



User Guide

Ascend™ Air-Cooled Chiller

Model ACR

AdaptiView™ Display with Symbio™ Controls



⚠ 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.



Introduction

Read this manual thoroughly before operating or servicing this unit.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:



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



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.



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

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants-including industry replacements for CFCs and HCFCs such as saturated or unsaturated HFCs and HCFCs.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

<p style="text-align: center;">⚠ WARNING</p> <p>Proper Field Wiring and Grounding Required!</p> <p>Failure to follow code could result in death or serious injury.</p> <p>All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.</p>

⚠ WARNING**Personal Protective Equipment (PPE) Required!**

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, **MUST** follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians **MUST** put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). **ALWAYS** refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.
- If there is a risk of energized electrical contact, arc, or flash, technicians **MUST** put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, **PRIOR** to servicing the unit. **NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING**Follow EHS Policies!**

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

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Revision History

Minor corrections.



Table of Contents

Product Overview.....	7
Equipment Description.....	7
Touchscreen Guidelines.....	7
Related Information.....	7
Screen Overview.....	7
Chiller Status Area.....	8
Main Display Area/Home Screen.....	8
Main Display Area/Screen Saver.....	9
Subcomponent Screens.....	9
Main Menu Area.....	10
Stopping/Starting Chiller Operation.....	12
Stopping the Chiller.....	12
Starting the Chiller.....	13
Alarms.....	14
Alarms Screen.....	14
Alarm Icons.....	14
Active and Historic Alarm Categories.....	15
Sorting Alarms.....	15
Resetting Alarms.....	15
Additional Alarm Indicator.....	16
Reports.....	17
The Reports Screen.....	17
Custom Graphics.....	17
Viewing Points.....	18
User Points Report.....	18
Override Status Area.....	19
Analog Overrides.....	20
Binary Overrides.....	21
Multistate Overrides.....	21
Setting Up a Temporary Override.....	21
Override Summary.....	21
Active Points Alarms and Event Log.....	22
Expansion Modules.....	24
TGP2 Programs.....	25
Viewing the Log Sheet.....	25
Viewing the ASHRAE Report.....	25
Creating and Viewing a Custom Report.....	25
Editing a Custom Report.....	27
About.....	27
Viewing Operating Modes.....	28

150 to 300 Ton Units	28
Units Larger than 300 Tons	32
Data Graphs	38
Data Graphs Screen	38
Viewing Data Graphs	38
Changing the Scales on Data Graphs	39
Custom Data Graphs	40
Creating Custom Data Graph	40
Editing Custom Data Graphs	41
Equipment Settings	43
Settings Screen	43
Viewing and Changing Equipment Settings	43
Unit Settings	45
Service Settings	46
Setpoint Source	48
Feature Settings	48
Chilled Water Reset	49
Manual Control Settings	49
150 to 300 Ton Units	49
Units Larger than 300 Tons	49
Changing a Manual Control Setting	50
Display Settings	52
Settings Screen	52
Viewing and Changing Display Preferences	52
Viewing and Changing the Language Preference	54
Viewing and Changing Date and Time Preferences	55
Controller Settings	57
Controller Settings Screen	57
Log In	57
Log In — User ID Screen	57
Log In — Password Screen	58
Log Out	59
LLID Binding	59
Troubleshooting	60
Appendix: Chiller Data	61
Subcomponent Screen Data	61



Table of Contents

Reports	63
Data Graphs Data Points.....	71
Standard Graphs.....	71
Custom Graphs	73



Product Overview

The purpose of this guide is to assist you in using the Ascend™ Model ACR Tracer® AdaptiView™ display. This guide describes how to access the screens and the types of information that appear on the screens.

Equipment Description

The basic equipment features of the Tracer® AdaptiView™ display are described here.

Screen Characteristics

The 7-inch color touch-screen display shows data in either inches and pounds (I-P) or standard international (SI) units, and in one of twenty-seven available languages.

DC Power

The Tracer® AdaptiView™ display receives 24 Vdc power through its power cable. The Symbio™ 800 controller must be powered on.

