table are for versions 2.06 and higher. For version 1.11, refer to BACnet and Modbus RTU Communications Interfaces for Trane Chillers with Tracer AdaptiView Control Integration Guide (BAS-SVP01B-EN)*

Data Point Object Name	BACnet Object	Modbus RTU Register
Active Base Loading Setpoint	AI3	30006
Active Base Loading Setpoint Source	MI7	30032
Active Chilled Water Setpoint Source	MI4	30029
Active Cool/Heat Setpoint Temperature	AI7	30010
Active Current Limit Setpoint	AI2	30005
Active Current Limit Setpoint Source	MI5	30030
Active Hot Water Setpoint Source	MI6	30031
AFD Average Input Current	AI71	30112
AFD Input Current L1	AI72	30114
AFD Input Current L2	AI73	30115
AFD Input Current L3	AI74	30116
AFD Input Frequency	AI75	30111
AFD Inverter Base Temperature	AI78	30118
AFD Output Power	AI80	30120
AFD Output Voltage	AI76	30113
AFD Rectifier Base Temperature	AI79	30119
AFD Transistor Temp	AI70	30110
Alarm Present	BI10	30047
Approx Cond Water Flow	AI14	30021
Approx Evap Water Flow	AI12	30017
Approx Unit Heating Power	NA	30009
Average Line Current	AI61	30004
Average Line Current Amps	AI57	30097
BAS Base Loading Enable	BV1	40007
BAS Base Loading Setpoint	AV4	40006
BAS Chilled Water Setpoint	AV1	40003
BAS Chiller Auto Stop Command	MV1	40001
BAS Chiller Mode Command	MV2	40002
BAS Current Limit Setpoint	AV2	40004
BAS Diagnostic Reset	BV2	40008
BAS Hot Water Setpoint	AV3	40005
Base Loading	BI9	30046
Calculated Chiller Capacity	AI5	30008
Carbon Tank Temp	AI39	30071
Chiller Control Mode	MI2	30027
Chiller Running	BI1	30003
Chiller Running Status	MI1	30026
Compressor Refrigerant Discharge Temperature	AI36	30065
Compressor Running	MI11	30055
Compressor Running Time	AI49	30088, 30089
Compressor Starts	AI48	30086, 30087
Cond Differential Wtr Press	AI15	30022
Cond Entering Water Temp	AI10	30013
Cond Leaving Water Temp	AI11	30014

Data Point Object Name	BACnet Object	Modbus RTU Register
Cond Sat Rfgt Temp	AI35	30064
Condenser Pump Control	BI4	30019
Condenser Pump Override	NA	40010
Condenser Rfgt Pressure	AI28	30057
Condenser Water Flow	BI5	30020
Daily Pumpout-24 Hours	AI45	30080, 30081
Differential Refrigerant Pressure	AI29	30058
Emergency Stop	BI597	30044
Evap Entering Water Temp	AI9	30012
Evap Leaving Water Temp	AI8	30011
Evap Rfgt Pressure	AI27	30056
Evap Sat Rfgt Temp	AI34	30063
Evaporator Pump Control	BI2	30015
Evaporator Pump Override	NA	40009
Evaporator Water Flow	BI3	30016
Ext Base Loading Setpoint	AI25	30043
Ext Chilled Wtr Setpt	AI23	30041
Ext Current Limit Setpt	AI24	30042
External Auto Stop	MI10	30040
Frequency	AI69	30109
Front Panel Auto/Stop	MI8	30033
Front Panel Base Load Setpt	AI22	30038
Front Panel Base Loading Command	BI6	30039
Front Panel Chilled Water Setpt	AI19	30035
Front Panel Chiller Control Mode	MI9	30034
Front Panel Current Limit Setpoint	AI20	30036
Front Panel Hot Water Setpt	AI21	30037
Head Relief Request Relay	BI15	30052
Hot Gas Bypass	BI16	30053
IGV1 Position	AI37	30066
IGV2 Position	AI38	30067
Inboard Bearing Temp	AI64	30104
Last Diagnostic Code	**"Diagnostics: Inputs with Alarming Capabilities (Sorted by Instance)," p. 33**	30025
Limit Mode Relay Status	BI14	30051
Local Setpoint Control	BI12	30049
Manual Override Exists	BI8	30045
Maximum Capacity Relay	BI13	30050
Motor Winding Temp #1	AI66	30106
Motor Winding Temp #2	AI67	30107
Motor Winding Temp #3	AI68	30108
Oil Differential Pressure	AI32	30061
Oil Pump Discharge Pressure	AI31	30060
Oil Tank Pressure	AI30	30059
Oil Tank Temperature	AI33	30062
Outboard Bearing Temp	AI65	30105
Pumpout Chiller Off-7 Days	AI44	30078, 30079
Pumpout Chiller On-7 Days	AI43	30076, 30077
Pumpout Relay	BI18	30069
Pumpout-Life	AI46	30082, 30083
Purge Compressor Relay	BI17	30068
Purge Liquid Temp	AI40	30072
Purge Regen Valve Solenoid	BI19	30070
Purge Rfgt Cprs Suction Temp	AI41	30073

Data Point Object Name	BACnet Object	Modbus RTU Register
Refrigerant Monitor	AI26	30054
Refrigeration-Life	AI47	30084, 30085
Run Enable	BI11	30023
Second Condenser Ent Wtr Temp	AI16	30023
Second Condenser Lvg Wtr Temp	AI17	30024
Setpoint Source	MI3	30028
Software Revision	Device Object	30002
Software Type	Device Object	30001
Starter Average Phase Voltage	AI53	30093
Starter Current L1	AI54	30094
Starter Current L1 % RLA	AI58	30098
Starter Current L2	AI55	30095
Starter Current L2 % RLA	AI59	30099
Starter Current L3	AI56	30096
Starter Current L3 % RLA	AI60	30100
Starter Load Power Factor	AI63	30103
Starter Power Consumption	AI62	30007
Starter Voltage Phase AB	AI50	30090
Starter Voltage Phase BC	AI51	30091
Starter Voltage Phase CA	AI52	30092
Time Until Next Purge Run	AI42	30074, 30075
Unfiltered Evap Differential Wtr Press	AI13	30018

Equivalent Data Points Reference List for Duplex CenTraVac Chillers: BACnet, Modbus RTU

The following table provides a quick reference to equivalent data point objects names for Duplex CenTraVac chillers when using either BACnet or Modbus RTU communications. This table is sorted alphabetically by data point names.

Data Point Object Name	BACnet Object	Modbus RTU Register
Active Base Loading Setpt	AI3	30006
Active Base Loading Setpoint Source	MI7	30032
Active Chilled Water Setpoint Source	MI4	30029
Active Cool/Heat Setpoint Temperature	AI7	30010
Active Current Limit Setpoint	AI2	30005
Active Current Limit Setpoint Source	MI5	30030
Active Hot Water Setpoint Source	MI6	30031
AFD Average Input Current Ckt1	AI118	30168
AFD Average Input Current Ckt2	AI128	30178
AFD Input Current L1 Ckt1	AI119	30170
AFD Input Current L1 Ckt2	AI129	30180
AFD Input Current L2 Ckt1	AI120	30171
AFD Input Current L2 Ckt2	AI130	30181
AFD Input Current L3 Ckt1	AI121	30172
AFD Input Current L3 Ckt2	AI131	30182
AFD Input Frequency Ckt1	AI122	30167
AFD Input Frequency Ckt2	AI132	30177
AFD Input Power Factor Ckt1	AI124	30173
AFD Input Power Factor Ckt2	AI134	30183
AFD Inverter Base Temperature Ckt1	AI125	30174
AFD Inverter Base Temperature Ckt2	AI135	30184
AFD Last Diagnostic Code Ckt1	AI18	NA
AFD Last Diagnostic Code Ckt2	AI115	NA
AFD Output Power Ckt1	AI127	30176
AFD Output Power Ckt2	AI137	30186
AFD Output Voltage Ckt1	AI123	30169
AFD Output Voltage Ckt2	AI133	30179
AFD Rectifier Base Temperature Ckt1	AI126	30175
AFD Rectifier Base Temperature Ckt2	AI136	30185
AFD Transistor Temperature Ckt1	AI70	30110
AFD Transistor Temperature Ckt2	AI114	30166
Alarm Present	BI10	30047
Approx Cond Water Flow	AI14	30021
Approx Evap Water Flow	AI12	30017
Approx Unit Heating Power	NA	30009
Average Line Current % RLA Ckt1	AI61	30101
Average Line Current % RLA Ckt2	Ai105	30157
Average Line Current Ckt1	AI57	30097
Average Line Current Ckt2	AI101	30153
BAS Base Loading Enable	BV1	40007
BAS Base Loading Setpoint	AV4	40006
BAS Chilled Water Setpoint	AV1	40003
BAS Chiller Auto Stop Command	MV1	40001
BAS Chiller Mode Command	MV2	40002
BAS Current Limit Setpoint	AV2	40004
BAS Diagnostic Reset	BV2	40008
BAS Hot Water Setpoint	AV3	40005
Base Loading	BI9	30046

Data Point Object Name	BACnet Object	Modbus RTU Register
Calculated Chiller Capacity	AI5	30008
Chiller Control Mode	MI2	30027
Chiller Running	BI1	30003
Chiller Running Status	MI1	30026
Compressor Refrigerant Discharge Temperature Ckt1	AI36	30065
Compressor Refrigerant Discharge Temperature Ckt2	AI80	30121
Compressor Running Ckt1	MI11	30055
Compressor Running Ckt2	MI12	30111
Compressor Running Time Ckt1	AI49	30088, 30089
Compressor Running Time Ckt2	AI93	30144, 30145
Compressor Starts Ckt1	AI48	30086, 30087
Compressor Starts Ckt2	AI92	30142, 30143
Cond Differential Wtr Press	AI15	30022
Cond Entering Water Temp	AI10	30013
Cond Leaving Water Temp	AI11	30014
Condenser Pump Control	BI4	30019
Condenser Pump Override	NA	40010
Condenser Refrigerant Pressure Ckt1	AI28	30057
Condenser Refrigerant Pressure Ckt2	AI72	30113
Condenser Saturated Rfgt Temp Ckt1	AI35	30064
Condenser Saturated Rfgt Temp Ckt2	AI79	30120
Condenser Water Flow	BI5	30020
Daily Pumpout-24 Hours Ckt1	AI45	30080, 30081
Daily Pumpout-24 Hours Ckt2	AI89	30136, 30137
Differential Refrigerant Pressure Ckt1	AI116	30058
Differential Refrigerant Pressure Ckt2	AI117	30114
Emergency Stop	BI7	30044
Evap Entering Water Temp	AI9	30012
Evap Leaving Water Temp	AI8	30011
Evaporator Pump Control	BI2	30015
Evaporator Pump Override	NA	40009
Evaporator Water Flow	BI3	30016
Evaporator Refrigerant Pressure Ckt1	AI27	30056
Evaporator Refrigerant Pressure Ckt2	AI71	30112
Evaporator Saturated Rfgt Temp Ckt1	AI34	30063
Evaporator Saturated Rfgt Temp Ckt2	AI78	30119
External Base Loading Setpoint	AI25	30043
Ext Chilled Wtr Setpt	AI23	30041
Ext Current Limit Setpt	AI24	30042
External Auto Stop	MI10	30040
Frequency Ckt1	AI69	30109
Frequency Ckt2	AI113	30165
Front Panel Auto/Stop	MI8	30033
Front Panel Base Loading Command	BI6	30039
Front Panel Base Loading Setpt	AI22	30038
Front Panel Chilled Water Setpt	AI19	30035
Front Panel Chiller Control Mode	MI9	30034
Front Panel Current Limit Setpoint	AI20	30036
Front Panel Hot Water Setpt	AI21	30037
Head Relief Request Relay	BI15	30052
IGV 1 Percent Open Ckt1	AI37	30066
IGV 1 Percent Open Ckt2	AI81	30122
IGV 2 Percent Open Ckt1	AI38	30067
IGV 2 Percent Open Ckt2	AI82	30123

Data Point Object Name	BACnet Object	Modbus RTU Register
Inboard Bearing Temperature Ckt1	AI64	30104
Inboard Bearing Temperature Ckt2	AI108	30160
Last Diagnostic Code	BI501-BI901	30025
Limit Mode Relay Status	BI14	30051
Local Setpoint Control	BI12	30049
Manual Override Exists	BI8	30045
Maximum Capacity Relay	BI13	30050
Motor Winding Temperature 1 Ckt1	AI66	30106
Motor Winding Temperature 1 Ckt2	AI110	30162
Motor Winding Temperature 2 Ckt1	AI67	30107
Motor Winding Temperature 2 Ckt2	AI111	30163
Motor Winding Temperature 3 Ckt1	AI68	30108
Motor Winding Temperature 3 Ckt2	AI112	30164
Oil Differential Pressure Ckt1	AI32	30061
Oil Differential Pressure Ckt2	AI76	30117
Oil Pump Discharge Pressure Ckt1	AI31	30060
Oil Pump Discharge Pressure Ckt2	AI75	30116
Oil Tank Pressure Ckt1	AI30	30059
Oil Tank Pressure Ckt2	AI74	30115
Oil Tank Temperature Ckt1	AI33	30062
Oil Tank Temperature Ckt2	AI77	30118
Outboard Bearing Temperature Ckt1	AI65	30105
Outboard Bearing Temperature Ckt2	AI109	30161
Pumpout Chiller Off-7 Days Ckt1	AI44	30078, 30079
Pumpout Chiller Off-7 Days Ckt2	AI88	30134, 30135
Pumpout Chiller On-7 Days Ckt1	AI43	30076, 30077
Pumpout Chiller On-7 Days Ckt2	AI87	30132, 30133
Pumpout Relay Ckt1	BI18	30069
Pumpout Relay Ckt2	BI21	30125
Pumpout-Life Ckt1	AI46	30082, 30083
Pumpout-Life Ckt2	AI90	30138, 30139
Purge Carbon Tank Temp Ckt1	AI39	30071
Purge Carbon Tank Temp Ckt2	AI83	30127
Purge Compressor Relay Ckt1	BI17	30068
Purge Compressor Relay Ckt2	BI20	30124
Purge Liquid Temperature Ckt1	AI40	30072
Purge Liquid Temperature Ckt2	AI84	30128
Purge Regen Valve Solenoid Ckt1	BI19	30070
Purge Regen Valve Solenoid Ckt2	BI22	30126
Purge Rfgt Compressor Suction Temp Ckt1	AI41	30073
Purge Rfgt Compressor Suction Temp Ckt2	AI85	30129
Refrigerant Monitor	AI26	30054
Refrigeration-Life Ckt1	AI47	30084, 30085
Refrigeration-Life Ckt2	AI91	30140, 30141
Run Enabled	BI11	30048
Setpoint Source	MI3	30028
Software Revision	Device Object	30002
Software Type	Device Object	30001
Starter Average Phase Voltage Ckt1	AI53	30093
Starter Average Phase Voltage Ckt2	AI97	30149
Starter Current L1 % RLA Ckt1	AI58	30098
Starter Current L1 % RLA Ckt2	AI102	30154
Starter Current L1 Ckt1	AI54	30094
Starter Current L1 Ckt2	AI98	30150

Equivalent Data Points Reference List for Duplex CenTraVac Chillers: BACnet, Modbus RTU

Data Point Object Name	BACnet Object	Modbus RTU Register
Starter Current L2 % RLA Ckt1	AI59	30099
Starter Current L2 % RLA Ckt2	AI103	30155
Starter Current L2 Ckt1	AI55	30095
Starter Current L2 Ckt2	AI99	30151
Starter Current L3 % RLA Ckt2	AI60	30100
Starter Current L3 % RLA Ckt2	AI104	30156
Starter Current L3 Ckt1	AI56	30096
Starter Current L3 Ckt2	AI100	30152
Starter Load Power Factor Ckt1	AI63	30103
Starter Load Power Factor Ckt2	AI107	30159
Starter Power Consumption Ckt1	AI62	30102
Starter Power Consumption Ckt2	AI106	30158
Starter Voltage Phase AB Ckt1	AI50	30090
Starter Voltage Phase AB Ckt2	AI94	30146
Starter Voltage Phase BC Ckt1	AI51	30091
Starter Voltage Phase BC Ckt2	AI95	30147
Starter Voltage Phase CA Ckt1	AI52	30092
Starter Voltage Phase CA Ckt2	AI96	30148
Time Until Next Purge Run Ckt1	AI42	30074, 30075
Time Until Next Purge Run Ckt2	AI86	30130, 30131
Unfiltered Evap Differential Wtr Press	AI13	30018
Unit Average Line Current	AI1	30004
Unit Power Consumption	AI4	30007

Equivalent Data Points Reference List for Tracer AdaptiView Panel Upgrade: BACnet, Modbus RTU

The following table provides a quick reference to equivalent data point objects names for the Tracer AdaptiView Panel Upgrade when using either BACnet or Modbus RTU communications. This table is sorted alphabetically by data point names.

Data Point	BACnet Object	Modbus Register
Active Base Loading Setpoint	AI3	30006
Active Base Loading Setpoint Source	MI7	30032
Active Chilled Water Setpoint Source	MI4	30029
Active Cool/Heat Setpoint Temperature	AI7	30010
Active Current Limit Setpoint	AI2	30005
Active Current Limit Setpoint Source	MI5	30030
Active Hot Water Setpoint Source	MI6	30031
AFD Last Diagnostic Code (decimal)	AI18	NA
AFD Transistor Temp	AI70	30110
Alarm Present	BI10	30047
Approximate Condenser Water Flow	AI14	30021
Approximate Evaporator Water Flow	AI12	30017
Approx Unit Heating Power	NA	30009
Average Line Current	AI57	30097
Average Line Current % RLA	AI61	30004
BAS Base Loading Enable	BV1	40007
BAS Base Loading Setpoint	AV4	40006
BAS Chilled Water Setpoint	AV1	40003
BAS Chiller Auto Stop Command	MV1	40001
BAS Chiller Mode Command	MV2	40002
BAS Current Limit Setpoint	AV2	40004
BAS Diagnostic Reset	BV2	40008
BAS Hot Water Setpoint	AV3	40005
Base Loading	BI9	30046
Calculated Chiller Capacity	AI5	30008
Chiller Control Mode	MI2	30027
Chiller Running	BI1	30003
Chiller Running Status	MI1	30026
Compressor Refrigerant Discharge Temperature	AI36	30065
Compressor Running	MI11	30055
Compressor Running Time	AI49	30088, 30089
Compressor Starts	AI48	30086, 30087
Condenser Differential Water Pressure	AI15	30022
Condenser Entering Water Temperature	AI10	30013
Condenser Leaving Water Temperature	AI11	30014
Condenser Pump Control	BI4	30019
Condenser Refrigerant Pressure	AI28	30057
Condenser Saturated Refrigerant Temperature	AI35	30064
Condenser Water Flow	BI5	30020
Daily Pumpout-24 Hours	AI45	30080, 30081
Differential Refrigerant Pressure	AI29	30058
Emergency Stop	BI7	30044
Evaporator Entering Water Temperature	AI9	30012
Evaporator Leaving Water Temperature	AI8	30011
Evaporator Pump Control	BI2	30015
Evaporator Refrigerant Pressure	AI27	30056
Evaporator Saturated Refrigerant Temperature	AI34	30063
Evaporator Water Flow	BI3	30016

Data Point	BACnet Object	Modbus Register
External Auto Stop	MI10	30040
External Base Loading Setpoint	AI25	30043
External Chilled Water Setpoint	AI23	30041
External Current Limit Setpoint	AI24	30042
Frequency	AI69	30109
Front Panel Auto/Stop	MI8	30033
Front Panel Base Load Setpoint	AI22	30038
Front Panel Base Loading Command	BI6	30039
Front Panel Chilled Water Setpoint	AI19	30035
Front Panel Chiller Control Mode	MI9	30034
Front Panel Current Limit Setpoint	AI20	30036
Front Panel Hot Water Setpoint	AI21	30037
Head Relief Request Relay	BI15	30052
Hot Gas Bypass	BI16	30053
Inboard Bearing Temp	AI64	30104
Inlet Guide Vane Position First Stage	AI37	30066
Inlet Guide Vane Position Second Stage	AI38	30067
Last Diagnostic Code	See BACnet section of this document for alarm descriptions.	30025
Limit Mode Relay Status	BI14	30051
Local Setpoint Control	BI12	30049
Manual Override Exists	BI8	30045
Maximum Capacity Relay	BI13	30050
Motor Winding Temp #1	AI66	30106
Motor Winding Temp #2	AI67	30107
Motor Winding Temp #3	AI68	30108
Oil Differential Pressure	AI32	30061
Oil Pump Discharge Pressure	AI31	30060
Oil Tank Pressure	AI30	30059
Oil Tank Temperature	AI33	30062
Outboard Bearing Temp	AI65	30105
Pumpout Chiller Off—7 Days	AI43	30076, 30077
Pumpout Chiller On-7 Days	AI44	30078, 30079
Pumpout Relay	BI18	30069
Pumpout-Life	AI46	30082, 30083
Purge Carbon Tank Temp	AI39	30071
Purge Compressor Relay	BI17	30068
Purge Liquid Temperature	AI40	30072
Purge Refrigerant Compressor Suction Temp	AI41	30073
Purge Regen Valve Solenoid	BI19	30070
Refrigerant Monitor	AI26	30054
Refrigeration-Life	AI47	30084, 30085
Run Enable	BI11	30048
Second Condenser Entering Water Temperature	AI16	30023
Second Condenser Leaving Water Temperature	AI17	30024
Setpoint Source	MI3	30028
Software Revision	Device Object	30002
Software Type	Device Object	30001
Starter Average Phase Voltage	AI53	30093
Starter Current L1	AI54	30094
Starter Current L1 % RLA	AI58	30098
Starter Current L2	AI55	30095
Starter Current L2 % RLA	AI59	30099
Starter Current L3	AI56	30096

Data Point	BACnet Object	Modbus Register
Starter Current L3 % RLA	AI60	30100
Starter Load Power Factor	AI63	30103
Starter Power Consumption	AI62	30007
Starter Voltage Phase AB	AI50	30090
Starter Voltage Phase BC	AI51	30091
Starter Voltage Phase CA	AI52	30092
Time Until Next Purge Run	AI42	30074, 30075
Unfiltered Evap Differential Wtr Press	AI13	30018

BACnet Data Points and Configuration Property Definitions

The Tracer UC800 controller is an equipment unit controller that provides the equipment system sequences and performs closed-loop control. In addition, the UC800 integrates with other BACnet systems and devices using BACnet MS/TP. This section includes information about:

- BACnet protocol implementation conformance statement (PICS)
- Object types: descriptions and configuration (see)
- Baud rate, Device ID, and character set
- Object data points and configurations—CenTraVac and Duplex CenTraVac

BACnet Protocol Implementation Conformance Statement (PICS)

Standardized Device Profile

BACnet application specific controller (B-ASC)

Interoperability Building Blocks

Data Sharing

- Data Sharing-ReadProperty-B (DS-RP-B)
- Data Sharing-ReadPropertyMultiple-B (DS-RPM-B)
- Data Sharing-WriteProperty-B (DS-WP-B)
- Data Sharing-WritePropertyMultiple-B (DS-WPM-B)

Alarm and Event Management

- Alarm and Event-Notification Internal-B (AE-N-I-B)
- Alarm and Event-Information-B (AE-INFO-B)

Device Management

- Device Management-Dynamic Device Binding-A (DM-DDB-A)
- Device Management-Dynamic Device Binding-B (DM-DDB-B)
- Device Management-Dynamic Object Binding-B (DM-DOB-B)
- Device Management-Device Communication Control-B (DM-DCC-B)
- Device Management-TimeSynchronization-B (DM-TS-B)
- Device Management-UTCTimeSynchronization-B (DM-UTC-B)

Object Types

Object Type	Required Properties Read	Properties Written	Optional Properties Read	Ability to Create	Ability to Delete
Analog Input	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Units	• Object_Name • Out_Of_Service	Reliability	None	None
Analog Output	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Units • Priority_Array • Relinquish_Default	• Object_Name • Present_Value • Out_Of_Service • Relinquish_Default	Reliability	None	None
Analog Value	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Units	• Object_Name • Present_Value • Out_Of_Service • Relinquish_Default	• Priority_Array • Relinquish_Default • Reliability	None	None
Binary Input	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Polarity	• Object_Name • Out_Of_Service • Inactive_Text • Active_Text	• Inactive_Text • Active_Text • Time_Delay • Notification_Class • Alarm_Value • Event_Enable • Acked_Transitions • Notify_Type • Event_Time_Stamps • Reliability	None	None
Binary Output	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Polarity • Priority_Array • Relinquish_Default	• Object_Name • Present_Value • Out_Of_Service • Relinquish_Default • Inactive_Text • Active_Text	• Inactive_Text • Active_Text • Reliability	None	None
Binary Value	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service	• Object_Name • Present_Value • Out_Of_Service • Inactive_Text • Active_Text • Relinquish_Default	• Inactive_Text • Active_Text • Priority_Array • Relinquish_Default • Reliability	None	None

Object Type	Required Properties Read	Properties Written	Optional Properties Read	Ability to Create	Ability to Delete
Device	• Object_Identifier • Object_Name • Object_Type • System_Status • Vendor_Name • Vendor_Identifier • Model_Name • Firmware_Revision • Application_Software_Version • Protocol_Version • Protocol_Revision • Protocol_Services_Supported • Protocol_Object_Types_Supported • Object_List • Max_APDU_Length_Accepted • Segmentation_Supported • APDU_Timeout • Number_Of_APDU_Retries • Device_Address_Binding • Database_Revision	Object_Name	• Max_Segments_Accepted • APDU_Segment_Timeout • Max_Master • Max_Info_Frames • Local_Time • Local_Date • UTC_Offset • Daylight_Savings_Status	None	None
Multistate Input	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Number_Of_States	• Object_Name • State_Text	• State_Text • Reliability	None	None
Multistate Output	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Number_Of_States • Priority_Array • Relinquish_Default	• Object_Name • Present_Value • Relinquish_Default • State_Text	• State_Text • Reliability	None	None
Multistate Value	• Object_Identifier • Object_Name • Object_Type • Present_Value • Status_Flags • Event_State • Out_Of_Service • Number_Of_States	• Object_Name • Present_Value • State_Text • Relinquish_Default	• State_Text • Priority_Array • Relinquish_Default • Reliability	None	None
Notification Class	• Object_Identifier • Object_Name • Object_Type • Notification_Class • Priority • Ack_Required • Recipient_List	• Object_Name • Recipient_List	None	None	None

Protocol: Baud Rate, Device ID, and Supported Character Sets

Baud Rate

MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400 (*default*), and 76800.