Communication

A separate ethernet cable provides communication between the Tracer® AdaptiView™ display and the Symbio™ 800 controller. Alarms are communicated immediately upon detection.

Touchscreen Guidelines

The touch screen registers the downward pressure of a touch. However, touching with increased pressure has no effect.

Use your fingers to operate the touch screen. Do NOT use a pen or pencil point, or any other sharp or pointed object that might scratch the screen surface.

If you apply and hold pressure at more than one point, the touch screen registers only the first touch. For example, if you press a finger on an area of the screen that is not touch sensitive, pressing a sensitive area with another finger will not register.

Holding on to the screen with your hand can cause unintended navigation, such as from thumb or palm pressure.

Related Information

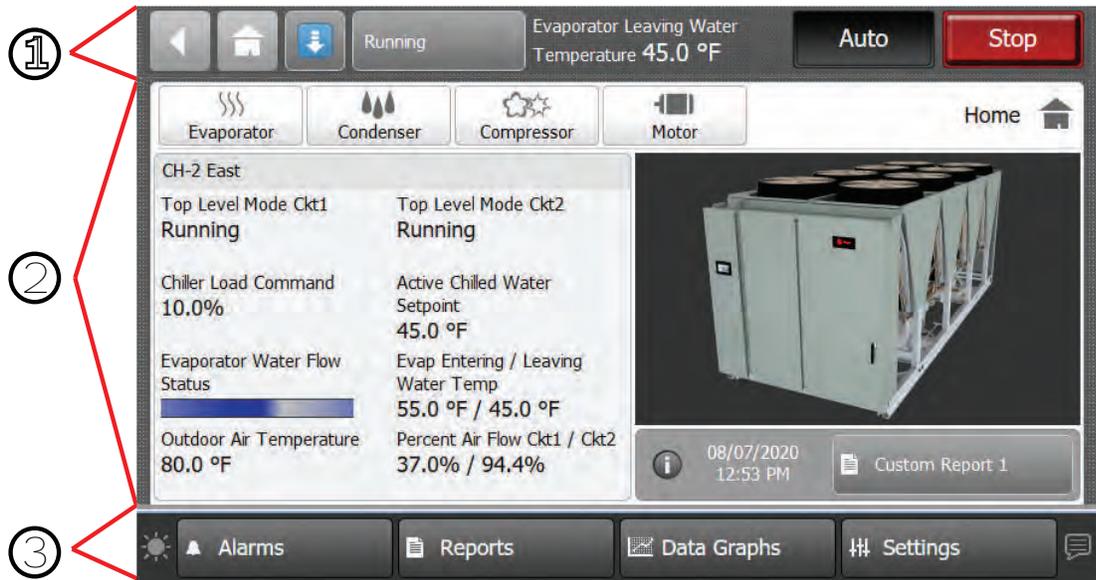
Additional information on Ascend™ Model ACR chillers with Tracer® AdaptiView™ control can be found in these documents:

- AC-SVX001*-EN (*Installation, Operation, and Maintenance: Ascend Model ACR Air-Cooled Chillers with Symbio Controls*)
- BAS-SVP045*-EN (*Integration Guide: BACnet® and Modbus™ Communication Interfaces for Ascend Model ACR Air-Cooled Chillers with Symbio Controls*)
- BAS-SVP046*-EN (*Integration Guide: LonTalk® Communication Interfaces for Ascend Model ACR Air-Cooled Chillers with Symbio Controls*)
- TTU-SVN01*-EN (*Getting Started Guide: Tracer® TU Service Tool*)

Screen Overview

The touch-sensitive areas of the AdaptiView™ display screen are described in detail in this section.

Figure 1. Home screen

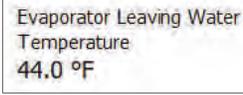


1. Chiller Status Area
2. Main Display Area/Home Screen
3. Main Menu Area

Chiller Status Area

The chiller status area remains visible from every screen on the AdaptiView™ display. Basic information about chiller status and control appears on the face of the buttons and touch targets. When touched, the buttons and touch targets open other screens that provide more information and control access. The following table provides the details.

Table 1. Chiller status area

Button/Touch target	Description
Chiller status button 	The top-level operating mode of the chiller appears on the chiller status button. Touch this button to view the Chiller Operating Mode screen.
Manual override button 	If a manual override exists, a manual override button appears. If a manual override exists, you can touch this button as an alternate way to view the Manual Control Settings screen.
Water temperature touch target 	The water temperature touch target shows one of the following, depending on whether the chiller is in ice building or cooling mode (also referred to as the Active Control Type): <ul style="list-style-type: none"> • If the Active Control Type is Cooling, the Evaporator Leaving Water Temperature appears and the touch target links to the evaporator subcomponent screen. • If the Ice Building mode is Active, the Evaporator Entering Water Temperature appears and the touch target links to the evaporator subcomponent screen.
Auto/Stop buttons 	Auto and Stop are toggle buttons: One appears raised when the other is appears depressed. <ul style="list-style-type: none"> • Touch Auto to activate the chiller startup process. • Touch Stop to active the chiller shutdown process.

Main Display Area/Home Screen

The main display area on the home screen provides chiller status information, and a graphic of the chiller.

Figure 2. Main display area of the Home screen



Home screen: Chiller status information

- The chiller name can be found at the top left corner of the main display area as shown in the figure below.
- The subcomponent information area provides the most frequently needed chiller status information for each chiller subcomponent. Touch the subcomponent buttons above the main display area to display more chiller status information related to each subcomponent.
- Touch the Information Button in the lower right section to view the About screen.
- The date and time are also shown in the lower right section of the main display area.
- Touch the Custom Report 1 button in the lower right section to view the custom report screen.

Home screen: Graphic

A graphic of a chiller appears on the home page.

Main Display Area/Screen Saver

When the backlight timeout expires, the screen dims and a screen saver appears in the main display area as shown in the following figure. Alternately, if you touch the screen saver, the home screen appears.

Figure 3. Screen saver



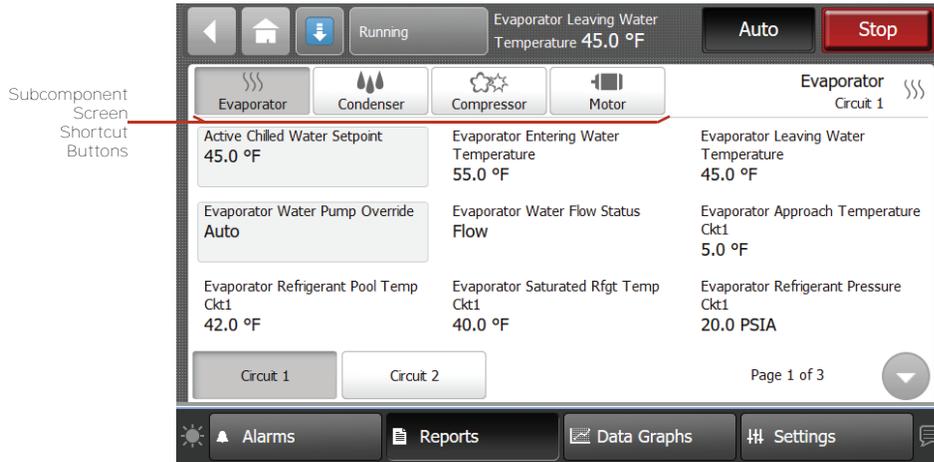
Subcomponent Screens

Each chiller subcomponent has a touch target, accessible from the home screen.

Subcomponent buttons will open a screen containing data that is related to that subcomponent. (See the example in the following figure). The shortcut buttons at the top of each of the subcomponent screens can be used to view the other subcomponents screens.

See the Appendix for lists of settings and status points accessible from each of the subcomponent screens. The chiller configuration determines which of the settings and status points appear.