Device ID

The Device ID is used to uniquely identify each BACnet device and it can be in the range of 0 to 4194302. There cannot be more than one device using the same Device ID. Each of the sample applications operates as a device and requires its own Device ID which defaults to the rotary dial settings.

- Current Device ID—The default Device ID is set to the Tracer UC800 MAC address set on the rotary dials. The device ID can also be soft set using the Tracer™ TU service tool.
- Soft Set Device ID—If the BACnet protocol is being used, you can enter a soft set device ID using the Tracer TU software.

   Note: *This is required if a device ID larger than 127 is needed.*

Character Sets

- ANSI X3.4
- ISO 10646 (UCS2)
- ISO 8859-1

Measurements, Units, and Conversion Factors—CenTraVac and Duplex

The UC800 communicates all units in System International (SI). The table below shows units by data type and conversion factors.

Measurement	UC800 Units	Conversion Factor
Concentration	PPM	NA
Current	Amps	NA
Flow, Air	Liters/Second	cfm = value x 2.12
Flow, Water	Liters/Minute	gpm = value x 0.264
Frequency	Hz	NA
Power, Electrical	kW	NA
Power, Cooling	kW	Tons = value x 0.284
Pressure	kPa	psi = value x 0.145
Temperature	°C	°F = (value x 1.8) + 32
Time	Seconds	NA
Voltage	V	NA

CenTraVac—Object Data Points and Configurations

Device Object

Object Name	Instance	Property Values
UC800 (Dev Instance)	Configurable	NA

Notification Class Objects

Object Name	Instance	Property Values
Warning	1	NA
Normal Shutdown	2	NA
Immediate ShutDown	3	NA

Read/Write Values (Sorted by Object Type and Instance)

Object Name	Object Type	Instance	Property Values	Relinquish Default	Valid Range	Desc.
BAS Chilled Water Setpoint	AV	1	Real	6.7°C/44°F	-17.78° to 23.9°C/ 0°F to 75°F (depending on installed options)	
BAS Current Limit Setpoint	AV	2	Real	100% RLA	0-100%	
BAS Hot Water Setpoint	AV	3	Real	48.9°C/120°F	26.7°C to 60°C/80°F to 140°F	
BAS Base Loading Setpoint	AV	4	Real	50%	0-100%	
BAS Base Loading Enable	BV	1	0=disable; 1=enable	NA	0 or 1	Inactive; Active
BAS Diagnostic Reset	BV	2	0=false (no reset); 1=true (can reset)	NA	0 or 1	Inactive; Active
BAS Chiller Auto Stop Command	MV	1	1=stop; 2=auto	2=auto	1 or 2	
BAS Chiller Mode Command	MV	2	1=cool; 2=heat; 3=ice; 4=free cool	1=cool	1 to 4	

Read-only Values (Sorted by Object Type and Instance)

Inputs

Object Name	Object Type	Instance	Property Values
Active Current Limit Setpoint	AI	2	Real
Active Base Loading Setpt	AI	3	Real
Calculated Chiller Capacity	AI	5	Real
Active Cool/Heat Setpoint Temperature	AI	7	Real
Evap Leaving Water Temp	AI	8	Real
Evap Entering Water Temp	AI	9	Real
Cond Entering Water Temp	AI	10	Real
Cond Leaving Water Temp	AI	11	Real
Approx Evap Water Flow	AI	12	Real
Unfiltered Evap Differential Wtr Press	AI	13	Real
Approx Cond Water Flow	AI	14	Real
Cond Differential Wtr Press	AI	15	Real
Second Condenser Ent Wtr Temp	AI	16	Real
Second Condenser Lvg Wtr Temp	AI	17	Real
Front Panel Chilled Water Setpt	AI	19	Real
Front Panel Current Limit Setpoint	AI	20	Real
Front Panel Hot Water Setpt	AI	21	Real
Front Panel Base Load Setpt	AI	22	Real
Ext Chilled Wtr Setpt	AI	23	Real
Ext Current Limit Setpt	AI	24	Real
External Base Loading Setpt	AI	25	Real
Refrigerant Monitor	AI	26	Real
Evap Rfgt Pressure	AI	27	Real

Object Name	Object Type	Instance	Property Values
Cond Rfgt Pressure	AI	28	Real
Differential Refrigerant Pressure	AI	29	Real
Oil Tank Pressure	AI	30	Real
Oil Pump Discharge Pressure	AI	31	Real
Oil Differential Pressure	AI	32	Real
Oil Tank Temperature	AI	33	Real
Evap Sat Rfgt Temp	AI	34	Real
Cond Sat Rfgt Temp	AI	35	Real
Compressor Refrigerant Discharge Temperature	AI	36	Real
IGV1 Position	AI	37	Real
IGV2 Position	AI	38	Real
Carbon Tank Temp	AI	39	Real
Purge Liquid Temp	AI	40	Real
Purge Rfgt Cprsr Suction Temp	AI	41	Real
Time Until Next Purge Run	AI	42	Real
Pumpout Chiller On-7 Days	AI	43	Real
Pumpout Chiller Off-7 Days	AI	44	Real
Daily Pumpout-24 Hours	AI	45	Real
Pumpout-Life	AI	46	Real
Refrigerant-Life	AI	47	Real
Compressor Starts	AI	48	Real
Compressor Running Time	AI	49	Real
Starter Voltage Phase AB	AI	50	Real
Starter Voltage Phase BC	AI	51	Real
Starter Voltage Phase CA	AI	52	Real
Starter Average Phase Voltage	AI	53	Real
Starter Current L1	AI	54	Real
Starter Current L2	AI	55	Real
Starter Current L3	AI	56	Real
Average Line Current—Amps	AI	57	Real
Starter Current L1 % RLA	AI	58	Real
Starter Current L2 % RLA	AI	59	Real
Starter Current L3 % RLA	AI	60	Real
Average Line Current	AI	61	Real
Starter Power Consumption	AI	62	Real
Starter Load Power Factor	AI	63	Real
Inboard Bearing Temp	AI	64	Real
Outboard Bearing Temp	AI	65	Real
Motor Winding Temp #1	AI	66	Real
Motor Winding Temp #2	AI	67	Real
Motor Winding Temp #3	AI	68	Real
Frequency	AI	69	Real
AFD Transistor Temp	AI	70	Real
AFD Average Input Current	AI	71	Real
AFD Input Current L1	AI	72	Real
AFD Input Current L2	AI	73	Real
AFD Input Current L3	AI	74	Real
AFD Input Frequency	AI	75	Real
AFD Output Voltage	AI	76	Real
AFD Inverter Base Temperature	AI	78	Real
AFD Rectifier Base Temperature	AI	79	Real
AFD Output Power	AI	80	Real
Chiller Running	BI	1	0=no (not running); 1=yes (running); Inactive; Active

Object Name	Object Type	Instance	Property Values
Evaporator Pump Control	BI	2	0=off (pump off); 1=on (pump on); Inactive; Active
Evaporator Water Flow	BI	3	0=no flow; 1=flow; Inactive; Active
Condenser Pump Control	BI	4	0=off (pump off); 1=on (pump on); Inactive; Active
Condenser Water Flow	BI	5	0=no flow; 1=flow; Inactive; Active
Front Panel Base Loading Command	BI	6	0=auto; 1=on
Emergency Stop	BI	7	0=auto; 1=on
Manual Override Exists	BI	8	0=false; 1=true
Base Loading	BI	9	0=inactive; 1=active
Alarm Present	BI	10	0=no; 1=yes
Run Enable	BI	11	0=no; 1=yes
Local Setpoint Control	BI	12	0=no; 1=yes
Maximum Capacity Relay	BI	13	0=off; 1=on
Limit Mode Relay Status	BI	14	0=inactive; 1=active
Head Relief Request Relay	BI	15	0=off; 1=on
Hot Gas Bypass	BI	16	0=inactive; 1=active
Purge Compressor Relay	BI	17	0=off; 1=on
Pumpout Relay	BI	18	0=off; 1=on
Purge Regen Valve Solenoid	BI	19	0=off; 1=on
Chiller Running Status	MI	1	1=not running; 2=starting; 3=running; 4=stopping
Chiller Control Mode	MI	2	1=cool; 2=heat; 3=ice; 4=free cooling
Setpoint Source	MI	3	1=BAS/Ext/FP; 2=Ext/FP; 3=front panel
Active Chilled Water Setpoint Source	MI	4	1=front panel; 2=external; 3=ice machine; 4=BAS
Active Current Limit Setpoint Source	MI	5	1=front panel; 2=external; 3=ice machine; 4=BAS
Active Hot Water Setpoint Source	MI	6	1=front panel; 2=external; 3=ice machine; 4=BAS
Active Base Loading Setpoint Source	MI	7	1=front panel; 2=external; 3=ice machine; 4=BAS
Front Panel Auto/Stop	MI	8	1=stop; 2=auto
Front Panel Chiller Control Mode	MI	9	1=cool; 2=heat; 3=ice; 4=free cooling
External Auto Stop	MI	10	1=off; 2=auto; 3=on
Compressor Running	MI	11	1=stopped; 2=running; 3=alarm

Diagnostics: Inputs with Alarming Capabilities (Sorted by Instance)

Object Name[a]	Object Type	Instance	Property Values
Started Did Not Transition	BI	501	0=off; 1=on
Starter Did Not Fully Accelerate	BI	502	0=off; 1=on
Phase Reversal	BI	503	0=off; 1=on
Start Dry Run Test	BI	504	0=off; 1=on
Phase Loss	BI	505	0=off; 1=on
Power Loss	BI	506	0=off; 1=on
Momentary Power Loss	BI	507	0=off; 1=on
Severe Current Unbalance	BI	508	0=off; 1=on
Starter Fault Type 1	BI	509	0=off; 1=on
Starter Fault Type 2	BI	510	0=off; 1=on
Starter Fault Type 3	BI	511	0=off; 1=on
Transition Complete Input Shorted	BI	512	0=off; 1=on
At Speed Input Shorted	BI	513	0=off; 1=on
Transition Complete Input Opened	BI	514	0=off; 1=on
At Speed Input Opened	BI	515	0=off; 1=on
Motor Current Overload	BI	516	0=off; 1=on
Compressor Did Not Accelerate: Shutdown	BI	517	0=off; 1=on
Cprsr Did Not Accelerate: Transition	BI	518	0=off; 1=on
Starter Contactor Interrupt Failure	BI	519	0=off; 1=on

Object Name[a]	Object Type	Instance	Property Values
Starter Module Memory Error Type 1	BI	520	0=off; 1=on
Starter Module Memory Error Type 2	BI	521	0=off; 1=on
Starter Comm Loss: Main Processor	BI	522	0=off; 1=on
AFD Power Loss	BI	536	0=off; 1=on
AFD Start Inhibited	BI	537	0=off; 1=on
AFD Motor Current Overload	BI	538	0=off; 1=on
AFD Motor Short	BI	539	0=off; 1=on
AFD Instantaneous Current Overload	BI	540	0=off; 1=on
AFD High Temperature	BI	541	0=off; 1=on
AFD Output Phase Loss	BI	542	0=off; 1=on
AFD Ground Fault	BI	543	0=off; 1=on
HPC/High AFD Heat Sink Water Pressure	BI	544	0=off; 1=on
AFD Communication Loss: Main Processor	BI	545	0=off; 1=on
AFD High Bus Voltage	BI	546	0=off; 1=on
AFD Control Board Memory Error Type 2	BI	547	0=off; 1=on
AFD General Failure	BI	548	0=off; 1=on
AFD Fatal Software Error	BI	549	0=off; 1=on
AFD I/O Board Failure	BI	550	0=off; 1=on
AFD Power Intfc Controller Board Failure	BI	551	0=off; 1=on
AFD Power Structure Board Failure	BI	552	0=off; 1=on
AFD DPI Communication Failure	BI	553	0=off; 1=on
AFD RS485 Board Memory Error Type 2	BI	554	0=off; 1=on
External Chilled/Hot Water Setpoint	BI	555	0=off; 1=on
External Current Limit Setpoint	BI	556	0=off; 1=on
Evaporator Entering Water Temp Sensor	BI	557	0=off; 1=on
Evaporator Leaving Water Temp Sensor	BI	558	0=off; 1=on
Condenser Entering Water Temp Sensor	BI	559	0=off; 1=on
Condenser Leaving Water Temp Sensor	BI	560	0=off; 1=on
Evaporator Diff Water Pressure Xdcr[b]	BI	561	0=off; 1=on
Condenser Diff Water Pressure Xdcr[b]	BI	562	0=off; 1=on
Second Cond Entering Water Temp Sensor	BI	563	0=off; 1=on
Second Cond Leaving Water Temp Sensor	BI	564	0=off; 1=on
Evap Saturated Refrigerant Temp Sensor	BI	565	0=off; 1=on
Cond Saturated Refrigerant Temp Sensor	BI	566	0=off; 1=on
Condenser Refrigerant Pressure Xdcr[b]	BI	568	0=off; 1=on
Oil Tank Temperature Sensor	BI	569	0=off; 1=on
Oil Pump Discharge Pressure Xdcr[b]	BI	570	0=off; 1=on
Oil Tank Pressure Transducer	BI	571	0=off; 1=on
Motor Winding Temperature 1 Sensor	BI	572	0=off; 1=on
Motor Winding Temperature 2 Sensor	BI	573	0=off; 1=on
Motor Winding Temperature 3 Sensor	BI	574	0=off; 1=on
Inboard Bearing Temperature Sensor	BI	575	0=off; 1=on
Outboard Bearing Temperature Sensor	BI	576	0=off; 1=on
Compressor Discharge Refrigerant Temperature Sensor	BI	577	0=off; 1=on
Outdoor Air Temperature Sensor	BI	578	0=off; 1=on
Purge Cprsr Suction Rfgt Temp Sensor	BI	579	0=off; 1=on
Purge Carbon Tank Temperature Sensor	BI	580	0=off; 1=on
External Base Loading Setpoint	BI	581	0=off; 1=on
Purge Liquid Level Too High Warning	BI	583	0=off; 1=on
Purge Liquid Level Too High Continuously	BI	584	0=off; 1=on
Purge Carbon Regen Temp Not Satisfied	BI	585	0=off; 1=on
Purge Carbon Regen Temp Limit Exceeded	BI	586	0=off; 1=on
Purge Daily Pumpout Limit Exceeded	BI	587	0=off; 1=on
Purge Carbon Regen Temperature Too Low	BI	588	0=off; 1=on

Object Name[a]	Object Type	Instance	Property Values
Low Evaporator Refrigerant Temperature	BI	589	0=off; 1=on
High Oil Temperature	BI	590	0=off; 1=on
Low Evap Leaving Water Temp: Unit Off	BI	591	0=off; 1=on
Low Evap Leaving Water Temp: Unit On	BI	592	0=off; 1=on
Evaporator Water Flow Overdue	BI	593	0=off; 1=on
Evaporator Water Flow Lost	BI	594	0=off; 1=on
High Evaporator Water Temperature	BI	595	0=off; 1=on
Condenser High Pressure Cutout	BI	596	0=off; 1=on
Emergency Stop	BI	597	0=off; 1=on
MP: Invalid Configuration	BI	598	0=off; 1=on
MP: Reset Has Occurred	BI	603	0=off; 1=on
Extended Compressor Surge	BI	604	0=off; 1=on
Over Voltage	BI	605	0=off; 1=on
Under Voltage	BI	606	0=off; 1=on
Low Evaporator Water Flow	BI	607	0=off; 1=on
Condenser Water Flow Overdue	BI	608	0=off; 1=on
Condenser Water Flow Lost	BI	609	0=off; 1=on
Free Cooling Actuators Not Open	BI	610	0=off; 1=on
Free Cooling Actrs not Open During FC	BI	611	0=off; 1=on
Free Cooling Actuators Not Closed	BI	612	0=off; 1=on
Free Cooling Actuators Unexpectedly Open	BI	613	0=off; 1=on
Unexpected Starter Shutdown	BI	614	0=off; 1=on
Starter Failed to Alrm/Start	BI	615	0=off; 1=on
Solid State Starter Fault	BI	616	0=off; 1=on
Low Differential Oil Pressure	BI	617	0=off; 1=on
Check Oil Filter	BI	618	0=off; 1=on
Oil Pressure Sensor Calibration	BI	619	0=off; 1=on
High Vacuum Lockout	BI	620	0=off; 1=on
Low Oil Temperature	BI	621	0=off; 1=on
High Inboard Bearing Temperature	BI	622	0=off; 1=on
High Outboard Bearing Temperature	BI	623	0=off; 1=on
High Cprsr Discharge Rfgt Temperature	BI	624	0=off; 1=on
High Motor Winding Temperature 1	BI	625	0=off; 1=on
High Motor Winding Temperature 2	BI	626	0=off; 1=on
High Motor Winding Temperature 3	BI	627	0=off; 1=on
Refrigerant Monitor Input	BI	628	0=off; 1=on
Unexpected Differential oil Pressure	BI	629	0=off; 1=on
Differential Oil Pressure Overdue	BI	630	0=off; 1=on
Hot Gas Bypass Valve Closure Overdue	BI	633	0=off; 1=on
Hot Gas Bypass Valve Unexpectedly Open	BI	634	0=off; 1=on
Hot Gas Bypass Valve Opening Overdue	BI	635	0=off; 1=on
Generator Fault Relay Open	BI	636	0=off; 1=on
Generator Ready Overdue	BI	637	0=off; 1=on
Excessive Loss of Communication	BI	646	0=off; 1=on
Comm Loss: External Auto/Stop	BI	647	0=off; 1=on
Comm Loss: Emergency Stop	BI	648	0=off; 1=on
Comm Loss: External Ice Building Command	BI	649	0=off; 1=on
Comm Loss: Outdoor Air Temperature	BI	650	0=off; 1=on
Comm Loss: Evap Leaving Water Temp	BI	651	0=off; 1=on
Comm Loss: Evap Entering Water Temp	BI	652	0=off; 1=on
Comm Loss: Condenser Leaving Water Temp	BI	653	0=off; 1=on
Comm Loss: Condenser Entering Water Temp	BI	654	0=off; 1=on
Comm Loss: Sec Cond Leaving Water Temp	BI	655	0=off; 1=on
Comm Loss: Sec Cond Entering Water Temp	BI	656	0=off; 1=on

Object Name[a]	Object Type	Instance	Property Values
Comm Loss: Oil Tank Temperature	BI	657	0=off; 1=on
Comm Loss: Ext Chilled/Hot Wtr Setpoint	BI	658	0=off; 1=on
Comm Loss: Ext Current Limit Setpoint	BI	659	0=off; 1=on
Comm Loss: Cond High Pressure Cutout	BI	660	0=off; 1=on
Comm Loss: Evaporator Water Flow Switch	BI	661	0=off; 1=on
Comm Loss: Condenser Water Flow Switch	BI	662	0=off; 1=on
Comm Loss: Evap Saturated Rfgt Temp	BI	663	0=off; 1=on
Comm Loss: Cond Saturated Rfgt Temp	BI	664	0=off; 1=on
Comm Loss: Cond Refrigerant Pressure	BI	666	0=off; 1=on
Comm Loss: Oil Tank Pressure	BI	667	0=off; 1=on
Comm Loss: Oil Pump Discharge Pressure	BI	668	0=off; 1=on
Comm Loss: Evaporator Water Pump Relay	BI	669	0=off; 1=on
Comm Loss: Condenser Water Pump Relay	BI	670	0=off; 1=on
Comm Loss: Ice Building Relay	BI	671	0=off; 1=on
Comm Loss: Starter	BI	672	0=off; 1=on
Comm Loss: Adaptive Frequency Drive	BI	673	0=off; 1=on
Comm Loss: Evap Diff Water Pressure	BI	682	0=off; 1=on
Comm Loss: Cond Diff Water Pressure	BI	683	0=off; 1=on
Comm Loss: Cond Rfgt Pressure Output	BI	684	0=off; 1=on
Comm Loss: Compressor Motor % RLA Output	BI	685	0=off; 1=on
Comm Loss: Refrigerant Monitor Input	BI	686	0=off; 1=on
Comm Loss: External Free Cooling Command	BI	687	0=off; 1=on
Comm Loss: Free Cool Actrs Closed Input	BI	688	0=off; 1=on
Comm Loss: Free Cool Liq Line Actrs Relay	BI	689	0=off; 1=on
Comm Loss: Free Cool Gas Line Actr Relay	BI	690	0=off; 1=on
Comm Loss: Free Cooling Auxiliary Relay	BI	691	0=off; 1=on
Comm Loss: Purge Cprsr Suction Rfgt Temp	BI	692	0=off; 1=on
Comm Loss: Purge Carbon Tank Temperature	BI	693	0=off; 1=on
Comm Loss: Purge Liquid Level Switch	BI	694	0=off; 1=on
Comm Loss: Purge Pumpout Relay	BI	696	0=off; 1=on
Comm Loss: Purge Carbon Tank Heater Rly	BI	697	0=off; 1=on
Comm Loss: Purge Regen Solenoid Relay	BI	698	0=off; 1=on
Comm Loss: Purge Alarm Relay	BI	699	0=off; 1=on
Comm Loss: Purge Pumpout Solenoid Output	BI	700	0=off; 1=on
Comm Loss: Purge Exhaust Solenoid Output	BI	701	0=off; 1=on
Comm Loss: Purge Condensing Unit Relay	BI	702	0=off; 1=on
Comm Loss: Solid State Starter Fault	BI	703	0=off; 1=on
Comm Loss: PFCC Relay	BI	704	0=off; 1=on
Comm Loss: Oil/Refrigerant Pump Relay	BI	705	0=off; 1=on
Comm Loss: Oil Tank Heater Relay	BI	706	0=off; 1=on
Comm Loss: Oil Tank Heater 4E1 Relay	BI	707	0=off; 1=on
Comm Loss: Oil Tank Heater 4E2 Relay	BI	708	0=off; 1=on
Comm Loss: Motor Winding Temperature 1	BI	709	0=off; 1=on
Comm Loss: Motor Winding Temperature 2	BI	710	0=off; 1=on
Comm Loss: Motor Winding Temperature 3	BI	711	0=off; 1=on
Comm Loss: Inboard Bearing Temperature	BI	712	0=off; 1=on
Comm Loss: Outboard Bearing Temperature	BI	713	0=off; 1=on
Comm Loss: Cprsr Discharge Rfgt Temp	BI	714	0=off; 1=on
Comm Loss: IGV First Stage Actuator	BI	715	0=off; 1=on
Comm Loss: IGV Second Stage Actuator	BI	716	0=off; 1=on
Comm Loss: Ext Base Loading Setpoint	BI	717	0=off; 1=on
Comm Loss: Ext Base Loading Command	BI	718	0=off; 1=on
Comm Loss: External Hot Water Command	BI	719	0=off; 1=on
Comm Loss: Hot Gas Bypass Load Relay	BI	720	0=off; 1=on