Figure 4. Subcomponent screen example



Subcomponent Screen Settings

Some settings appear on the subcomponent screens as buttons. These buttons take you to another screen, settings can be changed. (See, for example, the buttons on the evaporator subcomponent screen in the preceding figure, which show the Active Chilled Water Setpoint and the Evaporator Water Pump Override.)

Main Menu Area

The main menu area always remains visible at the bottom of the display. When touched, each of the buttons displays the main menu screen for the topic listed on the button. The following table provides a description of each button.

Table 2. Main menu area

Button	Description
	Touch the Alarms button to view the Alarms screen. If there is an active alarm, the button flashes a color. The flashing color is determined by the highest severity of active alarms: <ul style="list-style-type: none"> If an Immediate Shutdown alarm exists, the flashing color is red. If a Normal Shutdown alarm exists, the flashing color is yellow. If a Warning alarm exists, the flashing color is blue.
	Touch the Reports button to view the Reports screen.
	Touch the Data Graphs button to view the Data Graphs screen.
	Touch the Settings button to view the Settings screen.

Table 2. Main menu area (continued)

Button	Description
	Touch the Language icon to view the Language screen. (This button is a shortcut. You can also view the Language screen by using the Settings button.)
	Touching the brightness button will cycle the display brightness from 30% to 60% to 90% brightness.

Stopping/Starting Chiller Operation

You can start or stop the chiller from the Tracer® AdaptiView™ display by using the Auto and Stop buttons. The buttons are located in upper right.

Stopping the Chiller

The chiller can be stopped in two ways:

- Normally — Stops the various components sequentially in order to protect them from damage.
- Immediately — Shuts down all the components at once, and should be used only in an emergency.

To stop the chiller in either of these ways:

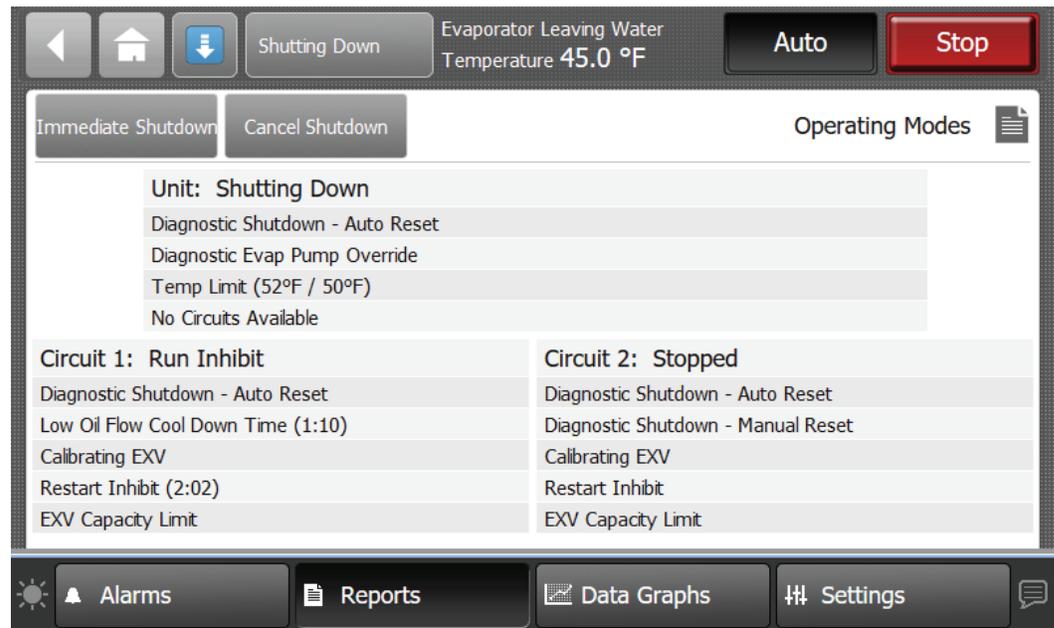
1. Touch the Stop button to initiate the chiller shutdown process. A confirmation screen appears as shown in the following figure.