Object Name[a]	Object Type	Instance	Property Values
Comm Loss: Hot Gas Bypass Unload Relay	BI	721	0=off; 1=on
Comm Loss: Hot Gas Bypass Actr Closed In	BI	722	0=off; 1=on
Comm Loss: Generator Start/Stop Relay	BI	723	0=off; 1=on
Comm Loss: Generator Speed Signal Output	BI	724	0=off; 1=on
Comm Loss: Generator Up To Speed Input	BI	725	0=off; 1=on
Comm Loss: Generator Fault Input	BI	726	0=off; 1=on
Comm Loss: Oil Diff Pressure Switch	BI	728	0=off; 1=on
Comm Loss: AFD Speed Signal VDC Output	BI	739	0=off; 1=on
Comm Loss: High Lift Unload Valve Relay	BI	743	0=off; 1=on
Comm Loss: Programmable Relay Board 1	BI	744	0=off; 1=on
Comm Loss: Programmable Relay Board 2	BI	745	0=off; 1=on
Purge Regen Cooldown Temp Too High	BI	903	0=off; 1=on
Restart Inhibit	BI	905	0=off; 1=on
Check Oil Heater	BI	907	0=off; 1=on
AFD Interrupt Failure	BI	909	0=off; 1=on
High Evaporator Refrigerant Temperature	BI	911	0=off; 1=on
Software Error 1001: Call Trane Service	BI	914	0=off; 1=on
Software Error 1004: Call Trane Service	BI	915	0=off; 1=on
Comm Loss: Cond Head Press Cntrl Output	BI	916	0=off; 1=on

(a) Many data points and diagnostics require installing certain options. The objects will not appear if the option is not installed. For more details, refer to the Water-cooled CenTraVac Chiller with Tracer AdaptiView Control Diagnostics Manual and Component Summary listed under **"Additional Resources," p. 73**.
(b) Xdcr refers to transducer

Duplex CenTraVac—Object Data Points and Configurations

Device Object

Object Name	Instance	Property Values
UC800 (Dev Instance)	Configurable	NA

Notification Class Objects

Object Name	Instance	Property Values
Warning	1	NA
Normal Shutdown	2	NA
Immediate ShutDown	3	NA

Read/Write Values (Sorted by Object Type and Instance)

Object Name	Object Type	Instance	Property Values	Relinquish Default	Valid Range	Desc.
BAS Chilled Water Setpoint	AV	1	Real	6.7°C/44°F	-17.78° to 23.9°C/ 0°F to 75°F (depending on installed options)	
BAS Current Limit Setpoint	AV	2	Real	100% RLA	0-100%	
BAS Hot Water Setpoint	AV	3	Real	48.9°C/120°F	26.7°C to 60°C/80°F to 140°F	
BAS Base Loading Setpoint	AV	4	Real	50%	0-100%	
BAS Base Loading Enable	BV	1	0=disable; 1=enable	NA	0 or 1	Inactive; Active

Object Name	Object Type	Instance	Property Values	Relinquish Default	Valid Range	Desc.
BAS Diagnostic Reset	BV	2	0=false (no reset); 1=true (can reset)	NA	0 or 1	Inactive; Active
BAS Chiller Auto Stop Command	MV	1	1=stop; 2=auto	2=auto	1 or 2	
BAS Chiller Mode Command	MV	2	1=cool; 2=heat; 3=ice; 4=free cool	1=cool	1 to 4	

Read-only Values (Sorted by Object Type and Instance)

Inputs

Object Name	Object Type	Instance	Property Values
Unit Average Line Current	AI	1	Real
Active Current Limit Setpoint	AI	2	Real
Active Base Loading Setpt	AI	3	Real
Unit Power Consumption	AI	4	Real
Calculated Chiller Capacity	AI	5	Real
Active Cool/Heat Setpoint Temperature	AI	7	Real
Evap Leaving Water Temp	AI	8	Real
Evap Entering Water Temp	AI	9	Real
Cond Entering Water Temp	AI	10	Real
Cond Leaving Water Temp	AI	11	Real
Approx Evap Water Flow	AI	12	Real
Unfiltered Evap Differential Wtr Press	AI	13	Real
Approx Cond Water Flow	AI	14	Real
Cond Differential Wtr Press	AI	15	Real
AFD Last Diagnostic Code Ckt1	AI	18	Real
Front Panel Chilled Water Setpt	AI	19	Real
Front Panel Current Limit Setpoint	AI	20	Real
Front Panel Hot Water Setpt	AI	21	Real
Front Panel Base Loading Setpt	AI	22	Real
Ext Chilled Wtr Setpt	AI	23	Real
Ext Current Limit Setpt	AI	24	Real
External Base Loading Setpoint	AI	25	Real
Refrigerant Monitor	AI	26	Real
Evaporator Refrigerant Pressure Ckt1	AI	27	Real
Condenser Refrigerant Pressure Ckt1	AI	28	Real
Oil Tank Pressure Ckt1	AI	30	Real
Oil Pump Discharge Pressure Ckt1	AI	31	Real
Oil Differential Pressure Ckt1	AI	32	Real
Oil Tank Temperature Ckt1	AI	33	Real
Evaporator Saturated Rfgt Temp Ckt1	AI	34	Real
Condenser Saturated Rfgt Temp Ckt1	AI	35	Real
Compressor Rfgt Discharge Temp Ckt1	AI	36	Real
IGV1 Percent Open Ckt1	AI	37	Real
IGV2 Percent Open Ckt2	AI	38	Real
Purge Carbon Tank Temp Ckt1	AI	39	Real
Purge Liquid Temperature Ckt1	AI	40	Real
Purge Rfgt Compressor Suction Temp Ckt1	AI	41	Real
Time Until Next Purge Run Ckt1	AI	42	Real
Pumpout Chiller On-7 Days Ckt1	AI	43	Real
Pumpout Chiller Off-7 Days Ckt1	AI	44	Real
Daily Pumpout-24 Hours Ckt1	AI	45	Real
Pumpout-Life Ckt1	AI	46	Real

Object Name	Object Type	Instance	Property Values
Refrigerant-Life Ckt1	AI	47	Real
Compressor Starts Ckt1	AI	48	Real
Compressor Running Time Ckt1	AI	49	Real
Starter Voltage Phase AB Ckt1	AI	50	Real
Starter Voltage Phase BC ckt1	AI	51	Real
Starter Voltage Phase CA Ckt1	AI	52	Real
Starter Average Phase Voltage Ckt1	AI	53	Real
Starter Current L1 Ckt1	AI	54	Real
Starter Current L2 Ckt1	AI	55	Real
Starter Current L3 Ckt1	AI	56	Real
Average Line Current Ckt1	AI	57	Real
Starter Current L1 % RLA Ckt1	AI	58	Real
Starter Current L1 % RLA Ckt2	AI	59	Real
Starter Current L1 % RLA Ckt3	AI	60	Real
Average Line Current % RLA Ckt1	AI	61	Real
Starter Power Consumption Ckt1	AI	62	Real
Starter Load Power Factor Ckt1	AI	63	Real
Inboard Bearing Temperature Ckt1	AI	64	Real
Outboard Bearing Temperature Ckt1	AI	65	Real
Motor Winding Temperature 1 Ckt1	AI	66	Real
Motor Winding Temperature 2 Ckt1	AI	67	Real
Motor Winding Temperature 3 Ckt1	AI	68	Real
Frequency Ckt1	AI	69	Real
AFD Transistor Temperature Ckt1	AI	70	Real
Evaporator Refrigerant Pressure Ckt2	AI	71	Real
Condenser Refrigerant Pressure Ckt2	AI	72	Real
Oil Tank Pressure Ckt2	AI	74	Real
Oil Pump Discharge Pressure Ckt2	AI	75	Real
Oil Differential Pressure Ckt2	AI	76	Real
Oil Tank Temperature Ckt2	AI	77	Real
Evaporator Saturated Rfgt Temp Ckt2	AI	78	Real
Condenser Saturated Rfgt Temp Ckt2	AI	79	Real
Compressor Rfgt Discharge Temp Ckt2	AI	80	Real
IGV 1 Percent Open Ckt2	AI	81	Real
IGV 2 Percent Open Ckt2	AI	82	Real
Purge Carbon Tank Temp Ckt2	AI	83	Real
Purge Liquid Tank Temp Ckt2	AI	84	Real
Purge Rfgt Compressor Suction Temp Ckt2	AI	85	Real
Time Until Next Purge Run Ckt2	AI	86	Real
Pumpout Chiller On 7 Days Ckt2	AI	87	Real
Pumpout Chiller Off 7 Days Ckt2	AI	88	Real
Daily Pumpout-24 Hours Ckt2	AI	89	Real
Pumpout-Life Ckt2	AI	90	Real
Refrigeration-Line Ckt2	AI	91	Real
Compressor Starts Ckt2	AI	92	Real
Compressor Running Time Ckt2	AI	93	Real
Starter Voltage Phase AB Ckt2	AI	94	Real
Starter Voltage Phase BC Ckt2	AI	95	Real
Starter Voltage Phase CA Ckt2	AI	96	Real
Starter Average Phase Voltage Ckt2	AI	97	Real
Starter Current L1 Ckt2	AI	98	Real
Starter Current L2 Ckt2	AI	99	Real
Starter Current L3 Ckt2	AI	100	Real
Average Line Current Ckt2	AI	101	Real

Object Name	Object Type	Instance	Property Values
Starter Current L1 % RLA Ckt2	AI	102	Real
Starter Current L2 % RLA Ckt2	AI	103	Real
Starter Current L3 % RLA Ckt2	AI	104	Real
Average Line Current % RLA Ckt2	AI	105	Real
Starter Power Consumption Ckt2	AI	106	Real
Starter Load Power Factor Ckt2	AI	107	Real
Inboard Bearing Temperature Ckt2	AI	108	Real
Outboard Bearing Temperature Ckt2	AI	109	Real
Motor Winding Temperature 1 Ckt2	AI	110	Real
Motor Winding Temperature 2 Ckt2	AI	111	Real
Motor Winding Temperature 3 Ckt2	AI	112	Real
Frequency Ckt2	AI	113	Real
AFD Transistor Temperature Ckt2	AI	114	Real
AFD Last Diagnostic Code Ckt2	AI	115	Real
Differential Refrigerant Pressure Ckt1	AI	116	Real
Differential Refrigerant Pressure Ckt2	AI	117	Real
AFD Average Input Current Ckt1	AI	118	Real
AFD Input Current L1 Ckt1	AI	119	Real
AFD Input Current L2 Ckt1	AI	120	Real
AFD Input Current L3 Ckt1	AI	121	Real
AFD Input Frequency Ckt1	AI	122	Real
AFD Output Voltage Ckt1	AI	123	Real
AFD Input Power Factor Ckt1	AI	124	Real
AFD Inverter Base Temperature Ckt1	AI	125	Real
AFD Rectifier Base Temperature Ckt1	AI	126	Real
AFD Output Power Ckt1	AI	127	Real
AFD Average Input Current Ckt2	AI	128	Real
AFD Input Current L1 Ckt2	AI	129	Real
AFD Input Current L2 Ckt2	AI	130	Real
AFD Input Current L3 Ckt2	AI	131	Real
AFD Input Frequency Ckt2	AI	132	Real
AFD Output Voltage Frequency Ckt2	AI	133	Real
AFD Input Power Factor Ckt2	AI	134	Real
AFD Inverter Base Temperature Ckt2	AI	135	Real
AFD Rectifier Base Temperature Ckt2	AI	136	Real
AFD Output Power Ckt2	AI	137	Real
Chiller Running	BI	1	0=no (not running); 1=yes (running); Inactive; Active
Evaporator Pump Control	BI	2	0=off (pump off); 1=on (pump on); Inactive; Active
Evaporator Water Flow	BI	3	0=no flow; 1=flow; Inactive; Active
Condenser Pump Control	BI	4	0=off (pump off); 1=on (pump on); Inactive; Active
Condenser Water Flow	BI	5	0=no flow; 1=flow; Inactive; Active
Front Panel Base Loading Command	BI	6	0=auto; 1=on
Emergency Stop	BI	7	0=off; 1=on
Manual Override Exists	BI	8	0=false; 1=true
Base Loading	BI	9	0=inactive; 1=active
Alarm Present	BI	10	0=no; 1=yes
Chiller In Auto	BI	11	0=no; 1=yes
Local Setpoint Control	BI	12	0=no; 1=yes
Maximum Capacity Relay	BI	13	0=off; 1=on
Limit Mode Relay Status	BI	14	0=inactive; 1=active
Head Relief Request Relay	BI	15	0=off; 1=on
Purge Compressor Relay Ckt1	BI	17	0=off; 1=on
Pumpout Relay Ckt1	BI	18	0=off; 1=on
Purge Regen Valve Solenoid Ckt1	BI	19	0=off; 1=on

Object Name	Object Type	Instance	Property Values
Purge Compressor Relay Ckt2	BI	20	0=off; 1=on
Pumpout Relay Ckt2	BI	21	0=off; 1=on
Purge Regen Valve Solenoid Ckt2	BI	22	0=off; 1=on
Chiller Running Status	MI	1	1=not running; 2=starting; 3=running; 4=stopping
Chiller Control Mode	MI	2	1=cool; 2=heat; 3=ice; 4=free cooling
Setpoint Source	MI	3	1=BAS/Ext/FP; 2=Ext/FP; 3=front panel
Active Chilled Water Setpoint Source	MI	4	1=front panel; 2=external; 3=ice machine; 4=BAS
Active Current Limit Setpoint Source	MI	5	1=front panel; 2=external; 3=ice machine; 4=BAS
Active Hot Water Setpoint Source	MI	6	1=front panel; 2=external; 3=ice machine; 4=BAS
Active Base Loading Setpoint Source	MI	7	1=front panel; 2=external; 3=ice machine; 4=BAS
Front Panel Auto/Stop	MI	8	1=stop; 2=auto
Front Panel Chiller Control Mode	MI	9	1=cool; 2=heat; 3=ice; 4=free cooling
External Auto Stop	MI	10	1=off; 2=auto; 3=on
Compressor Running Ckt1	MI	11	1=stopped; 2=running; 3=alarm
Compressor Running Ckt2	MI	12	1=stopped; 2=running; 3=alarm

Diagnostics: Inputs with Alarming Capabilities (Sorted by Instance)

Object Name[a]	Object Type	Instance	Property Values
Started Did Not Transition	BI	501	0=off; 1=on
Starter Did Not Fully Accelerate	BI	502	0=off; 1=on
Phase Reversal	BI	503	0=off; 1=on
Start Dry Run Test	BI	504	0=off; 1=on
Phase Loss	BI	505	0=off; 1=on
Power Loss	BI	506	0=off; 1=on
Momentary Power Loss	BI	507	0=off; 1=on
Severe Current Unbalance	BI	508	0=off; 1=on
Starter Fault Type 1	BI	509	0=off; 1=on
Starter Fault Type 2	BI	510	0=off; 1=on
Starter Fault Type 3	BI	511	0=off; 1=on
Transition Complete Input Shorted	BI	512	0=off; 1=on
At Speed Input Shorted	BI	513	0=off; 1=on
Transition Complete Input Opened	BI	514	0=off; 1=on
At Speed Input Opened	BI	515	0=off; 1=on
Motor Current Overload	BI	516	0=off; 1=on
Compressor Did Not Accelerate: Shutdown	BI	517	0=off; 1=on
Cprsr Did Not Accelerate: Transition	BI	518	0=off; 1=on
Starter Contactor Interrupt Failure	BI	519	0=off; 1=on
Starter Module Memory Error Type 1	BI	520	0=off; 1=on
Starter Module Memory Error Type 2	BI	521	0=off; 1=on
Starter Comm Loss: Main Processor	BI	522	0=off; 1=on
AFD Power Loss	BI	536	0=off; 1=on
AFD Start Inhibited	BI	537	0=off; 1=on
AFD Motor Current Overload	BI	538	0=off; 1=on
AFD Motor Short	BI	539	0=off; 1=on
AFD Instantaneous Current Overload	BI	540	0=off; 1=on
AFD High Temperature	BI	541	0=off; 1=on
AFD Output Phase Loss	BI	542	0=off; 1=on
AFD Ground Fault	BI	543	0=off; 1=on
HPC/High AFD Heat Sink Water Pressure	BI	544	0=off; 1=on
AFD Communication Loss: Main Processor	BI	545	0=off; 1=on
AFD High Bus Voltage	BI	546	0=off; 1=on
AFD Control Board Memory Error Type 2	BI	547	0=off; 1=on

Object Name[a]	Object Type	Instance	Property Values
AFD General Failure	BI	548	0=off; 1=on
AFD Fatal Software Error	BI	549	0=off; 1=on
AFD I/O Board Failure	BI	550	0=off; 1=on
AFD Power Intfc Controller Board Failure	BI	551	0=off; 1=on
AFD Power Structure Board Failure	BI	552	0=off; 1=on
AFD DPI Communication Failure	BI	553	0=off; 1=on
AFD RS485 Board Memory Error Type 2	BI	554	0=off; 1=on
External Chilled/Hot Water Setpoint	BI	555	0=off; 1=on
External Current Limit Setpoint	BI	556	0=off; 1=on
Evaporator Entering Water Temp Sensor	BI	557	0=off; 1=on
Evaporator Leaving Water Temp Sensor	BI	558	0=off; 1=on
Condenser Entering Water Temp Sensor	BI	559	0=off; 1=on
Condenser Leaving Water Temp Sensor	BI	560	0=off; 1=on
Evaporator Diff Water Pressure Xdcr[b]	BI	561	0=off; 1=on
Condenser Diff Water Pressure Xdcr[b]	BI	562	0=off; 1=on
Evap Saturated Refrigerant Temp Sensor	BI	565	0=off; 1=on
Cond Saturated Refrigerant Temp Sensor	BI	566	0=off; 1=on
Condenser Refrigerant Pressure Xdcr[b]	BI	568	0=off; 1=on
Oil Tank Temperature Sensor	BI	569	0=off; 1=on
Oil Pump Discharge Pressure Transducer	BI	570	0=off; 1=on
Oil Tank Pressure Transducer	BI	571	0=off; 1=on
Motor Winding Temperature 1 Sensor	BI	572	0=off; 1=on
Motor Winding Temperature 2 Sensor	BI	573	0=off; 1=on
Motor Winding Temperature 3 Sensor	BI	574	0=off; 1=on
Inboard Bearing Temp Sensor	BI	575	0=off; 1=on
Outboard Bearing Temp Sensor	BI	576	0=off; 1=on
Cprsr Discharge Refrigerant Temp Sensor	BI	577	0=off; 1=on
Outdoor Air Temp Sensor	BI	578	0=off; 1=on
Purge Cprsr Suction Rfgt Temp Sensor	BI	579	0=off; 1=on
Purge Carbon Tank Temperature Sensor	BI	580	0=off; 1=on
External Base Loading Setpoint	BI	581	0=off; 1=on
Purge Liquid Level Too High Warning	BI	583	0=off; 1=on
Purge Liquid Level Too High Continuously	BI	584	0=off; 1=on
Purge Carbon Regen Temp Not Satisfied	BI	585	0=off; 1=on
Purge Carbon Regen Temp Limit Exceeded	BI	586	0=off; 1=on
Purge Daily Pumpout Limit Exceeded	BI	587	0=off; 1=on
Purge Carbon Regen Temperature Too Low	BI	588	0=off; 1=on
Low Evaporator Refrigerant Temperature	BI	589	0=off; 1=on
High Oil Temperature	BI	590	0=off; 1=on
Low Evap Leaving Water Temp: Unit Off	BI	591	0=off; 1=on
Low Evap Leaving Water Temp: Unit On	BI	592	0=off; 1=on
Evaporator Water Flow Overdue	BI	593	0=off; 1=on
Evaporator Water Flow Lost	BI	594	0=off; 1=on
High Evaporator Water Temperature	BI	595	0=off; 1=on
Condenser High Pressure Cutout	BI	596	0=off; 1=on
Emergency Stop	BI	597	0=off; 1=on
MP: Invalid Configuration	BI	598	0=off; 1=on
MP: Reset Has Occurred	BI	603	0=off; 1=on
Extended Compressor Surge	BI	604	0=off; 1=on
Over Voltage	BI	605	0=off; 1=on
Under Voltage	BI	606	0=off; 1=on
Low Evaporator Water Flow	BI	607	0=off; 1=on
Condenser Water Flow Overdue	BI	608	0=off; 1=on
Condenser Water Flow Lost	BI	609	0=off; 1=on