Figure 5. Stop the Chiller confirmation screen



2. Touch the **Yes** button. The Shutting Down Chiller screen appears as shown in the following figure.
 - To stop the chiller normally, no further action is required. You can observe the submodes change and the timers count down.
 - To stop the chiller immediately, touch the **Immediate Shutdown** button.
 - To cancel shutdown, touch the **Cancel Shutdown** button.

Figure 6. Shutting Down Chiller screen



Note: Screen shown is for 150 to 300 ton units. Larger unit sizes will have the same Shutdown buttons, but other content may vary.

Starting the Chiller

Touch the Auto button to initiate the chiller start sequence. You can observe the mode change to Auto. The chiller will wait until cooling is needed before starting the compressor.

When the chiller is running normally, it automatically starts and stops as needed to reach its setpoints.

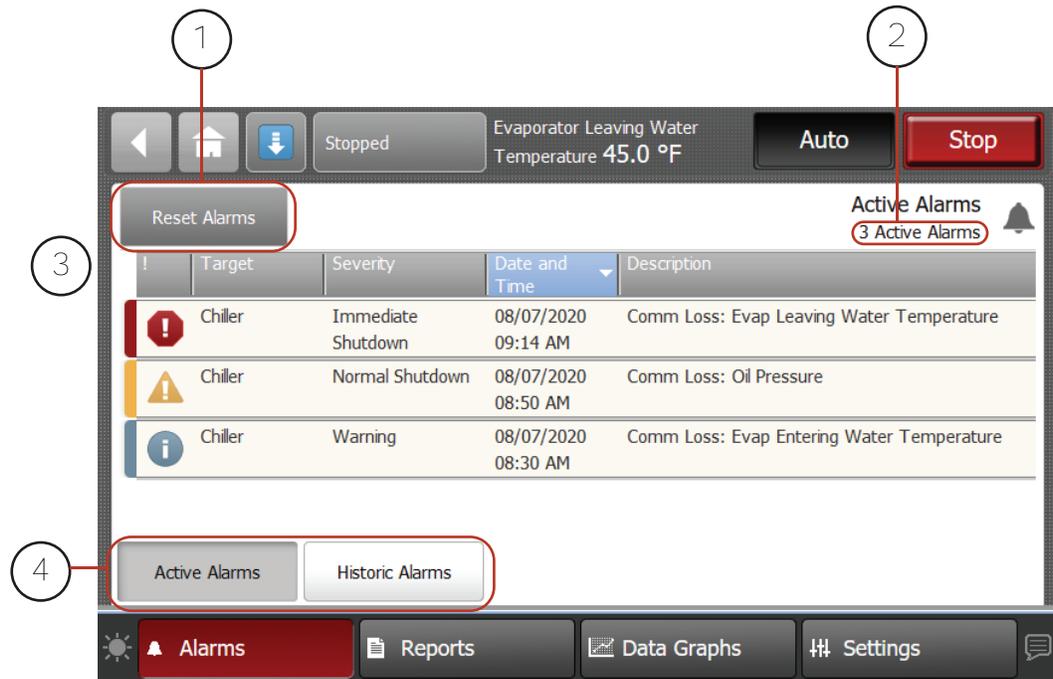
Alarms

You can use the Tracer® AdaptiView™ display to view alarms and to reset them. Alarms are communicated to the display immediately upon detection.

Alarms Screen

Touch the **Alarms** button in the main menu area at the bottom of the screen to view the Alarms screen. A table of active alarms appears that is organized chronologically with the most recent at the top of the list, as shown in the following figure. This example shows the default view, which appears each time you return to the screen.

Figure 7. Alarms screen (default view)



1. Reset Alarms button
2. Number of alarms
3. Sortable columns—The example is sorted by date/time.
4. Alarms categories—The example shows active alarms.

Note: If number of alarms exceeds one page, page number appears in the lower right corner of the screen. If a screen contains more than one page, up/down arrows also appear for viewing the other pages.

Alarm Icons

Alarm icons, which appear in the left-most column of the alarms screen and on the alarms indicator button if there is an existing alarm, are distinguished by their shape and color. Their meaning is explained in the following table.

Table 3. Alarm icons

Active alarm icons	Historic alarm icons	Level of severity
 Red octagon	 Gray octagon	Immediate shutdown
 Yellow triangle	 Gray triangle	Normal shutdown
 Blue circle	 Gray circle	Warning

Active and Historic Alarm Categories

You can view alarms by two different categories:

- **Active alarms:** These are alarms that require attention. All alarms that are currently active appear when you view this category.
- **Historic alarms:** After an alarm condition has been resolved, the alarm is reclassified as historic. The 20 most recent historic alarms appear when you view this category.

The Alarms screen defaults to active alarms, as shown in the figure in section “[Alarms Screen](#),” p. 14. Note that the **Active Alarms** button appears shaded in the Location 4, which indicates that you are viewing active alarms. To view a different category, touch **Historic Alarms**. The button you select becomes shaded and the list appears.

Sorting Alarms

To sort alarms by a category other than date and time, touch one of the other column headings in the table. The column heading responds by changing to blue, and the alarms table re-sorts according to the blue column heading. If you touch the blue column heading again, the column changes the order from ascending to descending.

You can sort the alarms table by:

- Date/Time (the default sort): Most recent alarms are at the top.
- Severity: Most severe, followed by the most recent.
- Description: Alarms are sorted alpha numerically by name, followed by the most recent.

Resetting Alarms

Some alarms require reset to move from the active to the historic state, even if the issue causing the alarm has been resolved. These manual reset alarms are sometimes referred to as latching alarms. Non-latching alarms change from the active to the historic state automatically, after the problem has been resolved.

The Alarms screen does not directly state whether the alarms are latching or non-latching. However, their behavior indicates their type:

- Reset latching alarms by touching the **Reset Alarms** button at the top of the Alarms screen. Latching alarms respond by disappearing from the active alarms list and becoming a part of the historic alarms list. However, if the condition that caused the alarm persists, the alarm will re-appear in the active alarms list.
- Non-latching alarms do not require reset. Non-latching alarms automatically disappear from the active alarms list and re-appear in the historic alarms list when the conditions that caused them are resolved.

Additional Alarm Indicator

In addition to the Alarms screen, there is a button that indicate alarm conditions. This button is viewable from any screen on the display, and is used to access the Alarms screen.

The **Alarms** button in the main menu area of the screen flashes a color that represents the alarm level of the most severe active alarm. The three color possibilities correspond to those of the active alarm icons.



Reports

The Tracer® AdaptiView™ display can be used to view a variety of reports and to create and edit a custom report. All reports contain live data that refreshes every 2–5 seconds.