Object Name[a]	Object Type	Instance	Property Values
Unexpected Starter Shutdown	BI	614	0=off; 1=on
Starter Failed to Alrm/Start	BI	615	0=off; 1=on
Low Differential Oil Pressure	BI	617	0=off; 1=on
Check Oil Filter	BI	618	0=off; 1=on
Oil Pressure Sensor Calibration	BI	619	0=off; 1=on
High Vacuum Lockout	BI	620	0=off; 1=on
Low Oil Temperature	BI	621	0=off; 1=on
High Inboard Bearing Temperature	BI	622	0=off; 1=on
High Outboard Bearing Temperature	BI	623	0=off; 1=on
High Cprsr Rfgt Discharge Temperature	BI	624	0=off; 1=on
High Motor Winding Temperature 1	BI	625	0=off; 1=on
High Motor Winding Temperature 2	BI	626	0=off; 1=on
High Motor Winding Temperature 3	BI	627	0=off; 1=on
Refrigerant Monitor Input	BI	628	0=off; 1=on
Unexpected Differential oil Pressure	BI	629	0=off; 1=on
Differential Oil Pressure Overdue	BI	630	0=off; 1=on
Generator Fault Relay Open	BI	636	0=off; 1=on
Generator Ready Overdue	BI	637	0=off; 1=on
Excessive Loss of Communication	BI	646	0=off; 1=on
Comm Loss: External Auto/Stop	BI	647	0=off; 1=on
Comm Loss: Emergency Stop	BI	648	0=off; 1=on
Comm Loss: External Ice Building Command	BI	649	0=off; 1=on
Comm Loss: Outdoor Air Temperature	BI	650	0=off; 1=on
Comm Loss: Evap Leaving Water Temp	BI	651	0=off; 1=on
Comm Loss: Evap Entering Water Temp	BI	652	0=off; 1=on
Comm Loss: Condenser Leaving Water Temp	BI	653	0=off; 1=on
Comm Loss: Condenser Entering Water Temp	BI	654	0=off; 1=on
Comm Loss: Oil Tank Temperature	BI	657	0=off; 1=on
Comm Loss: Ext Chilled/Hot Wtr Setpoint	BI	658	0=off; 1=on
Comm Loss: Ext Current Limit Setpoint	BI	659	0=off; 1=on
Comm Loss: Cond High Pressure Cutout	BI	660	0=off; 1=on
Comm Loss: Evaporator Water Flow Switch	BI	661	0=off; 1=on
Comm Loss: Condenser Water Flow Switch	BI	662	0=off; 1=on
Comm Loss: Evap Saturated Rfgt Temp	BI	663	0=off; 1=on
Comm Loss: Cond Saturated Rfgt Temp	BI	664	0=off; 1=on
Comm Loss: Cond Refrigerant Pressure	BI	666	0=off; 1=on
Comm Loss: Oil Tank Pressure	BI	667	0=off; 1=on
Comm Loss: Oil Pump Discharge Pressure	BI	668	0=off; 1=on
Comm Loss: Evaporator Water Pump Relay	BI	669	0=off; 1=on
Comm Loss: Condenser Water Pump Relay	BI	670	0=off; 1=on
Comm Loss: Ice Building Relay	BI	671	0=off; 1=on
Comm Loss: Starter	BI	672	0=off; 1=on
Comm Loss: Adaptive Frequency Drive	BI	673	0=off; 1=on
Comm Loss: Evap Diff Water Pressure	BI	682	0=off; 1=on
Comm Loss: Cond Diff Water Pressure	BI	683	0=off; 1=on
Comm Loss: Cond Rfgt Pressure Output	BI	684	0=off; 1=on
Comm Loss: Compressor Motor % RLA Output	BI	685	0=off; 1=on
Comm Loss: Refrigerant Monitor Input	BI	686	0=off; 1=on
Comm Loss: Purge Cprsr Suction Rfgt Temp	BI	692	0=off; 1=on
Comm Loss: Purge Carbon Tank Temperature	BI	693	0=off; 1=on
Comm Loss: Purge Liquid Level Switch	BI	694	0=off; 1=on
Comm Loss: Purge Pumpout Relay	BI	696	0=off; 1=on
Comm Loss: Purge Carbon Tank Heater Rly	BI	697	0=off; 1=on
Comm Loss: Purge Regen Solenoid Relay	BI	698	0=off; 1=on

Object Name[a]	Object Type	Instance	Property Values
Comm Loss: Purge Alarm Relay	BI	699	0=off; 1=on
Comm Loss: Purge Pumpout Solenoid Output	BI	700	0=off; 1=on
Comm Loss: Purge Exhaust Solenoid Output	BI	701	0=off; 1=on
Comm Loss: Purge Condensing Unit Relay	BI	702	0=off; 1=on
Comm Loss: Oil/Refrigerant Pump Relay	BI	705	0=off; 1=on
Comm Loss: Oil Tank Heater Relay	BI	706	0=off; 1=on
Comm Loss: Motor Winding Temperature 1	BI	709	0=off; 1=on
Comm Loss: Motor Winding Temperature 2	BI	710	0=off; 1=on
Comm Loss: Motor Winding Temperature 3	BI	711	0=off; 1=on
Comm Loss: Inboard Bearing Temperature	BI	712	0=off; 1=on
Comm Loss: Outboard Bearing Temperature	BI	713	0=off; 1=on
Comm Loss: Cprsr Discharge Rfgt Temp	BI	714	0=off; 1=on
Comm Loss: IGV First Stage Actuator	BI	715	0=off; 1=on
Comm Loss: IGV Second Stage Actuator	BI	716	0=off; 1=on
Comm Loss: Ext Base Loading Setpoint	BI	717	0=off; 1=on
Comm Loss: Ext Base Loading Command	BI	718	0=off; 1=on
Comm Loss: External Hot Water Command	BI	719	0=off; 1=on
Comm Loss: Generator Start/Stop Relay	BI	723	0=off; 1=on
Comm Loss: Generator Speed Signal Output	BI	724	0=off; 1=on
Comm Loss: Generator Up To Speed Input	BI	725	0=off; 1=on
Comm Loss: Generator Fault Input	BI	726	0=off; 1=on
Comm Loss: Generator Fault Lockout	BI	727	0=off; 1=on
Comm Loss: Programmable Relay Board 1	BI	744	0=off; 1=on
Comm Loss: Programmable Relay Board 2	BI	745	0=off; 1=on
Starter Did Not Transition	BI	755	0=off; 1=on
Starter Did Not Fully Accelerate	BI	756	0=off; 1=on
Phase Reversal	BI	757	0=off; 1=on
Starter Dry Run Test	BI	759	0=off; 1=on
Phase Loss	BI	761	0=off; 1=on
Power Loss	BI	763	0=off; 1=on
Momentary Power Loss	BI	765	0=off; 1=on
Severe Current Unbalance	BI	767	0=off; 1=on
Starter Fault Type 1	BI	769	0=off; 1=on
Starter Fault Type 2	BI	770	0=off; 1=on
Starter Fault Type 3	BI	771	0=off; 1=on
Transition Complete Input Shorted	BI	772	0=off; 1=on
At Speed Input Shorted	BI	773	0=off; 1=on
Transition Complete Input Opened	BI	774	0=off; 1=on
At Speed Input Opened	BI	775	0=off; 1=on
Motor Current Overload	BI	776	0=off; 1=on
Compressor Did Not Accelerate: Shutdown	BI	778	0=off; 1=on
Cprsr Did Not Accelerate: Transition	BI	779	0=off; 1=on
Starter Contactor Interrupt Failure	BI	780	0=off; 1=on
Starter Module Memory Error Type 1	BI	782	0=off; 1=on
Starter Module Memory Error Type 2	BI	783	0=off; 1=on
Starter Comm Loss: Main Processor	BI	784	0=off; 1=on
AFD Power Loss	BI	795	0=off; 1=on
AFD Start Inhibited	BI	796	0=off; 1=on
AFD Motor Current Overload	BI	797	0=off; 1=on
AFD Motor Short	BI	798	0=off; 1=on
AFD Instantaneous Current Overload	BI	799	0=off; 1=on
AFD High Temperature	BI	800	0=off; 1=on
AFD Output Phase Loss	BI	801	0=off; 1=on
AFD Ground Fault	BI	802	0=off; 1=on

Object Name[a]	Object Type	Instance	Property Values
HPC/High AFD Heat Sink Water Pressure	BI	803	0=off; 1=on
AFD Comm Loss: Main Processor	BI	804	0=off; 1=on
AFD High Bus Voltage	BI	805	0=off; 1=on
AFD Control Board Memory Error Type 2	BI	806	0=off; 1=on
AFD General Failure	BI	807	0=off; 1=on
AFD Fatal Software Error	BI	808	0=off; 1=on
AFD I/O Board Failure	BI	809	0=off; 1=on
AFD Power Intfc Controller Board Failure	BI	810	0=off; 1=on
AFD Power Structure Board Failure	BI	811	0=off; 1=on
AFD DPI Communication Failure	BI	812	0=off; 1=on
AFD RS485 Board Memory Error Type 2	BI	813	0=off; 1=on
Evap Saturated Refrigerant Temp Sensor	BI	814	0=off; 1=on
Cond Saturated Refrigerant Temp Sensor	BI	815	0=off; 1=on
Condenser Refrigerant Pressure Xdcr[b]	BI	816	0=off; 1=on
Oil Tank Temperature Sensor	BI	817	0=off; 1=on
Oil Pump Discharge Pressure Transducer	BI	818	0=off; 1=on
Oil Tank Pressure Transducer	BI	819	0=off; 1=on
Motor Winding Temperature 1 Sensor	BI	820	0=off; 1=on
Motor Winding Temperature 2 Sensor	BI	821	0=off; 1=on
Motor Winding Temperature 3 Sensor	BI	822	0=off; 1=on
Inboard Bearing Temp Sensor	BI	823	0=off; 1=on
Outboard Bearing Temp Sensor	BI	824	0=off; 1=on
Cprsr Discharge Refrigerant Temp Sensor	BI	825	0=off; 1=on
Purge Cprsr Suction Rfgt Temp Sensor	BI	826	0=off; 1=on
Purge Carbon Tank Temperature Sensor	BI	827	0=off; 1=on
Purge Liquid Level Too High Warning	BI	828	0=off; 1=on
Purge Liquid Level Too High Continuously	BI	829	0=off; 1=on
Purge Carbon Regen Temp Not Satisfied	BI	830	0=off; 1=on
Purge Carbon Regen Temp Limit Exceeded	BI	831	0=off; 1=on
Purge Daily Pumpout Limit Exceeded	BI	832	0=off; 1=on
Purge Carbon Regen Temperature Too Low	BI	833	0=off; 1=on
Low Evaporator Refrigerant Temperature	BI	834	0=off; 1=on
High Oil Temperature	BI	835	0=off; 1=on
Condenser High Pressure Cutout	BI	836	0=off; 1=on
Extended Compressor Surge	BI	837	0=off; 1=on
Over Voltage	BI	838	0=off; 1=on
Under Voltage	BI	839	0=off; 1=on
Unexpected Starter Shutdown	BI	840	0=off; 1=on
Starter Failed to Arm/Start	BI	841	0=off; 1=on
Low Differential Oil Pressure	BI	843	0=off; 1=on
Check Oil Filter	BI	844	0=off; 1=on
Oil Pressure Sensor Calibration	BI	845	0=off; 1=on
High Vacuum Lockout	BI	846	0=off; 1=on
Low Oil Temperature	BI	847	0=off; 1=on
High Inboard Bearing Temperature	BI	848	0=off; 1=on
High Outboard Bearing Temp	BI	849	0=off; 1=on
High Cprsr Rfgt Discharge Temperature	BI	850	0=off; 1=on
High Motor Winding Temperature 1	BI	851	0=off; 1=on
High Motor Winding Temperature 2	BI	852	0=off; 1=on
High Motor Winding Temperature 3	BI	853	0=off; 1=on
Unexpected Differential Oil Pressure	BI	854	0=off; 1=on
Differential Oil Pressure Overdue	BI	855	0=off; 1=on
Generator Fault Relay Open	BI	858	0=off; 1=on
Generator Ready Signal Overdue	BI	859	0=off; 1=on

Object Name[a]	Object Type	Instance	Property Values
Comm Loss: Oil Tank Temperature	BI	860	0=off; 1=on
Comm Loss: Cond High Pressure Cutout	BI	861	0=off; 1=on
Comm Loss: Evap Sat Refrig Temp	BI	862	0=off; 1=on
Comm Loss: Cond Saturated Rfgt Temp	BI	863	0=off; 1=on
Comm Loss: Cond Refrigerant Pressure	BI	864	0=off; 1=on
Comm Loss: Oil Tank Pressure	BI	865	0=off; 1=on
Comm Loss: Oil Pump Discharge Pressure	BI	866	0=off; 1=on
Comm Loss: Starter	BI	867	0=off; 1=on
Comm Loss: Adaptive Frequency Drive	BI	869	0=off; 1=on
Comm Loss: Cond Rfgt Pressure Output	BI	872	0=off; 1=on
Comm Loss: Compressor Motor % RLA Output	BI	873	0=off; 1=on
Comm Loss: Purge Cprsr Suction Rfgt Temp	BI	874	0=off; 1=on
Comm Loss: Purge Carbon Tank Temperature	BI	875	0=off; 1=on
Comm Loss: Purge Liquid Level Switch	BI	876	0=off; 1=on
Comm Loss: Purge Pumpout Relay	BI	878	0=off; 1=on
Comm Loss: Purge Carbon Tank Heater Rly	BI	879	0=off; 1=on
Comm Loss: Purge Regen Solenoid Relay	BI	880	0=off; 1=on
Comm Loss: Purge Alarm Relay	BI	881	0=off; 1=on
Comm Loss: Purge Pumpout Solenoid Output	BI	882	0=off; 1=on
Comm Loss: Purge Exhaust Solenoid Output	BI	883	0=off; 1=on
Comm Loss: Purge Condensing Unit Relay	BI	884	0=off; 1=on
Comm Loss: Oil/Refrigerant Pump Relay	BI	887	0=off; 1=on
Comm Loss: Oil Tank Heater Relay	BI	888	0=off; 1=on
Comm Loss: Motor Winding Temperature 1	BI	889	0=off; 1=on
Comm Loss: Motor Winding Temperature 2	BI	890	0=off; 1=on
Comm Loss: Motor Winding Temperature 3	BI	891	0=off; 1=on
Comm Loss: Inboard Bearing Temperature	BI	892	0=off; 1=on
Comm Loss: Outboard Bearing Temperature	BI	893	0=off; 1=on
Comm Loss: Cprsr Discharge Rfgt Temp	BI	894	0=off; 1=on
Comm Loss: IGV First Stage Actuator	BI	895	0=off; 1=on
Comm Loss: IGV Second Stage Actuator	BI	896	0=off; 1=on
Comm Loss: Generator Start/Stop Relay	BI	897	0=off; 1=on
Comm Loss: Generator Speed Signal Output	BI	898	0=off; 1=on
Comm Loss: Generator Up To Speed Input	BI	899	0=off; 1=on
Comm Loss: Generator Fault Input	BI	900	0=off; 1=on
Comm Loss: External Ckt Lockout	BI	901	0=off; 1=on
Purge Regen Cooldown Temp Too High	BI	903	0=off; 1=on
Purge Regen Cooldown Temp Too High Ckt2	BI	904	0=off; 1=on
Restart Inhibit	BI	905	0=off; 1=on
Restart Inhibit Ckt2	BI	906	0=off; 1=on
AFD Contactor Interrupt Failure	BI	909	0=off; 1=on
AFD Contactor Interrupt Failure Ckt2	BI	910	0=off; 1=on
High Evaporator Refrigerant Temperature	BI	911	0=off; 1=on
High Evaporator Refrigerant Temperature Ckt2	BI	912	0=off; 1=on
Software Error 1001	BI	914	0=off; 1=on
Software Error 1004	BI	915	0=off; 1=on

(a) Many data points and diagnostics require certain options to be installed. The objects will not appear if the option is not installed. For more details, refer to the Water-cooled CenTraVac Chiller with Tracer AdaptiView Control Diagnostics Manual and Component Summary listed under **"Additional Resources," p. 73**.

(b) Xdcr refers to transducer

Tracer AdaptiView Panel Upgrade—Object Data Points and Configurations

Device Object

Object Name	Instance	Property Values
UC800 (Dev Instance)	Configurable	NA

Notification Class Objects

Object Name	Instance	Property Values
Warning	1	NA
Normal Shutdown	2	NA
Immediate ShutDown	3	NA

Read/Write Values (Sorted by Object Type and Instance)

Object Name	Object Type	Instance	Property Values	Relinquish Default	Valid Range	Desc.
BAS Chilled Water Setpoint	AV	1	Real	6.7°C/44°F	-17.78° to 23.9°C/ 0°F to 75°F (depending on installed options)	
BAS Current Limit Setpoint	AV	2	Real	100% RLA	0-100%	
BAS Hot Water Setpoint	AV	3	Real	48.9°C/120°F	26.7°C to 60°C/80°F to 140°F	
BAS Base Loading Setpoint	AV	4	Real	50%	0-100%	
BAS Base Loading Enable	BV	1	0=disable; 1=enable	NA	0 or 1	Inactive; Active
BAS Diagnostic Reset	BV	2	0=false (no reset); 1=true (can reset)	NA	0 or 1	Inactive; Active
BAS Chiller Auto Stop Command	MV	1	1=stop; 2=auto	2=auto	1 or 2	
BAS Chiller Mode Command	MV	2	1=cool; 2=heat; 3=ice; 4=free cool	1=cool	1 to 4	

Read-only Values (Sorted by Object Type and Instance)

Object Name	Object Type	Instance	Property Values
Active Current Limit Setpoint	AI	2	Real
Active Base Loading Setpoint	AI	3	Real
Calculated Chiller Capacity	AI	5	Real
Active Cool/Heat Setpoint Temperature	AI	7	Real
Evaporator Leaving Water Temperature	AI	8	Real
Evaporator Entering Water Temperature	AI	9	Real
Condenser Entering Water Temperature	AI	10	Real
Condenser Leaving Water Temperature	AI	11	Real
Approximate Evaporator Water Flow	AI	12	Real
Unfiltered Evap Differential Wtr Press	AI	13	Real
Approximate Condenser Water Flow	AI	14	Real
Condenser Differential Water Pressure	AI	15	Real
Second Condenser Entering Water Temperature	AI	16	Real
Second Condenser Leaving Water Temperature	AI	17	Real
AFD Last Diagnostic Code (decimal)	AI	18	Real

Object Name	Object Type	Instance	Property Values
Front Panel Chilled Water Setpoint	AI	19	Real
Front Panel Current Limit Setpoint	AI	20	Real
Front Panel Hot Water Setpoint	AI	21	Real
Front Panel Base Load Setpoint	AI	22	Real
External Chilled Water Setpoint	AI	23	Real
External Current Limit Setpoint	AI	24	Real
External Base Loading Setpoint	AI	25	Real
Refrigerant Monitor	AI	26	Real
Evaporator Refrigerant Pressure	AI	27	Real
Condenser Refrigerant Pressure	AI	28	Real
Differential Refrigerant Pressure	AI	29	Real
Oil Tank Pressure	AI	30	Real
Oil Pump Discharge Pressure	AI	31	Real
Oil Differential Pressure	AI	32	Real
Oil Tank Temperature	AI	33	Real
Evaporator Saturated Refrigerant Temperature	AI	34	Real
Condenser Saturated Refrigerant Temperature	AI	35	Real
Compressor Refrigerant Discharge Temperature	AI	36	Real
Inlet Guide Vane Position First Stage	AI	37	Real
Inlet Guide Vane Position Second Stage	AI	38	Real
Purge Carbon Tank Temp	AI	39	Real
Purge Liquid Temperature	AI	40	Real
Purge Refrigerant Compressor Suction Temp	AI	41	Real
Time Until Next Purge Run	AI	42	Real
Pumpout Chiller On-7 Days	AI	43	Real
Pumpout Chiller Off-7 Days	AI	44	Real
Daily Pumpout-24 Hours	AI	45	Real
Pumpout-Life	AI	46	Real
Refrigeration-Life	AI	47	Real
Compressor Starts	AI	48	Real
Compressor Running Time	AI	49	Real
Starter Voltage Phase AB	AI	50	Real
Starter Voltage Phase BC	AI	51	Real
Starter Voltage Phase CA	AI	52	Real
Starter Average Phase Voltage	AI	53	Real
Starter Current L1	AI	54	Real
Starter Current L2	AI	55	Real
Starter Current L3	AI	56	Real
Average Line Current	AI	57	Real
Starter Current L1 % RLA	AI	58	Real
Starter Current L2 % RLA	AI	59	Real
Starter Current L3 % RLA	AI	60	Real
Average Line Current % RLA	AI	61	Real
Starter Power Consumption	AI	62	Real
Starter Load Power Factor	AI	63	Real
Inboard Bearing Temperature	AI	64	Real
Outboard Bearing Temperature	AI	65	Real
Motor Winding Temperature #1	AI	66	Real
Motor Winding Temperature #2	AI	67	Real
Motor Winding Temperature #3	AI	68	Real
Frequency	AI	69	Real
AFD Transistor Temperature	AI	70	Real
Chiller Running	BI	1	0=no (not running), Inactive; 1=yes (running, Active

Object Name	Object Type	Instance	Property Values
Evaporator Pump Control	BI	2	0=off (pump off), Inactive ; 1=on (pump on), Active
Evaporator Water Flow	BI	3	0=no flow, Inactive ; 1=flow, Active
Condenser Pump Control	BI	4	0=off (pump off), Inactive; 1=on (pump on), Active
Condenser Water Flow	BI	5	0=no flow, Inactive; 1=flow, Active
Front Panel Base Loading Command	BI	6	0=auto; 1=on
Emergency Stop	BI	7	0=off; 1=on
Manual Override Exists	BI	8	0=false; 1=true
Base Loading	BI	9	0=inactive; 1=active
Alarm Present	BI	10	0=no; 1=yes
Run Enable	BI	11	0=no; 1=yes
Local Setpoint Control	BI	12	0=no; 1=yes
Maximum Capacity Relay	BI	13	0=off; 1=on
Limit Mode Relay Status	BI	14	0=inactive; 1=active
Head Relief Request Relay	BI	15	0=off; 1=on
Hot Gas Bypass	BI	16	0=inactive; 1=active
Purge Compressor Relay	BI	17	0=off; 1=on
Pumpout Relay	BI	18	0=off; 1=on
Purge Regen Valve Solenoid	BI	19	0=off; 1=on
Chiller Running Status	MI	1	1=not running; 2=starting; 3=running; 4=stopping
Chiller Control Mode	MI	2	1=cool; 2=heat; 3=ice; 4=free cooling
Setpoint Source	MI	3	1=BAS/Ext/FP; 2=Ext/FP; 3=front panel
Active Chilled Water Setpoint Source	MI	4	1=front panel; 2=external; 3=ice machine; 4=BAS
Active Current Limit Setpoint Source	MI	5	1=front panel; 2=external; 3=ice machine; 4=BAS
Active Hot Water Setpoint Source	MI	6	1=front panel; 2=external; 3=ice machine; 4=BAS
Active Base Loading Setpoint Source	MI	7	1=front panel; 2=external; 3=ice machine; 4=BAS
Front Panel Auto/Stop	MI	8	1=stop; 2=auto
Front Panel Chiller Control Mode	MI	9	1=cool; 2=heat; 3=ice; 4=free cooling
External Auto Stop	MI	10	1=off; 2=auto; 3=on
Compressor Running	MI	11	1=stopped; 2=running; 3=arm

Diagnostics: Inputs with Alarming Capabilities (Sorted by)

Object Name[a]	Object Type	Instance	Property Values
Chiller Running	BI	1	0=no (nor running), Inactive; 1=yes (running, Active
Evaporator Pump Control	BI	2	0=off (pump off), Inactive ; 1=on (pump pn), Active
Evaporator Water Flow	BI	3	0=no flow, Inactive ; 1=flow, Active
Condenser Pump Control	BI	4	0=off (pump off), Inactive; 1=on (pump on), Active
Condenser Water Flow	BI	5	0=no flow, Inactive; 1=flow, Active
Front Panel Base Loading Command	BI	6	0=auto; 1=on
Emergency Stop	BI	7	0=off; 1=on
Manual Override Exists	BI	8	0=false; 1=true
Base Loading	BI	9	0=inactive; 1=active
Alarm Present	BI	10	0=no; 1=yes

Object Name[a]	Object Type	Instance	Property Values
Run Enable	BI	11	0=no; 1=yes
Local Setpoint Control	BI	12	0=no; 1=yes
Maximum Capacity Relay	BI	13	0=off; 1=on
Limit Mode Relay Status	BI	14	0=inactive; 1=active
Head Relief Request Relay	BI	15	0=off; 1=on
Hot Gas Bypass	BI	16	0=inactive; 1=active
Purge Compressor Relay	BI	17	0=off; 1=on
Pumpout Relay	BI	18	0=off; 1=on
Purge Regen Valve Solenoid	BI	19	0=off; 1=on
Chiller Running Status	MI	1	1=not running; 2=starting; 3=running; 4=stopping
Chiller Control Mode	MI	2	1=cool; 2=heat; 3=ice; 4=free cooling
Setpoint Source	MI	3	1=BAS/Ext/FP; 2=Ext/FP; 3=front panel
Active Chilled Water Setpoint Source	MI	4	1=front panel; 2=external; 3=ice machine; 4=BAS
Active Current Limit Setpoint Source	MI	5	1=front panel; 2=external; 3=ice machine; 4=BAS
Active Hot Water Setpoint Source	MI	6	1=front panel; 2=external; 3=ice machine; 4=BAS
Active Base Loading Setpoint Source	MI	7	1=front panel; 2=external; 3=ice machine; 4=BAS
Front Panel Auto/Stop	MI	8	1=stop; 2=auto
Front Panel Chiller Control Mode	MI	9	1=cool; 2=heat; 3=ice; 4=free cooling
External Auto Stop	MI	10	1=off; 2=auto; 3=on
Compressor Running	MI	11	1=stopped; 2=running; 3=arm
Starter Did Not Transition	BI	501	0=off; 1=on
Starter Did Not Fully Accelerate	BI	502	0=off; 1=on
Phase Reversal	BI	503	0=off; 1=on
Starter Dry Run Test	BI	504	0=off; 1=on
Phase Loss	BI	505	0=off; 1=on
Power Loss	BI	506	0=off; 1=on
Momentary Power Loss	BI	507	0=off; 1=on
Severe Current Unbalance	BI	508	0=off; 1=on
Starter Fault Type I	BI	509	0=off; 1=on
Starter Fault Type II	BI	510	0=off; 1=on
Starter Fault Type III	BI	511	0=off; 1=on
Transition Complete Input Shorted	BI	512	0=off; 1=on
At Speed Input Shorted	BI	513	0=off; 1=on
Transition Complete Input Opened	BI	514	0=off; 1=on
At Speed Input Opened	BI	515	0=off; 1=on
Motor Current Overload	BI	516	0=off; 1=on
Compressor Did Not Accelerate: Shutdown	BI	517	0=off; 1=on
Cprsr Did Not Accelerate: Transition	BI	518	0=off; 1=on
Starter Contactor Interrupt Failure	BI	519	0=off; 1=on
Starter Module Memory Error Type 1	BI	520	0=off; 1=on
Starter Module Memory Error Type 2	BI	521	0=off; 1=on
Starter Comm Loss: Main Processor	BI	522	0=off; 1=on
AFD Power Loss	BI	536	0=off; 1=on
AFD Start Inhibited	BI	537	0=off; 1=on
AFD Motor Current Overload	BI	538	0=off; 1=on
AFD Motor Short	BI	539	0=off; 1=on
AFD Instantaneous Current Overload	BI	540	0=off; 1=on
AFD High Temperature	BI	541	0=off; 1=on

Object Name[a]	Object Type	Instance	Property Values
AFD Output Phase Loss	BI	542	0=off; 1=on
AFD Ground Fault	BI	543	0=off; 1=on
HPC/High AFD Heat Sink Water Pressure	BI	544	0=off; 1=on
AFD Comm Loss: Main Processor	BI	545	0=off; 1=on
AFD High Bus Voltage	BI	546	0=off; 1=on
AFD Control Board Memory Error Type 2	BI	547	0=off; 1=on
AFD General Failure	BI	548	0=off; 1=on
AFD Fatal Software Error	BI	549	0=off; 1=on
AFD I/O Board Failure	BI	550	0=off; 1=on
AFD Power Intfc Controller Board Failure	BI	551	0=off; 1=on
AFD Power Structure Board Failure	BI	552	0=off; 1=on
AFD DPI Communication Failure	BI	553	0=off; 1=on
AFD RS485 Board Memory Error Type 2	BI	554	0=off; 1=on
External Chilled/Hot Water Setpoint	BI	555	0=off; 1=on
External Current Limit Setpoint	BI	556	0=off; 1=on
Evaporator Entering Water Temp Sensor	BI	557	0=off; 1=on
Evaporator Leaving Water Temp Sensor	BI	558	0=off; 1=on
Condenser Entering Water Temp Sensor	BI	559	0=off; 1=on
Condenser Leaving Water Temp Sensor	BI	560	0=off; 1=on
Evaporator Diff Water Pressure Xdcr[b]	BI	561	0=off; 1=on
Condenser Diff Water Pressure Xdcr[b]	BI	562	0=off; 1=on
Second Cond Entering Water Temp Sensor	BI	563	0=off; 1=on
Second Cond Leaving Water Temp Sensor	BI	564	0=off; 1=on
Evap Saturated Refrigerant Temp Sensor	BI	565	0=off; 1=on
Cond Saturated Refrigerant Temp Sensor	BI	566	0=off; 1=on
Condenser Refrigerant Pressure Xdcr[b]	BI	568	0=off; 1=on
Oil Tank Temperature Sensor	BI	569	0=off; 1=on
Oil Pump Discharge Pressure Transducer	BI	570	0=off; 1=on
Oil Tank Pressure Transducer	BI	571	0=off; 1=on
Motor Winding Temperature 1 Sensor	BI	572	0=off; 1=on
Motor Winding Temperature 2 Sensor	BI	573	0=off; 1=on
Motor Winding Temperature 3 Sensor	BI	574	0=off; 1=on
Inboard Bearing Temperature Sensor	BI	575	0=off; 1=on
Outboard Bearing Temperature Sensor	BI	576	0=off; 1=on
Cprsr Discharge Refrigerant Temp Sensor	BI	577	0=off; 1=on
Outdoor Air Temp Sensor	BI	578	0=off; 1=on
Purge Cprsr Suction Rfgt Temp Sensor	BI	579	0=off; 1=on
Purge Carbon Tank Temperature Sensor	BI	580	0=off; 1=on
External Base Loading Setpoint	BI	581	0=off; 1=on
RLA Input	BI	582	0=off; 1=on
Purge Liquid Level Too High Warning	BI	583	0=off; 1=on
Purge Liquid Level Too High Continuously	BI	584	0=off; 1=on
Purge Carbon Regen Temp Not Satisfied	BI	585	0=off; 1=on
Purge Carbon Regen Temp Limit Exceeded	BI	586	0=off; 1=on
Purge Daily Pumpout Limit Exceeded	BI	587	0=off; 1=on
Purge Carbon Regen Temperature Too Low	BI	588	0=off; 1=on
Low Evaporator Refrigerant Temperature	BI	589	0=off; 1=on
High Oil Temperature	BI	590	0=off; 1=on
Low Evap Leaving Water Temp: Unit Off	BI	591	0=off; 1=on
Low Evap Leaving Water Temp: Unit On	BI	592	0=off; 1=on
Evaporator Water Flow Overdue	BI	593	0=off; 1=on
Evaporator Water Flow Lost	BI	594	0=off; 1=on
High Evaporator Water Temperature	BI	595	0=off; 1=on
Condenser High Pressure Cutout	BI	596	0=off; 1=on

Object Name[a]	Object Type	Instance	Property Values
Emergency Stop	BI	597	0=off; 1=on
MP: Invalid Configuration	BI	598	0=off; 1=on
MP: Reset Has Occurred	BI	603	0=off; 1=on
Extended Compressor Surge	BI	604	0=off; 1=on
Over Voltage	BI	605	0=off; 1=on
Under Voltage	BI	606	0=off; 1=on
Low Evaporator Water Flow	BI	607	0=off; 1=on
Condenser Water Flow Overdue	BI	608	0=off; 1=on
Condenser Water Flow Lost	BI	609	0=off; 1=on
Free Cooling Actuators Not Open	BI	610	0=off; 1=on
Free Cooling Actrs Not Open During FC	BI	611	0=off; 1=on
Free Cooling Actuators Not Closed	BI	612	0=off; 1=on
Free Cooling Actuators Unexpectedly Open	BI	613	0=off; 1=on
Unexpected Starter Shutdown	BI	614	0=off; 1=on
Starter Failed to Arm/Start	BI	615	0=off; 1=on
Starter Fault	BI	616	0=off; 1=on
Low Differential Oil Pressure	BI	617	0=off; 1=on
Check Oil Filter	BI	618	0=off; 1=on
Oil Pressure Sensor Calibration	BI	619	0=off; 1=on
High Vacuum Lockout	BI	620	0=off; 1=on
Low Oil Temperature	BI	621	0=off; 1=on
High Inboard Bearing Temperature	BI	622	0=off; 1=on
High Outboard Bearing Temperature	BI	623	0=off; 1=on
High Cprsr Rfgt Discharge Temperature	BI	624	0=off; 1=on
High Motor Winding Temperature 1	BI	625	0=off; 1=on
High Motor Winding Temperature 2	BI	626	0=off; 1=on
High Motor Winding Temperature 3	BI	627	0=off; 1=on
Refrigerant Monitor Input	BI	628	0=off; 1=on
Unexpected Differential Oil Pressure	BI	629	0=off; 1=on
Differential Oil Pressure Overdue	BI	630	0=off; 1=on
Hot Gas Bypass Valve Closure Overdue	BI	633	0=off; 1=on
Hot Gas Bypass Valve Unexpectedly Open	BI	634	0=off; 1=on
Hot Gas Bypass Valve Opening Overdue	BI	635	0=off; 1=on
Generator Fault Relay Open	BI	636	0=off; 1=on
Generator Ready Signal Overdue	BI	637	0=off; 1=on
Safety String Tripped	BI	638	0=off; 1=on
MTC Temperature Sensor	BI	639	0=off; 1=on
Starter Interlock Failed to Close	BI	640	0=off; 1=on
Starter Interlock Failed to Open	BI	641	0=off; 1=on
Starter Interlock Unexpectedly Open	BI	642	0=off; 1=on
Starter Interlock Unexpectedly Closed	BI	643	0=off; 1=on
IGV Failed to Close	BI	644	0=off; 1=on
Excessive Loss of Communication	BI	646	0=off; 1=on
Comm Loss: External Auto/Stop	BI	647	0=off; 1=on
Comm Loss: Emergency Stop	BI	648	0=off; 1=on
Comm Loss: External Ice Building Command	BI	649	0=off; 1=on
Comm Loss: Outdoor Air Temperature	BI	650	0=off; 1=on
Comm Loss: Evap Leaving Water Temp	BI	651	0=off; 1=on
Comm Loss: Evap Entering Water Temp	BI	652	0=off; 1=on
Comm Loss: Condenser Leaving Water Temp	BI	653	0=off; 1=on
Comm Loss: Condenser Entering Water Temp	BI	654	0=off; 1=on
Comm Loss: Sec Cond Leaving Water Temp	BI	655	0=off; 1=on
Comm Loss: Sec Cond Entering Water Temp	BI	656	0=off; 1=on
Comm Loss: Oil Tank Temperature	BI	657	0=off; 1=on

Object Name[a]	Object Type	Instance	Property Values
Comm Loss: Ext Chilled/Hot Wtr Setpoint	BI	658	0=off; 1=on
Comm Loss: Ext Current Limit Setpoint	BI	659	0=off; 1=on
Comm Loss: Cond High Pressure Cutout	BI	660	0=off; 1=on
Comm Loss: Evaporator Water Flow Switch	BI	661	0=off; 1=on
Comm Loss: Condenser Water Flow Switch	BI	662	0=off; 1=on
Comm Loss: Evap Saturated Rfgt Temp	BI	663	0=off; 1=on
Comm Loss: Cond Saturated Rfgt Temp	BI	664	0=off; 1=on
Comm Loss: Cond Refrigerant Pressure	BI	666	0=off; 1=on
Comm Loss: Oil Tank Pressure	BI	667	0=off; 1=on
Comm Loss: Oil Pump Discharge Pressure	BI	668	0=off; 1=on
Comm Loss: Evaporator Water Pump Relay	BI	669	0=off; 1=on
Comm Loss: Condenser Water Pump Relay	BI	670	0=off; 1=on
Comm Loss: Ice Building Relay	BI	671	0=off; 1=on
Comm Loss: Starter	BI	672	0=off; 1=on
Comm Loss: Adaptive Frequency Drive	BI	673	0=off; 1=on
Comm Loss: Evap Diff Water Pressure	BI	682	0=off; 1=on
Comm Loss: Cond Diff Water Pressure	BI	683	0=off; 1=on
Comm Loss: Cond Rfgt Pressure Output	BI	684	0=off; 1=on
Comm Loss: Compressor Motor % RLA Output	BI	685	0=off; 1=on
Comm Loss: Refrigerant Monitor Input	BI	686	0=off; 1=on
Comm Loss: External Free Cooling Command	BI	687	0=off; 1=on
Comm Loss: Free Cool Actrs Closed Input	BI	688	0=off; 1=on
Comm Loss: Free Cool Liq Line Actr Relay	BI	689	0=off; 1=on
Comm Loss: Free Cool Gas Line Actr Relay	BI	690	0=off; 1=on
Comm Loss: Free Cooling Auxiliary Relay	BI	691	0=off; 1=on
Comm Loss: Purge Cprsr Suction Rfgt Temp	BI	692	0=off; 1=on
Comm Loss: Purge Carbon Tank Temperature	BI	693	0=off; 1=on
Comm Loss: Purge Liquid Level Switch	BI	694	0=off; 1=on
Comm Loss: Purge Pumpout Relay	BI	696	0=off; 1=on
Comm Loss: Purge Carbon Tank Heater Rly	BI	697	0=off; 1=on
Comm Loss: Purge Regen Solenoid Relay	BI	698	0=off; 1=on
Comm Loss: Purge Alarm Relay	BI	699	0=off; 1=on
Comm Loss: Purge Pumpout Solenoid Output	BI	700	0=off; 1=on
Comm Loss: Purge Exhaust Solenoid Output	BI	701	0=off; 1=on
Comm Loss: Purge Condensing Unit Relay	BI	702	0=off; 1=on
Comm Loss: Starter Fault	BI	703	0=off; 1=on
Comm Loss: PFCC Relay	BI	704	0=off; 1=on
Comm Loss: Oil/Refrigerant Pump Relay	BI	705	0=off; 1=on
Comm Loss: Oil Tank Heater Relay	BI	706	0=off; 1=on
Comm Loss: Motor Winding Temperature 1	BI	709	0=off; 1=on
Comm Loss: Motor Winding Temperature 2	BI	710	0=off; 1=on
Comm Loss: Motor Winding Temperature 3	BI	711	0=off; 1=on
Comm Loss: Inboard Bearing Temperature	BI	712	0=off; 1=on
Comm Loss: Outboard Bearing Temperature	BI	713	0=off; 1=on
Comm Loss: Cprsr Discharge Rfgt Temp	BI	714	0=off; 1=on
Comm Loss: IGV First Stage Actuator	BI	715	0=off; 1=on
Comm Loss: IGV Second Stage Actuator	BI	716	0=off; 1=on
Comm Loss: Ext Base Loading Setpoint	BI	717	0=off; 1=on
Comm Loss: Ext Base Loading Command	BI	718	0=off; 1=on
Comm Loss: External Hot Water Command	BI	719	0=off; 1=on
Comm Loss: Hot Gas Bypass Load Relay	BI	720	0=off; 1=on
Comm Loss: Hot Gas Bypass Unload Relay	BI	721	0=off; 1=on
Comm Loss: Hot Gas Bypass Actr Closed In	BI	722	0=off; 1=on
Comm Loss: Generator Start/Stop Relay	BI	723	0=off; 1=on

Object Name[a]	Object Type	Instance	Property Values
Comm Loss: Generator Speed Signal Output	BI	724	0=off; 1=on
Comm Loss: Generator Up To Speed Input	BI	725	0=off; 1=on
Comm Loss: Generator Fault Input	BI	726	0=off; 1=on
Comm Loss: Oil Diff Pressure Switch	BI	728	0=off; 1=on
Comm Loss: Motor Temperature Cutout	BI	729	0=off; 1=on
Comm Loss: RLA Input	BI	730	0=off; 1=on
Comm Loss: Starter Command Relay	BI	731	0=off; 1=on
Comm Loss: Starter Running Input	BI	732	0=off; 1=on
Comm Loss: Pulsed IGV Control	BI	733	0=off; 1=on
Comm Loss: IGV Closed Switch	BI	734	0=off; 1=on
Comm Loss: Motor Temp/Overload	BI	737	0=off; 1=on
Comm Loss: Oil Pressure Status	BI	738	0=off; 1=on
Comm Loss: AFD Speed Signal VDC Output	BI	739	0=off; 1=on
Comm Loss: Call for Cooling Relay	BI	740	0=off; 1=on
Comm Loss: Starter Interlock	BI	741	0=off; 1=on
Comm Loss: Safety String Input	BI	742	0=off; 1=on
Comm Loss: Programmable Relay Board 1	BI	744	0=off; 1=on
Comm Loss: Programmable Relay Board 2	BI	745	0=off; 1=on
Motor Coolant Temperature Sensor	BI	902	0=off; 1=on
Purge Regen Cooldown Temp Too High	BI	903	0=off; 1=on
Restart Inhibit	BI	905	0=off; 1=on
Check Oil Heater	BI	907	0=off; 1=on
AFD Interrupt Failure	BI	909	0=off; 1=on
High Evaporator Refrigerant Temperature	BI	911	0=off; 1=on
High Motor Coolant Temperature	BI	913	0=off; 1=on
Software Error 1001: Call Trane Service	BI	914	0=off; 1=on
Software Error 1004: Call Trane Service	BI	915	0=off; 1=on
Comm Loss: Motor Coolant Temperature	BI	918	0=off; 1=on

(a) Many data points and diagnostics require certain options to be installed. The objects will not appear if the option is not installed. For more details, refer to the Water-cooled CenTraVac Chiller with Tracer AdaptiView Control Diagnostics Manual and Component Summary listed under **"Additional Resources," p. 73**.

(b) Xdcr refers to transducer

Modbus RTU Data Points and Configuration Property Definitions

The Tracer UC800 controller is an equipment unit controller which provides the equipment system sequences and performs closed-loop control. In addition, the UC800 integrates with Modbus systems and devices using Modbus RTU protocol. This section includes information about:

- Baud rate, parity, and supported character sets
- Data points descriptions and configurations—CenTraVac and Duplex CenTraVac

Protocol: Baud Rate, Parity, and Supported Character Sets

Baud Rate

300, 1200, 2400, 4800, 9600, 19200 (**default**), 38400, 57600 or 115200

Parity

Even (**default**) or None

Stop Bits

One (**default**) or two.

CenTraVac—Data Points Descriptions and Configurations

Holding Registers—Read/Write (Sorted by Register)

This function code is used to read the contents of a contiguous block of holding registers in a remote device.

Register Object Name	Register	Register Type	Register Value	Valid Range
BAS Chiller Auto Stop Command	40001	Binary		0,1
BAS Chiller Mode Command	40002	Enumeration	0=cool; 1=heat; 2=ice; 3=free cool;	0 to 3
BAS Chilled Water Setpoint	40003	Temperature		-17.78°C to 23.9°C/0°F to 75°F (depending on installed options)
BAS Current Limit Setpoint	40004	Percent		0–100
BAS Hot Water Setpoint	40005	Temperature		26.7°C to 60°C/80°F to 140°F
BAS Base Loading Setpoint	40006	Percent		0–100
BAS Base Loading Enable	40007	Binary		0,1
BAS Diagnostic Reset	40008	Binary		0,1
Evaporator Pump Override	40009	Binary		0,1
Condenser Pump Override	40010	Binary		0,1

Input Registers—Read Only (Sorted by Register)

This function code is used to read from 1 to 125 contiguous input registers in a remote device.

Register Object Name[a]	Register	Register Type[b]	Register Value
Software Type	30001	NA	448=CTV
Software Revision	30002	NA	
Chiller Running	30003	Binary	
Average Line Current	30004	Percent	
Active Current Limit Setpoint	30005	Percent	
Active Base Loading Setpoint	30006	Percent	
Starter Power Consumption	30007	Power	
Calculated Chiller Capacity	30008	Power	
Approx Unit Heating Power	30009	Power	
Active Cool/Heat Setpoint Temperature	30010	Temperature	
Evap Leaving Water Temp	30011	Temperature	
Evap Entering Water Temp	30012	Temperature	
Cond Entering Water Temp	30013	Temperature	
Cond Leaving Water Temp	30014	Temperature	
Evaporator Pump Control	30015	Binary	
Evaporator Water Flow	30016	Binary	
Approx Evap Water Flow	30017	Flow, Water	
Unfiltered Evap Differential Wtr Press	30018	Pressure	
Condenser Pump Control	30019	Binary	
Condenser Water Flow	30020	Binary	
Approx Cond Water Flow	30021	Flow, Water	
Cond Differential Wtr Press	30022	Pressure	
Second Condenser Ent Wtr Temp	30023	Temperature	
Second Condenser Lvg Wtr Temp	30024	Temperature	
Last Diagnostic Code	30025	Enumeration	**See footnote** [c]
Chiller Running Status	30026	Enumeration	0=off/idle (auto); 1=starting; 2=running; 3=stopping; 4=needs service (stop or diagnostic lockout)
Chiller Control Mode	30027	Enumeration	0=cool; 1=heat; 2=ice; 3=free cool
Setpoint Source	30028	Enumeration	0=BAS+external+local; 1=external+local; 2=local
Active Chilled Water Setpoint Source	30029	Enumeration	0=front panel; 3=external; 5=BAS
Active Current Limit Setpoint Source	30030	Enumeration	0=front panel; 3=external; 5=ice making; 6=BAS
Active Hot Water Setpoint Source	30031	Enumeration	0=front panel; 3=external; 5=BAS
Active Base Loading Setpoint Source	30032	Enumeration	0=front panel; 3=external; 5=BAS
Front Panel Auto/Stop	30033	Binary	
Front Panel Chiller Control Mode	30034	Enumeration	0=cool; 1=heat; 2=ice; 3=free cool
Front Panel Chilled Water Setpt	30035	Temperature	
Front Panel Current Limit Setpoint	30036	Percent	
Front Panel Hot Water Setpt	30037	Temperature	
Front Panel Base Loading Setpt	30038	Percent	
Front Panel Base Loading Command	30039	Binary	
External Auto Stop	30040	Binary	
Ext Chilled Wtr Setpt	30041	Temperature	
Ext Current Limit Setpt	30042	Percent	
Ext Base Loading Setpt	30043	Percent	
Emergency Stop	30044	Binary	
Manual Override Exists	30045	Binary	
Base Loading	30046	Binary	
Alarm Present	30047	Binary	
Chiller In Auto	30048	Binary	
Local Setpoint Control	30049	Binary	
Maximum Capacity Relay	30050	Binary	
Limit Mode Relay Status	30051	Binary	

Register Object Name[a]	Register	Register Type[b]	Register Value
Head Relief Request Relay	30052	Binary	
Hot Gas Bypass	30053	Binary	
Refrigerant Monitor	30054	Concentration	ppm (invalid on warning)
Compressor Running	30055	Binary	
Evap Rfgt Pressure	30056	Pressure	
Condenser Rfgt Pressure	30057	Pressure	
Differential Refrigerant Pressure	30058	Pressure	
Oil Tank Pressure	30059	Pressure	
Oil Pump Discharge Pressure	30060	Pressure	
Oil Differential Pressure	30061	Pressure	
Oil Tank Temperature	30062	Temperature	
Evap Sat Rfgt Temp	30063	Temperature	
Cond Sat Rfgt Temp	30064	Temperature	
Compressor Refrigerant Discharge Temperature	30065	Temperature	
IGV1 Position	30066	Percent	
IGV2 Position	30067	Percent	
Purge Compressor Relay	30068	Binary	
Pumpout Relay	30069	Binary	
Purge Regen Valve Solenoid	30070	Binary	
Carbon Tank Temp	30071	Temperature	
Purge Liquid Temp	30072	Temperature	
Purge Rfgt Cprs Suction Temp	30073	Temperature	
Time Until Next Purge Run	30074	Time Interval	
	30075	(cont.)	
Pumpout Chiller On-7 Days	30076	Time Interval	
	30077	(cont.)	
Pumpout Chiller Off-7 Days	30078	Time Interval	
	30079	(cont.)	
Daily Pumpout-24 Hours	30080	Time Interval	
	30081	(cont.)	
Pumpout-Life	30082	Time Interval	
	30083	(cont.)	
Refrigeration-Life	30084	Time Interval	
	30085	(cont.)	
Compressor Starts	30086	Count	
	30087	(cont.)	
Compressor Running Time	30088	Time Interval	
	30089	(cont.)	
Starter Voltage Phase AB	30090	Voltage	
Starter Voltage Phase BC	30091	Voltage	
Starter Voltage Phase CA	30092	Voltage	
Starter Average Phase Voltage	30093	Voltage	
Starter Current L1	30094	Current	
Starter Current L2	30095	Current	
Starter Current L3	30096	Current	
Average Starter Phase Current	30097	Current	
Starter Current L1	30098	Percent	
Starter Current L2	30099	Percent	
Starter Current L3	30100	Percent	
Average Starter Phase Current	30101	Percent	
Power	30102	Power	
Starter Load Power Factor	30103	Power Factor	
Inboard Bearing Temp	30104	Temperature	
Outboard Bearing Temp	30105	Temperature	

Register Object Name[a]	Register	Register Type[b]	Register Value
Motor Winding Temp #1	30106	Temperature	
Motor Winding Temp #2	30107	Temperature	
Motor Winding Temp #3	30108	Temperature	
Frequency	30109	Frequency	
AFD Transistor Temp	30110	Temperature	
AFD Input Frequency	30111	Frequency	
AFD Average Input Current	30112	Current	
AFD Output Voltage	30113	Voltage	
AFD Input Current L1	30114	Current	
AFD Input Current L2	30115	Current	
AFD Input Current L3	30116	Current	
AFD Inverter Base Temperature	30118	Temperature	
AFD Rectifier Base Temperature	30119	Temperture	
AFD Output Power	30120	Power	

(a) Many data points require installing certain options. Registers will read NULL if the option is not installed. For more details, refer to *Diagnostic Descriptions, Troubleshooting Tables, and Control Component Overview Diagnostic Manual* listed under **"Additional Resources," p. 73**.
(b) Refer to the Determining Input Register Type table below.
(c) Refer to the Diagnostic Codes and Descriptions listing below.

Determining Input Register Type

Register Type	Data Format	Units
Binary	u16	0 = false/off/no/disabled/stop, 1 = true/on/yes/enabled/auto
Concentration	u16	PPM
Current	U16	Amps
Enumeration	u16	NA
Flow, Air	u16	Liters/Second (100 = 212 cfm)
Flow, Water	u16	Liters/Minute (1,000 = 264 gpm)
Frequency	u16	0.1 Hz (600 = 60 Hz)
Percent	s16	0.005% (20,000 = 100%)
Power	u16	kW (3517 = 1,000 tons)
Power Factor	s16	0.005 (200 = 1)
Pressure	u16	0.1 kPa absolute (1,000 = 14.5 psi)
Temperature	s16	0.01 °C (100 = 1 °C) $°F = \left[\dfrac{Register \times 1.8}{100} \right] + 32$
Time Interval	u32	Seconds
Voltage	u16	Volts
None	u16	NA

Duplex CenTraVac—Data Points Descriptions and Configurations

Holding Registers—Read/Write (Sorted by Register)

This function code is used to read the contents of a contiguous block of holding registers in a remote device.

Register Object Name	Register	Register Type	Register Value	Valid Range
BAS Chiller Auto Stop Command	40001	Binary		0,1
BAS Chiller Mode Command	40002	Enumeration	0=cool; 1=heat; 2=ice; 3=free cool;	0 to 3
BAS Chilled Water Setpoint	40003	Temperature		-17.78°C to 23.9°C/0°F to 75°F (depending on installed options)
BAS Current Limit Setpoint	40004	Percent		0–100
BAS Hot Water Setpoint	40005	Temperature		26.7°C to 60°C/80°F to 140°F
BAS Base Loading Setpoint	40006	Percent		0–100
BAS Base Loading Enable	40007	Binary		0,1
BAS Diagnostic Reset	40008	Binary		0,1
Evaporator Pump Override	40009	Binary		0,1
Condenser Pump Override	40010	Binary		0,1

Input Registers—Read Only (Sorted by Register)

This function code is used to read from 1 to 125 contiguous input registers in a remote device.

Register Object Name	Register	Register Type	Register Value
Software Type	30001	NA	458=CTVD
Software Revision	30002	NA	
Chiller Running	30003	Binary	
Unit Average Line Current	30004	Percent	
Active Current Limit Setpoint	30005	Percent	
Active Base Loading Setpt	30006	Percent	
Unit Power Consumption	30007	Power	
Calculated Chiller Capacity	30008	Power	
Approx Unit Heating Power	30009	Power	
Active Cool/Heat Setpoint Temperature	30010	Temperature	
Evap Leaving Water Temp	30011	Temperature	
Evap Entering Water Temp	30012	Temperature	
Cond Entering Water Temp	30013	Temperature	
Cond Leaving Water Temp	30014	Temperature	
Evaporator Pump Control	30015	Binary	
Evaporator Water Flow	30016	Binary	
Approx Evap Water Flow	30017	Flow, Water	
Unfiltered Evap Differential Wtr Press	30018	Pressure	
Condenser Pump Control	30019	Binary	
Condenser Water Flow	30020	Binary	
Approx Cond Water Flow	30021	Flow, Water	
Cond Differential Wtr Press	30022	Pressure	
Last Diagnostic Code	30025	Enumeration	**See Footnote**[a]
Chiller Running Status	30026	Enumeration	0=off/idle (auto); 1=starting; 2=running; 3=stopping; 4=needs service (stop or diagnostic lockout)
Chiller Control Mode	30027	Enumeration	0=cool; 1=heat; 2=ice; 3=free cool
Setpoint Source	30028	Enumeration	0=BAS+external+local; 1=external+local; 2=local
Active Chilled Water Setpoint Source	30029	Enumeration	0=front panel; 1=external; 3=BAS
Active Current Limit Setpoint Source	30030	Enumeration	0=front panel; 1=external; 2=ice making; 3=BAS
Active Hot Water Setpoint Source	30031	Enumeration	0=front panel; 1=external; 3=BAS
Active Base Loading Setpoint Source	30032	Enumeration	0=front panel; 1=external; 3=BAS
Front Panel Auto/Stop	30033	Binary	
Front Panel Chiller Control Mode	30034	Enumeration	0=cool; 1=heat; 2=ice; 3=free cool
Front Panel Chilled Water Setpt	30035	Temperature	
Front Panel Current Limit Setpoint	30036	Percent	

Register Object Name	Register	Register Type	Register Value
Front Panel Hot Water Setpt	30037	Temperature	
Front Panel Base Loading Setpt	30038	Percent	
Front Panel Base Loading Command	30039	Binary	
External Auto Stop	30040	Binary	
Ext Chilled Wtr Setpt	30041	Temperature	
Ext Current Limit Setpt	30042	Percent	
External Base Loading Setpoint	30043	Percent	
Emergency Stop	30044	Binary	
Manual Override Exists	30045	Binary	
Base Loading	30046	Binary	
Alarm Present	30047	Binary	
Run Enabled	30048	Binary	
Local Setpoint Control	30049	Binary	
Maximum Capacity Relay	30050	Binary	
Limit Mode Relay Status	30051	Binary	
Head Relief Request Relay	30052	Binary	
Refrigerant Monitor	30054	Concentration	
Compressor Running Ckt1	30055	Binary	
Evaporator Refrigerant Pressure Ckt1	30056	Pressure	
Condenser Refrigerant Pressure Ckt1	30057	Pressure	
Differential Refrigerant Pressure Ckt1	30058	Pressure	
Oil Tank Pressure Ckt1	30059	Pressure	
Oil Pump Discharge Pressure Ckt1	30060	Pressure	
Oil Differential Pressure Ckt1	30061	Pressure	
Oil Tank Temperature Ckt1	30062	Temperature	
Evaporator Saturated Rfgt Temp Ckt1	30063	Temperature	
Condenser Saturated Rfgt Temp Ckt1	30064	Temperature	
Compressor Rfgt Discharge Temp Ckt1	30065	Temperature	
IGV 1 Percent Open Ckt1	30066	Percent	
IGV 2 Percent Open Ckt1	30067	Percent	
Purge Compressor Relay Ckt1	30068	Binary	
Pumpout Relay Ckt1	30069	Binary	
Purge Regen Valve Solenoid Ckt1	30070	Binary	
Purge Carbon Tank Temp Ckt1	30071	Temperature	
Purge Liquid Temperature Ckt1	30072	Temperature	
Purge Rfgt Compressor Suction Temp Ckt1	30073	Temperature	
Time Until Next Purge Run Ckt1	30074	Time Interval	
	30075	(cont.)	
Pumpout Chiller On-7 Days Ckt1	30076	Time Interval	
	30077	(cont.)	
Pumpout Chiller Off-7 Days Ckt1	30078	Time Interval	
	30079	(cont.)	
Daily Pumpout-24 Hours Ckt1	30080	Time Interval	
	30081	(cont.)	
Pumpout-Life Ckt1	30082	Time Interval	
	30083	(cont.)	
Refrigeration-Life Ckt1	30084	Time Interval	
	30085	(cont.)	
Compressor Starts Ckt1	30086	Count	
	30087	(cont.)	
Compressor Running Time Ckt1	30088	Time Interval	
	30089	(cont.)	
Starter Voltage Phase AB Ckt1	30090	Voltage	
Starter Voltage Phase BC Ckt1	30091	Voltage	
Starter Voltage Phase CA Ckt1	30092	Voltage	

Register Object Name	Register	Register Type	Register Value
Starter Average Phase Voltage Ckt1	30093	Voltage	
Starter Current L1 Ckt1	30094	Current	
Starter Current L2 Ckt1	30095	Current	
Starter Current L3 Ckt1	30096	Current	
Average Line Current Ckt1	30097	Current	
Starter Current L1 % RLA Ckt1	30098	Percent	
Starter Current L2 % RLA Ckt1	30099	Percent	
Starter Current L3 % RLA Ckt1	30100	Percent	
Average Line Current % RLA Ckt1	30101	Percent	
Starter Power Consumption Ckt1	30102	Power	
Starter Load Power Factor Ckt1	30103	Power Factor	
Inboard Bearing Temperature Ckt1	30104	Temperature	
Outboard Bearing Temperature Ckt1	30105	Temperature	
Motor Winding Temp 1 Ckt1	30106	Temperature	
Motor Winding Temp 2 Ckt1	30107	Temperature	
Motor Winding Temp 3 Ckt1	30108	Temperature	
Frequency Ckt1	30109	Frequency	
AFD Transistor Temperature Ckt1	30110	Temperature	
Compressor Running Ckt2	30111	Binary	
Evaporator Refrigerant Pressure Ckt2	30112	Pressure	
Condenser Refrigerant Pressure Ckt2	30113	Pressure	
Differential Refrigerant Pressure Ckt2	30114	Pressure	
Oil Tank Pressure Ckt2	30115	Pressure	
Oil Pump Discharge Pressure Ckt2	30116	Pressure	
Oil Differential Pressure Ckt2	30117	Pressure	
Oil Tank Temperature Ckt2	30118	Temperature	
Evaporator Saturated Rfgt Temp Ckt2	30119	Temperature	
Condenser Saturated Rfgt Temp Ckt2	30120	Temperature	
Compressor Rfgt Discharge Temp Ckt2	30121	Temperature	
IGV 1 Percent Open Ckt2	30122	Percent	
IGV 2 Percent Open Ckt2	30123	Percent	
Purge Compressor Relay Ckt2	30124	Binary	
Pumpout Relay Ckt2	30125	Binary	
Purge Regen Valve Solenoid Ckt2	30126	Binary	
Purge Carbon Tank Temp Ckt2	30127	Temperature	
Purge Liquid Temperature Ckt2	30128	Temperature	
Purge Rfgt Compressor Suction Temp Ckt2	30129	Temperature	
Time Until Next Purge Run Ckt2	30130	Time Interval	
	30131	(cont.)	
Pumpout Chiller On 7 Days Ckt2	30132	Time Interval	
	30133	(cont.)	
Pumpout Chiller Off 7 Days Ckt2	30134	Time Interval	
	30135	(cont.)	
Daily Pumpout-24 Hours Ckt2	30136	Time Interval	
	30137	(cont.)	
Pumpout-Life Ckt2	30138	Time Interval	
	30139	(cont.)	
Refrigeration-Life Ckt2	30140	Time Interval	
	30141	(cont.)	
Compressor Starts Ckt2	30142	Count	
	30143	(cont.)	
Compressor Running Time Ckt2	30144	Time Interval	
	30145	(cont.)	
Starter Voltage Phase AB Ckt2	30146	Voltage	
Starter Voltage Phase BC Ckt2	30147	Voltage	

Register Object Name	Register	Register Type	Register Value
Starter Voltage Phase CA Ckt2	30148	Voltage	
Starter Average Phase Voltage Ckt2	30149	Voltage	
Starter Current L1 Ckt2	30150	Current	
Starter Current L2 Ckt2	30151	Current	
Starter Current L3 Ckt2	30152	Current	
Average Line Current Ckt2	30153	Current	
Starter Current L1 % RLA Ckt2	30154	Percent	
Starter Current L2 % RLA Ckt2	30155	Percent	
Starter Current L3 % RLA Ckt2	30156	Percent	
Average Line Current % RLA Ckts	30157	Percent	
Starter Power Consumption Ckt2	30158	Power	
Starter Load Power Factor Ckt2	30159	Power Factor	
Inboard Bearing Temperature Ckt2	30160	Temperature	
Outboard Bearing Temperature Ckt2	30161	Temperature	
Motor Winding Temperature 1 Ckt2	30162	Temperature	
Motor Winding Temperature 2 Ckt2	30163	Temperature	
Motor Winding Temperature 3 Ckt2	30164	Temperature	
Frequency Ckt2	30165	Frequency	
AFD Transistor Temperature Ckt2	30166	Temperature	
AFD Input Frequency Ckt1	30167	Frequency	
AFD Average Input Current Ckt1	30168	Current	
AFD Output Voltage Ckt1	30169	Voltage	
AFD Input Current L1 Ckt1	30170	Current	
AFD Input Current L2 Ckt1	30171	Current	
AFD Input Current L3 Ckt1	30172	Current	
AFD Input Power Factor Ckt1	30173	None	
AFD Inverter Base Temperature Ckt1	30174	Temperature	
AFD Rectifier Base Temperature Ckt1	30175	Temperature	
AFD Output Power Ckt1	30176	Power	
AFD Input Frequency Ckt2	30177	Frequency	
AFD Average Input Current Ckt2	30178	Current	
AFD Output Voltage Ckt2	30179	Voltage	
AFD Input Current L1 Ckt2	30180	Current	
AFD Input Current L2 Ckt2	30181	Current	
AFD Input Current L2 Ckt2	30182	Current	
AFD input Power Factor Ckt2	30183	None	
AFD Inverter Base Temperature Ckt2	30184	Temperature	
AFD Rectifier Base Temperature Ckt2	30185	Temperature	
AFD Output Power Ckt2	30186	Power	

(a) Refer to the Diagnostic Codes and Descriptions listing below.

Tracer AdaptiView Panel Upgrade—Data Points Descriptions and Configurations

Holding Registers—Read/Write (Sorted by Register)

This function code is used to read the contents of a contiguous block of holding registers in a remote device.

Register Object Name	Register	Register Type	Register Value	Valid Range
BAS Chiller Auto Stop Command	40001	Binary		0,1
BAS Chiller Mode Command	40002	Enumeration	0=cool; 1=heat; 2=ice; 3=free cool	0 to 3
BAS Chilled Water Setpoint	40003	Temperature		-17.78°C to 23.9°C/0°F to 75°F (depending on installed options)
BAS Current Limit Setpoint	40004	Percent		0–100
BAS Hot Water Setpoint	40005	Temperature		26.7°C to 60°C/80°F to 140°F
BAS Base Loading Setpoint	40006	Percent		0–100
BAS Base Loading Enable	40007	Binary		0,1
BAS Diagnostic Reset	40008	Binary		0,1

Input Registers—Read Only (Sorted by Register)

This function code is used to read from 1 to 125 contiguous input registers in a remote device.

Register Object Name	Register	Register Type[a]	Register Value
Software Type	30001	NA	496=CVRE
Software Revision	30002	NA	
Chiller Running	30003	Binary	
Average Line Current % RLA	30004	Percent	
Active Current Limit Setpoint	30005	Percent	
Active Base Loading Setpoint	30006	Percent	
Starter Power Consumption	30007	Power	
Calculated Chiller Capacity	30008	Power	
Approx Unit Heating Power	30009	Power	
Active Cool/Heat Setpoint Temperature	30010	Temperature	
Evaporator Leaving Water Temperature	30011	Temperature	
Evaporator Entering Water Temperature	30012	Temperature	
Condenser Entering Water Temperature	30013	Temperature	
Condenser Leaving Water Temperature	30014	Temperature	
Evaporator Pump Control	30015	Binary	
Evaporator Water Flow	30016	Binary	
Approximate Evaporator Water Flow	30017	Flow, Water	
Unfiltered Evap Differential Wtr Press	30018	Pressure	
Condenser Pump Control	30019	Binary	
Condenser Water Flow	30020	Binary	
Approximate Condenser Water Flow	30021	Flow, Water	
Condenser Differential Water Pressure	30022	Pressure	
Second Condenser Entering Water Temperature	30023	Temperature	
Second Condenser Leaving Water Temperature	30024	Temperature	
Last Diagnostic Code	30025	Enumeration	**See Footnote**[b]
Chiller Running Status	30026	Enumeration	0=off/idle (auto); 1=starting; 2=running; 3=stopping; 4=needs service (stop or diagnostic lockout)
Chiller Control Mode	30027	Enumeration	0=cool; 1=heat ; 2=ice; 3=free cool
Setpoint Source	30028	Enumeration	0=BAS+external+local; 1=external+local; 2=local
Active Chilled Water Setpoint Source	30029	Enumeration	0=front panel; 3=external; 5=BAS
Active Current Limit Setpoint Source	30030	Enumeration	0=front panel; 3=external; 5=BAS; 6=ice making
Active Hot Water Setpoint Source	30031	Enumeration	0=front panel; 3=external; 5=BAS
Active Base Loading Setpoint Source	30032	Enumeration	0=front panel; 3=external; 5=BAS
Front Panel Auto/Stop	30033	Binary	

Register Object Name	Register	Register Type[(a)]	Register Value
Front Panel Chiller Control Mode	30034	Enumeration	0=cool; 1=heat; 2=ice; 3=free cool
Front Panel Chilled Water Setpoint	30035	Temperature	
Front Panel Current Limit Setpoint	30036	Percent	
Front Panel Hot Water Setpoint	30037	Temperature	
Front Panel Base Load Setpoint	30038	Percent	
Front Panel Base Loading Command	30039	Binary	
External Auto Stop	30040	Binary	
External Chilled Water Setpoint	30041	Temperature	
External Current Limit Setpoint	30042	Percent	
External Base Loading Setpoint	30043	Percent	
Emergency Stop	30044	Binary	
Manual Override Exists	30045	Binary	
Base Loading	30046	Binary	
Alarm Present	30047	Binary	
Run Enable	30048	Binary	
Local Setpoint Control	30049	Binary	
Maximum Capacity Relay	30050	Binary	
Limit Mode Relay Status	30051	Binary	
Head Relief Request Relay	30052	Binary	
Hot Gas Bypass	30053	Binary	
Refrigerant Monitor	30054	Concentration	ppm (Invalid on warning)
Compressor Running	30055	Binary	
Evaporator Refrigerant Pressure	30056	Pressure	
Condenser Refrigerant Pressure	30057	Pressure	
Differential Refrigerant Pressure	30058	Pressure	
Oil Tank Pressure	30059	Pressure	
Oil Pump Discharge Pressure	30060	Pressure	
Oil Differential Pressure	30061	Pressure	
Oil Tank Temperature	30062	Temperature	
Evaporator Saturated Refrigerant Temperature	30063	Temperature	
Condenser Saturated Refrigerant Temperature	30064	Temperature	
Compressor Refrigerant Discharge Temperature	30065	Temperature	
Inlet Guide Vane Position First Stage	30066	Percent	
Inlet Guide Vane Position Second Stage	30067	Percent	
Purge Compressor Relay	30068	Binary	
Pumpout Relay	30069	Binary	
Purge Regen Valve Solenoid	30070	Binary	
Purge Carbon Tank Temp	30071	Temperature	
Purge Liquid Temperature	30072	Temperature	
Purge Refrigerant Compressor Suction Temp	30073	Temperature	
Time Until Next Purge Run	30074	Time Interval	
	30075	(cont.)	
Pumpout Chiller On—7 Days	30076	Time Interval	
	30077	(cont.)	
Pumpout Chiller Off—7 Days	30078	Time Interval	
	30079	(cont.)	
Daily Pumpout-24 Hours	30080	Time Interval	
	30081	(cont.)	
Pumpout-Life	30082	Time Interval	
	30083	(cont.)	
Refrigeration-Life	30084	Time Interval	
	30085	(cont.)	
Compressor Starts	30086	Count	
	30087	(cont.)	

Register Object Name	Register	Register Type[a]	Register Value
Compressor Running Time	30088	Time Interval	
	30089	(cont.)	
Starter Voltage Phase AB	30090	Voltage	
Starter Voltage Phase BC	30091	Voltage	
Starter Voltage Phase CA	30092	Voltage	
Starter Average Phase Voltage	30093	Voltage	
Starter Current L1	30094	Current	
Starter Current L2	30095	Current	
Starter Current L3	30096	Current	
Average Starter Phase Current	30097	Current	
Starter Current L1 % RLA	30098	Percent	
Starter Current L2 % RLA	30099	Percent	
Starter Current L3 % RLA	30100	Percent	
Starter Load Power Factor	30103	Power Factor	
Inboard Bearing Temp	30104	Temperature	
Outboard Bearing Temp	30105	Temperature	
Motor Winding Temp #1	30106	Temperature	
Motor Winding Temp #2	30107	Temperature	
Motor Winding Temp #3	30108	Temperature	
Frequency	30109	Frequency	
AFD Transistor Temp	30110	Temperature	

(a) Refer to the Determining Input Register Type, **Table , p. 57**.
(b) Refer to the Diagnostic Codes and Descriptions listing below.

Determining Input Register Type

Register Type	Data Format	Units
Binary	u16	0 = false/off/no/disabled/stop, 1 = true/on/yes/enabled/auto
Concentration	u16	PPM
Current	U16	Amps
Enumeration	u16	NA
Flow, Air	u16	Liters/Second (100 = 212 cfm)
Flow, Water	u16	Liters/Minute (1,000 = 264 gpm)
Frequency	u16	0.1 Hz (600 = 60 Hz)
Percent	s16	0.005% (20,000 = 100%)
Power	u16	kW (3517 = 1,000 tons)
Power Factor	s16	0.005 (200 = 1)
Pressure	u16	0.1 kPa absolute (1,000 = 14.5 psi)
Temperature	s16	0.01 °C (100 = 1 °C) $°F = \left\lceil \dfrac{Register \times 1.8}{100} \right\rceil + 32$
Time Interval	u32	Seconds
Voltage	u16	Volts
None	u16	NA

Duplex CenTraVac Chillers and CenTraVac Chillers (*For Software Part # 6200-0456-1.11*)

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
087	135	External Chilled/Hot Water Setpoint
089	137	External Current Limit Setpoint
08F	143	Cond Saturated Refrigerant Temp Sensor

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
09A	154	Condenser Entering Water Temp Sensor
09B	155	Condenser Leaving Water Temp Sensor
0A1	161	Outdoor Air Temp Sensor
0A4	164	Motor Winding Temperature 1 Sensor
0A7	167	Motor Winding Temperature 2 Sensor
0A8	168	Motor Winding Temperature 3 Sensor
0A9	169	Oil Tank Temperature Sensor
0AB	171	Evaporator Leaving Water Temp Sensor
0AC	172	Condenser Refrigerant Pressure Xdcr
0AD	173	Evap Saturated Refrigerant Temp Sensor
0AF	175	Inboard Bearing Temp Sensor
0B0	176	Outboard Bearing Temp Sensor
0C5	197	Low Evap Leaving Water Temp: Unit Off
0C6	198	Low Evap Leaving Water Temp: Unit On
0CA	202	Starter Contactor Interrupt Failure
0D7	215	Over Voltage
0D8	216	Under Voltage
0D9	217	MP: Reset Has Occurred
0D9	217	Power Loss
0DA	218	Extended Compressor Surge
0DC	220	Condenser Water Flow Overdue
0E2	226	Momentary Power Loss
0E4	228	Current L1 Loss
0E4	228	Current L2 Loss
0E4	228	Current L3 Loss
0E4	228	Phase Loss
0E5	229	Phase Reversal
0EA	234	High Inboard Bearing Temperature
0EB	235	High Outboard Bearing Temp
0EC	236	Motor Current Overload
0ED	237	Evaporator Water Flow Lost
0EE	238	Compressor did Accelerate: Shutdown
0F0	240	Starter Did Not Transition
0F2	242	Low Differential Oil Pressure
0F4	244	High Oil Temperature
0F5	245	Condenser High Pressure Cutout
0F7	247	Condenser Water Flow Lost
0FB	251	Low Evaporator Refrigerant Temperature
0FD	253	Emergency Stop
188	392	Starter Dry Run Test
189	393	Solid State Starter Fault
18B	395	High Motor Winding Temperature 1
18C	396	High Motor Winding Temperature 2
18D	397	High Motor Winding Temperature 3
1C2	450	High Cprsr Rfgt Discharge Temperature
1E9	489	Starter Fault Type I
1ED	493	Starter Fault Type II
1F1	497	Starter Fault Type III
1F5	501	Starter Did Not Fully Accelerate
1FF	511	Differential Oil Pressure Overdue
284	644	Compressor Discharge Refrigerant Temperature Sensor
284	644	Cprsr Discharge Refrigerant Temp Sensor
287	647	High Vacuum Lockout

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
28C	652	Restart Inhibit
2A3	675	Purge Cprsr Suction Rfgt Temp Sensor
2A4	676	Purge Liquid Temperature Sensor
2AA	682	Purge Daily Pumpout Limit Exceeded
2AD	685	Comm Loss: Starter
2E6	742	Check Clock
2E7	743	Oil Pressure Sensor Calibration
2E9	745	Second Cond Entering Water Temp Sensor
2EA	746	Second Cond Leaving Water Temp Sensor
2EB	747	Evaporator Diff Water Pressure Xdcr
2EC	748	Condenser Diff Water Pressure Xdcr
2F1	753	Oil Pump Discharge Pressure Transducer
2F2	754	Refrigerant Monitor Input
2F3	755	Oil Tank Pressure Transducer
2F4	756	Low Evaporator Water Flow
384	900	Evaporator Water Flow Overdue
390	912	BAS Failed to Establish Communication
390	912	LCI-C Software Mismatch: Use BAS Tool
398	920	BAS Communication Lost
3B6	950	Hot Gas Bypass Valve Closure Overdue
3D5	981	Transition Complete Input Shorted
3D6	982	At Speed Input Shorted
3D7	983	Transition Complete Input Opened
3D8	984	At Speed Input Opened
482	1154	Low Oil Temperature
5D0	1488	Comm Loss: External Ckt Lockout Ckt 1
5DF	1503	Comm Loss: External Ckt Lockout Ckt 2
6B5	1717	Bypass SCR Pole 1,2, or 3 not closed
6B5	1717	L1 Current Transformer Polarity Reversed
6B5	1717	L2 Current Transformer Polarity Reversed
6B5	1717	L3 Current Transformer Polarity Reversed
6B5	1717	VAB Potential Transformer Polarity Reversed
6B5	1717	VBC Potential Transformer Polarity Reversed
6B5	1717	VCA Potential Transformer Polarity Reversed
6B5	1717	Voltage Phase Reversal
6B5	1717	Voltage VAB Loss
6B5	1717	Voltage VBC Loss
6B5	1717	Voltage VCA Loss
6B6	1718	Comm Loss: Compressor Running Relay
6B6	1718	Comm Loss: Limit Warning Relay
6B6	1718	Comm Loss: Maximum Capacity Relay
6B6	1718	Comm Loss: Non-Wrn Latching Alarm Relay
6B6	1718	Comm Loss: Non-Wrn NonLatching Alm Relay
6B6	1718	Comm Loss: Unit Purge Alarm Relay
6B6	1718	Excessive Loss of Communication
790	1936	AFD Comm Loss: Main Processor
791	1937	AFD Control Board Memory Error Type 2
792	1938	AFD DPI Communication Failure
793	1939	AFD DPI Device Failure
794	1940	AFD Fatal Software Error
795	1941	AFD General Failure
796	1942	AFD Ground Fault
797	1943	AFD High Bus Voltage

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
798	1944	AFD High Temperature
799	1945	AFD I/O Board Failure
79A	1946	AFD Instantaneous Current Overload
79B	1947	AFD Interrupt Failure
79C	1948	AFD Motor Current Overload
79D	1949	AFD Motor Short
79E	1950	AFD Output Phase Loss
79F	1951	AFD Power Intfc Controller Board Failure
7A0	1952	AFD Power Loss
7A1	1953	AFD Power Structure Board Failure
7A2	1954	AFD RS485 Board Memory Error Type 2
7A3	1955	AFD Start Inhibited
7A5	1957	Check Oil Filter
7A6	1958	Comm Loss: Adaptive Frequency Drive
7A7	1959	Comm Loss: Compressor Motor % RLA Output
7A8	1960	Comm Loss: Cond Diff Water Pressure
7A9	1961	Comm Loss: Cond High Pressure Cutout
7AA	1962	Comm Loss: Cond Refrigerant Pressure
7AB	1963	Comm Loss: Cond Rfgt Pressure Output
7AC	1964	Comm Loss: Cond Saturated Rfgt Temp
7AD	1965	Comm Loss: Condenser Entering Water Temp
7AE	1966	Comm Loss: Condenser Leaving Water Temp
7AF	1967	Comm Loss: Condenser Water Flow Switch
7B0	1968	Comm Loss: Condenser Water Pump Relay
7B1	1969	Comm Loss: Cprsr Discharge Rfgt Temp
7B2	1970	Comm Loss: Emergency Stop
7B3	1971	Comm Loss: Evap Diff Water Pressure
7B4	1972	Comm Loss: Evap Entering Water Temp
7B5	1973	Comm Loss: Evap Leaving Water Temp
7B6	1974	Comm Loss: Evap Saturated Rfgt Temp
7B7	1975	Comm Loss: Evaporator Water Flow Switch
7B8	1976	Comm Loss: Evaporator Water Pump Relay
7B9	1977	Comm Loss: Ext Base Loading Command
7BA	1978	Comm Loss: Ext Base Loading Setpoint
7BB	1979	Comm Loss: Ext Chilled/Hot Wtr Setpoint
7BC	1980	Comm Loss: Ext Current Limit Setpoint
7BD	1981	Comm Loss: External Auto/Stop
7BE	1982	Comm Loss: External Free Cooling Command
7BF	1983	Comm Loss: External Hot Water Command
7C0	1984	Comm Loss: External Ice Building Command
7C1	1985	Comm Loss: Free Cool Actrs Closed Input
7C2	1986	Comm Loss: Free Cool Gas Line Actr Relay
7C3	1987	Comm Loss: Free Cool Liq Line Actr Relay
7C4	1988	Comm Loss: Free Cooling Auxiliary Relay
7C5	1989	Comm Loss: Generator Fault Input
7C6	1990	Comm Loss: Generator Speed Signal Output
7C7	1991	Comm Loss: Generator Start/Stop Relay
7C8	1992	Comm Loss: Generator Up To Speed Input
7C9	1993	Comm Loss: High Lift Unload Valve Relay
7CA	1994	Comm Loss: Hot Gas Bypass Actr Closed In
7CB	1995	Comm Loss: Hot Gas Bypass Load Relay
7CC	1996	Comm Loss: Hot Gas Bypass Unload Relay
7CD	1997	Comm Loss: Ice Building Relay

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
7CE	1998	Comm Loss: IGV First Stage Actuator
7CF	1999	Comm Loss: IGV Second Stage Actuator
7D0	2000	Comm Loss: Inboard Bearing Temperature
7D1	2001	Comm Loss: Local BAS Interface
7D2	2002	Comm Loss: Motor Winding Temperature 1
7D3	2003	Comm Loss: Motor Winding Temperature 2
7D4	2004	Comm Loss: Motor Winding Temperature 3
7D5	2005	Comm Loss: Oil Diff Pressure Switch
7D6	2006	Comm Loss: Oil Pump Discharge Pressure
7D9	2009	Comm Loss: Oil Tank Heater Relay
7DA	2010	Comm Loss: Oil Tank Pressure
7DB	2011	Comm Loss: Oil Tank Temperature
7DC	2012	Comm Loss: Oil/Refrigerant Pump Relay
7DD	2013	Comm Loss: Outboard Bearing Temperature
7DE	2014	Comm Loss: Outdoor Air Temperature
7E0	2017	Comm Loss: Purge Alarm Relay
7E1	2018	Comm Loss: Purge Carbon Tank Heater Rly
7E2	2019	Comm Loss: Purge Carbon Tank Temperature
7E4	2020	Comm Loss: Purge Condensing Unit Relay
7E3	2021	Comm Loss: Purge Chiller Cprsr Run Input
7E5	2022	Comm Loss: Purge Cprsr Suction Rfgt Temp
7E6	2023	Comm Loss: Purge Exhaust Solenoid Output
7E7	2024	Comm Loss: Purge Liquid Level Switch
7E8	2025	Comm Loss: Purge Liquid Temperature
7E9	2025	Comm Loss: Purge Pumpout Relay
7EA	2026	Comm Loss: Purge Pumpout Solenoid Output
7EB	2027	Comm Loss: Purge Regen Solenoid Relay
7EC	2028	Comm Loss: Refrigerant Monitor Input
7ED	2029	Comm Loss: Sec Cond Entering Water Temp
7EE	2030	Comm Loss: Sec Cond Leaving Water Temp
7F0	2032	Compressor did Accelerate: Forced Ramp
7F2	2034	Compressor Did Not Accelerate: Shutdown
7F3	2035	Cprsr Did Not Accelerate: Transition
7F4	2036	EEPROM Failure in IPC3 Starter Micro
7F5	2037	EEPROM Failure in IT SSS Starter Micro
7F6	2038	EEPROM Failure in IT Starter Micro
7F7	2039	Severe Current Unbalance
7F8	2040	Excessive Loss of Communication
7F9	2041	External Base Loading Setpoint
7FA	2042	Free Cooling Actrs Not Open During FC
7FB	2043	Free Cooling Actuators Not Closed
7FC	2044	Free Cooling Actuators Not Open
7FD	2045	Free Cooling Actuators Unexpectedly Open
7FE	2046	Generator Fault Relay Open
7FF	2047	Generator Ready Signal Overdue
803	2051	High Evaporator Refrigerant Temperature
804	2052	High Evaporator Water Temperature
805	2053	Hot Gas Bypass Valve Opening Overdue
806	2054	Hot Gas Bypass Valve Unexpectedly Open
807	2055	HPC/High AFD Heat Sink Water Pressure
80B	2059	MP: Could not Store Starts and Hours
80C	2060	MP: Invalid Configuration
80D	2061	MP: Non-Volatile Block Test Error

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
80E	2062	MP: Non-Volatile Memory Reformat
812	2066	Purge Carbon Regen Temp Limit Exceeded
813	2067	Purge Carbon Regen Temp Not Satisfied
814	2068	Purge Carbon Regen Temperature Too Low
815	2069	Purge Carbon Tank Temperature Sensor
816	2070	Purge Liquid Level Too High Continuously
817	2071	Purge Liquid Level Too High Warning
818	2072	Purge Regen Cooldown Temp Too High
819	2073	RAM Failure in IPC3 Starter Micro
820	2080	Starter Comm Loss: Main Processor
822	2082	Starter Failed to Arm/Start
823	2083	Starter Illegal Address
825	2085	Starter Module Memory Error Type 1
826	2086	Starter Module Memory Error Type 2
827	2087	Starter Phase Lock Loop
828	2088	Starter: Watchdog
829	2089	Thermal Overload Trip
82A	2090	Unexpected Differential Oil Pressure
82B	2091	Unexpected Starter Shutdown
82C	2092	Zero Voltage Cross
NULL	NULL	Check Oil Heater
NULL	NULL	Comm Loss: Cond Head Press Cntrl Output
NULL	NULL	Comm Loss: Oil Tank Heater 4E1 Relay
NULL	NULL	Comm Loss: Oil Tank Heater 4E2 Relay
NULL	NULL	Comm Loss: Programmable Relay Board 1
NULL	NULL	Comm Loss: Programmable Relay Board 2
NULL	NULL	Comm Loss: Starter Fault
NULL	NULL	Software Error 1001: Call Trane Service
NULL	NULL	Starter Fault

CenTraVac Chillers (*For Software Part #6200-0456-2.06 or Higher*)

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
087	135	External Chilled/Hot Water Setpoint
089	137	External Current Limit Setpoint
08E	142	Evaporator Entering Water Temp Sensor
08F	143	Cond Saturated Refrigerant Temp Sensor
09A	154	Condenser Entering Water Temp Sensor
09B	155	Condenser Leaving Water Temp Sensor
0A1	161	Outdoor Air Temp Sensor
0A4	164	Motor Winding Temperature 1 Sensor
0A7	167	Motor Winding Temperature 2 Sensor
0A8	168	Motor Winding Temperature 3 Sensor
0A9	169	Oil Tank Temperature Sensor
0AB	171	Evaporator Leaving Water Temp Sensor
0AC	172	Condenser Refrigerant Pressure Xdcr
0AD	173	Evap Saturated Refrigerant Temp Sensor
0AF	175	Inboard Bearing Temperature Sensor
0B0	176	Outboard Bearing Temperature Sensor
0C5	197	Low Evap Leaving Water Temp: Unit Off
0C6	198	Low Evap Leaving Water Temp: Unit On

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
0CA	202	EM Starter Contactor Interrupt Failure
0CA	202	SS Starter Contactor Interrupt Failure
0D7	215	Over Voltage
0D8	216	Under Voltage
0D9	217	EM Power Loss
0D9	217	MP: Reset Has Occurred
0D9	217	SS Power Loss
0DA	218	Extended Compressor Surge
0DA	218	Extended Compressor Surge
0DC	220	Condenser Water Flow Overdue
0E2	226	EM Momentary Power Loss
0E2	226	SS Momentary Power Loss
0E4	228	AFD Output Phase Loss
0E4	228	EM Phase Loss
0E4	228	SS Phase Loss
0E5	229	EM Phase Reversal
0E5	229	SS Phase Reversal
0E8	232	Unexpected Differential Oil Pressure
0EA	234	High Inboard Bearing Temperature
0EB	235	High Outboard Bearing Temperature
0EC	236	AFD Motor Current Overload
0EC	236	EM Motor Current Overload
0EC	236	SS Motor Current Overload
0ED	237	Evaporator Water Flow Lost
0EE	238	Compressor Did Not Accelerate: Shutdown
0EE	238	Compressor did Accelerate: Shutdown
0F0	240	Starter Did Not Transition
0F2	242	Low Differential Oil Pressure
0F3	243	Low Oil Temperature
0F4	244	High Oil Temperature
0F5	245	Condenser High Pressure Cutout
0F7	247	Condenser Water Flow Lost
0F9	249	Free Cooling Actrs Not Open During FC
0F9	249	Free Cooling Actuators Not Closed
0F9	249	Free Cooling Actuators Not Open
0F9	249	Free Cooling Actuators Unexpectedly Open
0FB	251	Low Evaporator Refrigerant Temperature
0FD	253	Emergency Stop
188	392	EM Starter Dry Run Test
188	392	SS Starter Dry Run Test
189	393	Solid State Starter Fault
18B	395	High Motor Winding Temperature 1
18C	396	High Motor Winding Temperature 2
18D	397	High Motor Winding Temperature 3
1AD	429	MP: Non-Volatile Memory Reformat
1B2	434	EM Severe Current Unbalance
1B2	434	SS Severe Current Unbalance
1C2	450	High Cprsr Rfgt Discharge Temperature
1D1	465	MP: Could not Store Starts and Hours
1D2	466	MP: Non-Volatile Block Test Error
1E9	489	Starter Fault Type I
1ED	493	Starter Fault Type II
1F1	497	Starter Fault Type III

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
1F5	501	Compressor did Accelerate: Forced Full voltage Ramp
1F5	501	Starter Did Not Fully Accelerate
1FA	506	Cprsr Did Not Accelerate: Transition
1FB	507	Zero Voltage Cross
1FF	511	Differential Oil Pressure Overdue
284	644	Cprsr Discharge Refrigerant Temp Sensor
287	647	High Vacuum Lockout
28C	652	Restart Inhibit
2A3	675	Purge Cprsr Suction Rfgt Temp Sensor
2A4	676	Purge Liquid Temperature Sensor
2A5	677	Purge Liquid Level Too High Continuously
2A5	677	Purge Liquid Level Too High Warning
2AA	682	Purge Daily Pumpout Limit Exceeded
2AD	685	Starter Comm Loss: Main Processor SS
2AD	685	Comm Loss: Adaptive Frequency Drive
2AD	685	Comm Loss: EM Starter
2AD	685	Comm Loss: SS Starter
2B0	688	Comm Loss: IGV First Stage Actuator
2B1	689	Comm Loss: IGV Second Stage Actuator
2D0	720	AFD Comm Loss: Main Processor
2D0	720	Starter Comm Loss: Main Processor
2E6	742	Check Clock
2E7	743	Oil Pressure Sensor Calibration
2E9	745	Second Cond Entering Water Temp Sensor
2EA	746	Second Cond Leaving Water Temp Sensor
2EB	747	Evaporator Diff Water Pressure Xdcr
2EC	748	Condenser Diff Water Pressure Xdcr
2F1	753	Oil Pump Discharge Pressure Transducer
2F2	754	Refrigerant Monitor Input
2F3	755	Oil Tank Pressure Transducer
2F4	756	Low Evaporator Water Flow
384	900	Evaporator Water Flow Overdue
389	905	Comm Loss: Local BAS Interface
390	912	BAS Failed to Establish Communication
398	920	BAS Communication Lost
399	921	MP: Invalid Configuration
3B6	950	Hot Gas Bypass Valve Closure Overdue
3B8	952	Comm Loss: Hot Gas Bypass Actr Closed In
3B8	952	Comm Loss: Hot Gas Bypass Load Relay
3B8	952	Comm Loss: Hot Gas Bypass Unload Relay
3D5	981	Transition Complete Input Shorted
3D6	982	At Speed Input Shorted
3D7	983	Transition Complete Input Opened
3D8	984	At Speed Input Opened
4C1	1217	Check Oil Filter
4C4	1220	External Base Loading Setpoint
4C5	1221	Generator Fault Relay Open
4C6	1222	Generator Ready Signal Overdue
6B4	1716	Comm Loss: Purge Alarm Relay
6B4	1716	Comm Loss: Purge Carbon Tank Heater Rly
6B4	1716	Comm Loss: Purge Carbon Tank Temperature
6B4	1716	Comm Loss: Purge Chiller Cprsr Run Input
6B4	1716	Comm Loss: Purge Condensing Unit Relay

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
6B4	1716	Comm Loss: Purge Cprsr Suction Rfgt Temp
6B4	1716	Comm Loss: Purge Exhaust Solenoid Output
6B4	1716	Comm Loss: Purge Liquid Level Switch
6B4	1716	Comm Loss: Purge Liquid Temperature
6B4	1716	Comm Loss: Purge Pumpout Relay
6B4	1716	Comm Loss: Purge Pumpout Solenoid Output
6B4	1716	Comm Loss: Purge Regen Solenoid Relay
6B4	1716	Purge Carbon Regen Temp Limit Exceeded
6B4	1716	Purge Carbon Regen Temp Not Satisfied
6B4	1716	Purge Carbon Regen Temperature Too Low
6B4	1716	Purge Carbon Tank Temperature Sensor
6B4	1716	Purge Regen Cooldown Temp Too High
6B5	1717	AFD Control Board Memory Error Type 2
6B5	1717	AFD DPI Communication Failure
6B5	1717	AFD DPI Device Failure
6B5	1717	AFD Fatal Software Error
6B5	1717	AFD General Failure
6B5	1717	AFD Ground Fault
6B5	1717	AFD High Bus Voltage
6B5	1717	AFD High Temperature
6B5	1717	AFD I/O Board Failure
6B5	1717	AFD Instantaneous Current Overload
6B5	1717	AFD Motor Short
6B5	1717	AFD Power Intfc Controller Board Failure
6B5	1717	AFD Power Loss
6B5	1717	AFD Power Structure Board Failure
6B5	1717	AFD RS485 Board Memory Error Type 2
6B5	1717	AFD Start Inhibited
6B5	1717	Bypass SCR Pole 1,2, or 3 not closed
6B5	1717	EEPROM Failure in IPC3 Starter Micro
6B5	1717	EEPROM Failure in IT SSS Starter Micro
6B5	1717	EEPROM Failure in IT Starter Micro
6B5	1717	HPC/High AFD Heat Sink Water Pressure
6B5	1717	Heat sink Temp out of Range, SCR Pole 1
6B5	1717	Heat sink Temp out of Range, SCR Pole 2
6B5	1717	Heat sink Temp out of Range, SCR Pole 3
6B5	1717	IT SSS 15V Low Trip
6B5	1717	IT SSS 24V Low Trip
6B5	1717	Loss of Comm: Comm Interface Board and IT SSS
6B5	1717	Over-Temperature trip, SCR Pole 1
6B5	1717	Over-Temperature trip, SCR Pole 2
6B5	1717	Over-Temperature trip, SCR Pole 3
6B5	1717	RAM Failure in IPC3 Starter Micro
6B5	1717	SCR Instantaneous Over-Current Trip
6B5	1717	SCR not firing, Pole 1,2,3
6B5	1717	SCR's not conducting
6B5	1717	SCR/Contactor High Current Trip
6B5	1717	Shorted SCR, Pole 1,2,3
6B5	1717	Starter Illegal Address
6B5	1717	Starter Loss of Comm: IPC3 and IT on communication board
6B5	1717	Starter Module Memory Error Type 1
6B5	1717	Starter Module Memory Error Type 2
6B5	1717	Starter Phase Lock Loop

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
6B5	1717	Starter: Watchdog
6B5	1717	Thermal Overload Trip
6B5	1717	AFD Interrupt Failure
6B5	1717	Comm Loss: PFCC Relay
6B5	1717	Comm Loss: Solid State Starter Fault
6B5	1717	Starter Failed to Arm/Start
6B5	1717	Unexpected Starter Shutdown
6B6	1718	Comm Loss: Ext Base Loading Command
6B6	1718	Comm Loss: Ext Base Loading Setpoint
6B6	1718	Comm Loss: Generator Fault Input
6B6	1718	Comm Loss: Generator Speed Signal Output
6B6	1718	Comm Loss: Generator Start/Stop Relay
6B6	1718	Comm Loss: Generator Up To Speed Input
6B6	1718	Comm Loss: Outdoor Air Temperature
6B6	1718	Excessive Loss of Communication
6B6	1718	Comm Loss: High Lift Unload Valve Relay
6B6	1718	Comm Loss: Cond Diff Water Pressure
6B6	1718	Comm Loss: Condenser Entering Water Temp
6B6	1718	Comm Loss: Condenser Leaving Water Temp
6B6	1718	Comm Loss: Sec Cond Entering Water Temp
6B6	1718	Comm Loss: Sec Cond Leaving Water Temp
6B6	1718	Comm Loss: Condenser Water Flow Switch
6B6	1718	Comm Loss: Condenser Water Pump Relay
6B6	1718	Comm Loss: Evap Diff Water Pressure
6B6	1718	Comm Loss: Evap Entering Water Temp
6B6	1718	Comm Loss: Evap Leaving Water Temp
6B6	1718	Comm Loss: Evaporator Water Flow Switch
6B6	1718	Comm Loss: Evaporator Water Pump Relay
6B6	1718	High Evaporator Water Temperature
6B6	1718	Comm Loss: Compressor Motor % RLA Output
6B6	1718	Comm Loss: Cond Rfgt Pressure Output
6B6	1718	Comm Loss: Emergency Stop
6B6	1718	Comm Loss: Ext Chilled/Hot Wtr Setpoint
6B6	1718	Comm Loss: Ext Current Limit Setpoint
6B6	1718	Comm Loss: External Auto/Stop
6B6	1718	Comm Loss: External Hot Water Command
6B6	1718	Comm Loss: Refrigerant Monitor Input
6B6	1718	Comm Loss: External Free Cooling Command
6B6	1718	Comm Loss: Free Cool Actrs Closed Input
6B6	1718	Comm Loss: Free Cool Gas Line Actr Relay
6B6	1718	Comm Loss: Free Cool Liq Line Actr Relay
6B6	1718	Comm Loss: Free Cooling Auxiliary Relay
6B6	1718	Hot Gas Bypass Valve Opening Overdue
6B6	1718	Hot Gas Bypass Valve Unexpectedly Open
6B6	1718	Comm Loss: External Ice Building Command
6B6	1718	Comm Loss: Ice Building Relay
6B6	1718	Comm Loss: Cond Refrigerant Pressure
6B6	1718	Comm Loss: Cond Saturated Rfgt Temp
6B6	1718	Comm Loss: Evap Saturated Rfgt Temp
6B7	1719	Comm Loss: Cprsr Discharge Rfgt Temp
6B7	1719	Comm Loss: Inboard Bearing Temperature
6B7	1719	Comm Loss: Motor Winding Temperature 1
6B7	1719	Comm Loss: Motor Winding Temperature 2

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
6B7	1719	Comm Loss: Motor Winding Temperature 3
6B7	1719	Comm Loss: Outboard Bearing Temperature
6B7	1719	Restart Inhibit Switched to Time Based
6B7	1719	Comm Loss: Oil Diff Pressure Switch
6B7	1719	Comm Loss: Oil Pump Discharge Pressure
6B7	1719	Comm Loss: Oil Tank Heater 4E1 Relay
6B7	1719	Comm Loss: Oil Tank Heater 4E2 Relay
6B7	1719	Comm Loss: Oil Tank Heater Relay
6B7	1719	Comm Loss: Oil Tank Pressure
6B7	1719	Comm Loss: Oil Tank Temperature
6B7	1719	Comm Loss: Oil/Refrigerant Pump Relay
6B7	1719	Comm Loss: Cond High Pressure Cutout
6B7	1719	High Evaporator Refrigerant Temperature
NULL	NULL	BAS Communication Lost LCIC
NULL	NULL	BAS Failed to Establish Communication LCIC
NULL	NULL	Comm Loss: Local BAS Interface LCIC
NULL	NULL	LCIC Software Mismatch Use BAS Tool
NULL	NULL	Software Error 1001
NULL	NULL	Comm Loss Cond Head Pressure Control Output
NULL	NULL	Comm Loss: Programmable Relay Board 1
NULL	NULL	Comm Loss: Programmable Relay Board 2

Tracer AdaptiView Panel Upgrade (*For Software Part #6200-0495-01.00 or Higher*)

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
087	135	External Chilled/Hot Water Setpoint
089	137	External Current Limit Setpoint
08E	142	Evaporator Entering Water Temp Sensor
08F	143	Cond Saturated Refrigerant Temp Sensor
09A	154	Condenser Entering Water Temp Sensor
09B	155	Condenser Leaving Water Temp Sensor
0A1	161	Outdoor Air Temp Sensor
0A4	164	Motor Winding Temperature 1 Sensor
0A7	167	Motor Winding Temperature 2 Sensor
0A8	168	Motor Winding Temperature 3 Sensor
0A9	169	Oil Tank Temperature Sensor
0AB	171	Evaporator Leaving Water Temp Sensor
0AC	172	Condenser Refrigerant Pressure Xdcr
0AD	173	Evap Saturated Refrigerant Temp Sensor
0AF	175	Inboard Bearing Temperature Sensor
0B0	176	Outboard Bearing Temperature Sensor
0C5	197	Low Evap Leaving Water Temp: Unit Off
0C6	198	Low Evap Leaving Water Temp: Unit On
0CA	202	EM Starter Contactor Interrupt Failure
0D7	215	Over Voltage
0D8	216	Under Voltage
0D9	217	EM Power Loss
0DA	218	Extended Compressor Surge
0DC	220	Condenser Water Flow Overdue
0E2	226	EM Momentary Power Loss
0E4	228	EM Phase Loss

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
0E5	229	EM Phase Reversal
0EA	234	High Inboard Bearing Temperature
0EB	235	High Outboard Bearing Temperature
0EC	236	EM Motor Current Overload
0ED	237	Evaporator Water Flow Lost
0EE	238	Compressor did Accelerate: Shutdown
0F0	240	Starter Did Not Transition
0F2	242	Low Differential Oil Pressure
0F4	244	High Oil Temperature
0F5	245	Condenser High Pressure Cutout
0F7	247	Condenser Water Flow Lost
0FB	251	Low Evaporator Refrigerant Temperature
0FD	253	Emergency Stop
188	392	EM Starter Dry Run Test
18B	395	High Motor Winding Temperature 1
18C	396	High Motor Winding Temperature 2
18D	397	High Motor Winding Temperature 3
1C2	450	High Cprsr Rfgt Discharge Temperature
1E9	489	Starter Fault Type I
1ED	493	Starter Fault Type II
1F1	497	Starter Fault Type III
1F5	501	Starter Did Not Fully Accelerate
1FF	511	Differential Oil Pressure Overdue
284	644	Cprsr Discharge Refrigerant Temp Sensor
287	647	High Vacuum Lockout
28C	652	Restart Inhibit
2A3	675	Purge Cprsr Suction Rfgt Temp Sensor
2A4	676	Purge Liquid Temperature Sensor
2AA	682	Purge Daily Pumpout Limit Exceeded
2AD	685	Comm Loss: EM Starter
2E6	742	Check Clock
2E7	743	Oil Pressure Sensor Calibration
2E9	745	Second Cond Entering Water Temp Sensor
2EA	746	Second Cond Leaving Water Temp Sensor
2EB	747	Evaporator Diff Water Pressure Xdcr
2EC	748	Condenser Diff Water Pressure Xdcr
2F1	753	Oil Pump Discharge Pressure Transducer
2F2	754	Refrigerant Monitor Input
2F3	755	Oil Tank Pressure Transducer
2F4	756	Low Evaporator Water Flow
384	900	Evaporator Water Flow Overdue
390	912	BAS Failed to Establish Communication
398	920	BAS Communication Lost
3B6	950	Hot Gas Bypass Valve Closure Overdue
3D5	981	Transition Complete Input Shorted
3D6	982	At Speed Input Shorted
3D7	983	Transition Complete Input Opened
3D8	984	At Speed Input Opened
482	1154	Low Oil Temperature
6B5	1717	Bypass SCR Pole 1,2, or 3 not closed
790	1936	AFD Comm Loss: Main Processor
791	1937	AFD Control Board Memory Error Type 2
792	1938	AFD DPI Communication Failure

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
793	1939	AFD DPI Device Failure
794	1940	AFD Fatal Software Error
795	1941	AFD General Failure
796	1942	AFD Ground Fault
797	1943	AFD High Bus Voltage
798	1944	AFD High Temperature
799	1945	AFD I/O Board Failure
79A	1946	AFD Instantaneous Current Overload
79B	1947	AFD Interrupt Failure
79C	1948	AFD Motor Current Overload
79D	1949	AFD Motor Short
79E	1950	AFD Output Phase Loss
79F	1951	AFD Power Intfc Controller Board Failure
7A0	1952	AFD Power Loss
7A1	1953	AFD Power Structure Board Failure
7A2	1954	AFD RS485 Board Memory Error Type 2
7A3	1955	AFD Start Inhibited
7A5	1957	Check Oil Filter
7A6	1958	Comm Loss: Adaptive Frequency Drive
7A7	1959	Comm Loss: Compressor Motor % RLA Output
7A8	1960	Comm Loss: Cond Diff Water Pressure
7A9	1961	Comm Loss: Cond High Pressure Cutout
7AA	1962	Comm Loss: Cond Refrigerant Pressure
7AB	1963	Comm Loss: Cond Rfgt Pressure Output
7AC	1964	Comm Loss: Cond Saturated Rfgt Temp
7AD	1965	Comm Loss: Condenser Entering Water Temp
7AE	1966	Comm Loss: Condenser Leaving Water Temp
7AF	1967	Comm Loss: Condenser Water Flow Switch
7B0	1968	Comm Loss: Condenser Water Pump Relay
7B1	1969	Comm Loss: Cprsr Discharge Rfgt Temp
7B2	1970	Comm Loss: Emergency Stop
7B3	1971	Comm Loss: Evap Diff Water Pressure
7B4	1972	Comm Loss: Evap Entering Water Temp
7B5	1973	Comm Loss: Evap Leaving Water Temp
7B6	1974	Comm Loss: Evap Saturated Rfgt Temp
7B7	1975	Comm Loss: Evaporator Water Flow Switch
7B8	1976	Comm Loss: Evaporator Water Pump Relay
7B9	1977	Comm Loss: Ext Base Loading Command
7BA	1978	Comm Loss: Ext Base Loading Setpoint
7BB	1979	Comm Loss: Ext Chilled/Hot Wtr Setpoint
7BC	1980	Comm Loss: Ext Current Limit Setpoint
7BD	1981	Comm Loss: External Auto/Stop
7BE	1982	Comm Loss: External Free Cooling Command
7BF	1983	Comm Loss: External Hot Water Command
7C0	1984	Comm Loss: External Ice Building Command
7C1	1985	Comm Loss: Free Cool Actrs Closed Input
7C2	1986	Comm Loss: Free Cool Gas Line Actr Relay
7C3	1987	Comm Loss: Free Cool Liq Line Actr Relay
7C4	1988	Comm Loss: Free Cooling Auxiliary Relay
7C5	1989	Comm Loss: Generator Fault Input
7C6	1990	Comm Loss: Generator Speed Signal Output
7C7	1991	Comm Loss: Generator Start/Stop Relay
7C8	1992	Comm Loss: Generator Up To Speed Input

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
7C9	1993	Comm Loss: High Lift Unload Valve Relay
7CA	1994	Comm Loss: Hot Gas Bypass Actr Closed In
7CB	1995	Comm Loss: Hot Gas Bypass Load Relay
7CC	1996	Comm Loss: Hot Gas Bypass Unload Relay
7CD	1997	Comm Loss: Ice Building Relay
7CE	1998	Comm Loss: IGV First Stage Actuator
7CF	1999	Comm Loss: IGV Second Stage Actuator
7D0	2000	Comm Loss: Inboard Bearing Temperature
7D1	2001	Comm Loss: Local BAS Interface
7D2	2002	Comm Loss: Motor Winding Temperature 1
7D3	2003	Comm Loss: Motor Winding Temperature 2
7D4	2004	Comm Loss: Motor Winding Temperature 3
7D5	2005	Comm Loss: Oil Diff Pressure Switch
7D6	2006	Comm Loss: Oil Pump Discharge Pressure
7D9	2009	Comm Loss: Oil Tank Heater Relay
7DA	2010	Comm Loss: Oil Tank Pressure
7DB	2011	Comm Loss: Oil Tank Temperature
7DC	2012	Comm Loss: Oil/Refrigerant Pump Relay
7DD	2013	Comm Loss: Outboard Bearing Temperature
7DE	2014	Comm Loss: Outdoor Air Temperature
7DF	2015	PFCC Comm Loss
7E0	2016	Comm Loss: Purge Alarm Relay
7E1	2017	Comm Loss: Purge Carbon Tank Heater Rly
7E2	2018	Comm Loss: Purge Carbon Tank Temperature
7E4	2020	Comm Loss: Purge Condensing Unit Relay
7E5	2021	Comm Loss: Purge Cprsr Suction Rfgt Temp
7E6	2022	Comm Loss: Purge Exhaust Solenoid Output
7E7	2023	Comm Loss: Purge Liquid Level Switch
7E8	2024	Comm Loss: Purge Liquid Temperature
7E9	2025	Comm Loss: Purge Pumpout Relay
7EA	2026	Comm Loss: Purge Pumpout Solenoid Output
7EB	2027	Comm Loss: Purge Regen Solenoid Relay
7EC	2028	Comm Loss: Refrigerant Monitor Input
7ED	2029	Comm Loss: Sec Cond Entering Water Temp
7EE	2030	Comm Loss: Sec Cond Leaving Water Temp
7F0	2032	Compressor did Accelerate: Forced Full voltage Ramp
7F2	2034	Compressor Did Not Accelerate: Shutdown
7F3	2035	Cprsr Did Not Accelerate: Transition
7F4	2036	EEPROM Failure in IPC3 Starter Micro
7F5	2037	EEPROM Failure in IT SSS Starter Micro
7F6	2038	EEPROM Failure in IT Starter Micro
7F7	2039	EM Severe Current Unbalance
7F8	2040	Excessive Loss of Communication
7F9	2041	External Base Loading Setpoint
7FA	2042	Free Cooling Actrs Not Open During FC
7FB	2043	Free Cooling Actuators Not Closed
7FC	2044	Free Cooling Actuators Not Open
7FD	2045	Free Cooling Actuators Unexpectedly Open
7FE	2046	Generator Fault Relay Open
7FF	2047	Generator Ready Signal Overdue
803	2051	High Evaporator Refrigerant Temperature
804	2052	High Evaporator Water Temperature
805	2053	Hot Gas Bypass Valve Opening Overdue

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
806	2054	Hot Gas Bypass Valve Unexpectedly Open
807	2055	HPC/High AFD Heat Sink Water Pressure
80A	2058	MP: Reset Has Occurred
80B	2059	MP: Could not Store Starts and Hours
80C	2060	MP: Invalid Configuration
80D	2061	MP: Non-Volatile Block Test Error
80E	2062	MP: Non-Volatile Memory Reformat
812	2066	Purge Carbon Regen Temp Limit Exceeded
813	2067	Purge Carbon Regen Temp Not Satisfied
814	2068	Purge Carbon Regen Temperature Too Low
815	2069	Purge Carbon Tank Temperature Sensor
816	2070	Purge Liquid Level Too High Continuously
817	2071	Purge Liquid Level Too High Warning
818	2072	Purge Regen Cooldown Temp Too High
819	2073	RAM Failure in IPC3 Starter Micro
820	2080	Starter Comm Loss: Main Processor
822	2082	Starter Failed to Arm/Start
823	2083	Starter Illegal Address
825	2085	Starter Module Memory Error Type 1
826	2086	Starter Module Memory Error Type 2
827	2087	Starter Phase Lock Loop
828	2088	Starter: Watchdog
829	2089	Thermal Overload Trip
82A	2090	Unexpected Differential Oil Pressure
82B	2091	Unexpected Starter Shutdown
82C	2092	Zero Voltage Cross
82D	2093	Comm Loss: Call For Cooling Relay
82E	2094	Comm Loss: Starter Interlock
82F	2095	Software Error 1001
830	2096	Software Error 1004
831	2097	Starter Interlock Failed To Close
832	2098	Starter Interlock Failed To Open
833	2099	Starter Interlock Open Unexpectedly
834	2100	BAS Communication Lost LCIC
835	2101	BAS Failed to Establish Communication LCIC
836	2102	Comm Loss: Local BAS Interface LCIC
837	2103	LCIC Software Mismatch Use BAS Tool
838	2104	Comm Loss: Compressor Running Relay
839	2105	Comm Loss: Cond Head Pressure Control Output
83A	2106	Comm Loss: Programmable Relay Board 1
83B	2107	Comm Loss: Programmable Relay Board 2
83C	2108	Comm Loss: Safety String
83D	2109	Safety String
83E	2110	Comm Loss: MTC Input
83F	2111	Comm Loss: Winding Temp Lite
840	2112	High Motor Coolant Temperature
841	2113	MTC Sensor
842	2114	Motor Coolant Temp Comm Loss
843	2115	Motor Coolant Temperature Sensor
844	2116	Check Oil Heater
845	2117	Comm Loss: Oil Lite Status
846	2118	Comm Loss: IGV Closed Switch
847	2119	Comm Loss: IGV control

3 DC (Hex)	3 DC (Dec)	Diagnostic Name
Many of the codes in this listing are the same. Refer to the local display for more detail.		
848	2120	IGV Failed To Closed
84A	2122	Comm Loss: Oil Pump Relay
84B	2123	Comm Loss: RLA Input
84C	2124	Comm Loss: RLA Output
84D	2125	RLA Input
84E	2126	Comm Loss: Starter Running
84F	2127	Comm Loss: Starter Relay
850	2128	No Starter Interrupt Failure
851	2129	AFD Speed Signal Comm Loss
852	2130	Current Loss
853	2131	Starter Interlock Closed Unexpectedly
854	2132	Starter Fault
855	2133	Comm Loss: Starter Fault
856	2134	Comm Loss: External Circuit Lockout
857	2135	Comm Loss: Head Relief Request Relay
858	2136	Comm Loss: Limit Warning Relay
859	2137	Comm Loss: Maximum Capacity Relay
85A	2138	Comm Loss: Non Warning Latching Alarm Relay
85B	2139	Comm Loss: Non Warning Non Latching Alarm Relay
85C	2140	Comm Loss: Purge Chiller Compressor Run Input
85D	2141	Comm Loss: Unit Purge Alarm Relay

Additional Resources

Use the following documents and links as additional resources:

- *CVHE, CVHF, and CVHG Water-cooled CenTraVac Chillers with Tracer AdaptiView™ Control Installation, Operation, and Maintenance Guide* (CVHE-SVX02A-EN)

- *LonTalk™ Communication Interface for Trane™ Chillers with Tracer AdaptiView Control Hardware and Software Installation Guide* (ACC-SVN100A-EN)

- Product support online:
    - **www.bacnet.org**
    - **www.bacnetassociation.org**
    - **www.modbus.org**
    - **www.ashrae.org**
    - Tracer TU Help online

- *Tracer™ TU Service Tool Getting Started Guide* (TTU-SVN02A-EN) (X39641083-01A)

- *Tracer TU Service Tool for Water-cooled CenTraVac Chillers with Tracer AdaptiView Control Programming Guide* (current version of CTV-SVP02*-EN)

- *Diagnostic Descriptions, Troubleshooting Tables, and Control Component Overview Diagnostics Manual for Water-cooled CenTraVac Chillers with Tracer AdaptiView Control* (CTV-SVD03A-EN)

Note: *For further assistance, contact your local Trane sales office.*

Glossary

A

ASHRAE

See American Society of Heating, Refrigeration, and Air-conditioning Engineers

American Society of Heating, Refrigeration, and Air-conditioning Engineers

An international organization of 50,000 persons with chapters throughout the world. The Society is organized for the sole purpose of advancing the arts and sciences of heating, ventilation, air conditioning and refrigeration. It benefits the public with its research, standards writing, continuing education, and publications.

B

BACnet™

See Building Automation Control network

BACnet interoperability building blocks

A block of BACnet application services that tells vendors what BACnet services must be implemented to provide specific device functionality. The BIBBs are grouped together into BACnet device profiles.

BACnet object

An abstract representation of the physical point or points where data is input from or output to an I/O device. Each object may have several BACnet properties that describe the status of that object.

baud rate

The number of signaling elements that occur each second during electronic data transmission. At slow speeds, baud indicates the number of bits per second that are transmitted. For example, 500 baud means that 500 bits are transmitted each second (abbreviated 500 bps). At higher speeds, multiple bits may be encoded with each electrical change. For example, 4,800 baud may allow 9,600 bits to be sent each second. Data transmission rates at high speeds are generally expressed in bits per second (bps) rather than baud. For example, a 9,600 bps modem may operate at only 2,400 baud.

BIBB

See BACnet interoperability building blocks

Building Automation Control network (BACnet and ANSI/ASHRAE Standard 135-2004)

An interoperable protocol developed specifically for the building controls industry. The American National Standards Institute named it as a standard and Trane advocates BACnet protocol for use in system-level control devices.

C

configuration (Tracer™ UC800 controller)

Refers to the use of the Tracer TU service tool to select the chiller type, tonnage, and other options, of a Tracer UC800 controller.

D

device

A device is a standard BACnet object as defined by ASHRAE Standard 135-2004.The Tracer UC800 contains the BACnet object.

Device ID

The Device ID is used to uniquely identify each BACnet Device and it can be in the range of 0 to 4194302. There cannot be more than one device using the same Device ID. Each of the sample applications operate as a device and requires its own device id which defaults to zero.

H

holding register (read/write)

A function code used to read the contents of a contiguous block of holding registers in a remote device used with the Modbus protocol.

I

input register (read only)

A function code used to read from 1 to 125 contiguous input registers in a remote device used with the Modbus protocol.

interoperability

The ability to integrate equipment from different vendors into a comprehensive automation and control system. In addition, digital communications between products designed independently, but designed to the same communication standard.

L

LLID

Low level intelligent device.

M

Modbus
A communications standard developed by Modicon for industrial control systems. Modbus variations include Modbus RTU, Intel Modbus RTU, Modbus Plus, and Modbus TCP/IP.

P

protocol
A set of rules (language) that governs the exchange of data over a digital communications system.

R

RLA
Rated load amps.

T

Tracer UC800 controller
Name of a family of Trane chiller controllers.

TRANE®

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