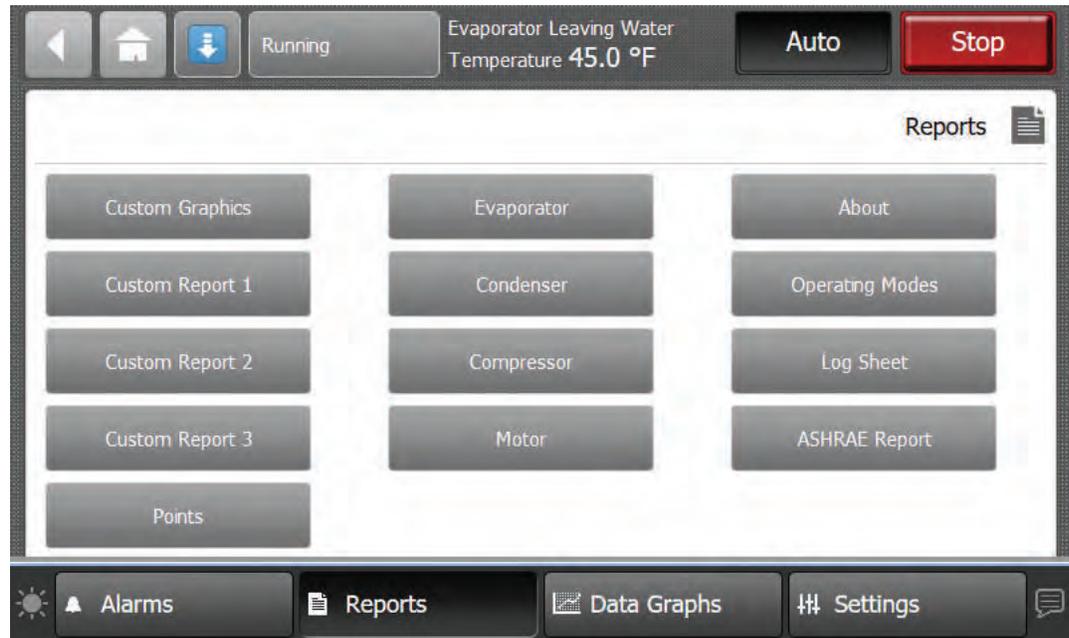
The Reports Screen

Touch the **Reports** button in the main menu area to view the Reports screen. The Reports screen contains the following buttons:

- Custom Graphics
- Custom Reports (1 through 3)
- Points
- Evaporator
- Condenser
- Compressor
- Motor
- About
- Operating Modes
- Log Sheet
- ASHRAE Report

Each button links to the report named on the button.

Figure 8. Reports screen



Custom Graphics

The AdaptiView™ display supports a maximum of 12 custom graphics. Custom graphics are created and loaded using Tracer® Graphics Editor (TGE). See the TGE online help for more information.

Graphics in the AdaptiView display allow you to:

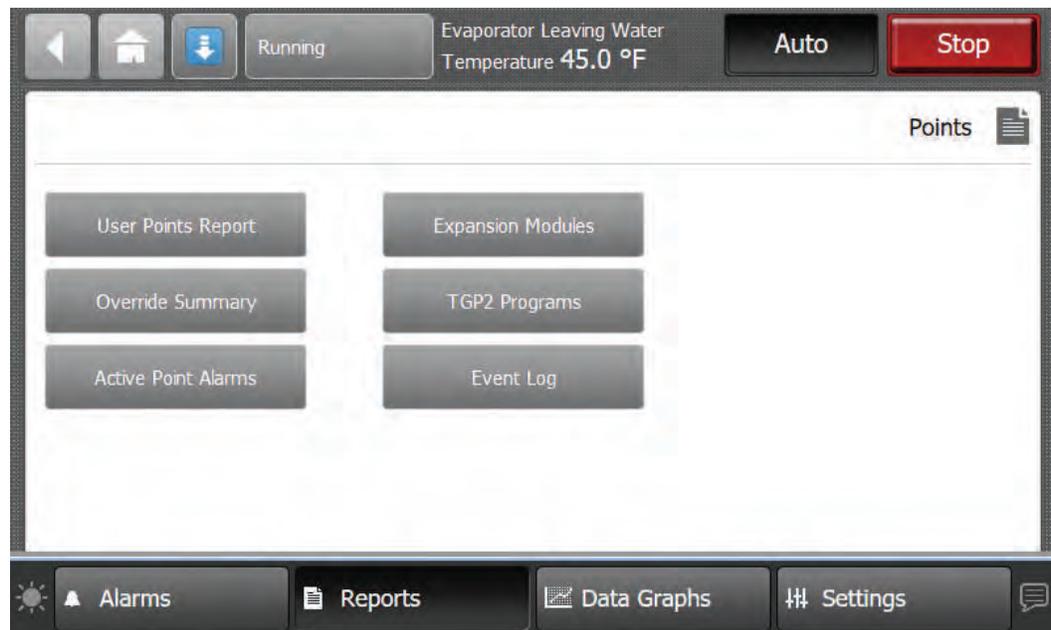
- Display the value of any point on the controller
- Display animation items such as fans and dampers

- Perform overrides
- Link to the Alarms page
- Link to the User Points Report and Custom Reports
- Link to another Custom Graphic

Viewing Points

Touch the Points button to view the Points report screen, which contains access to screens for viewing and manipulating a subset of the BACnet® Point interface.

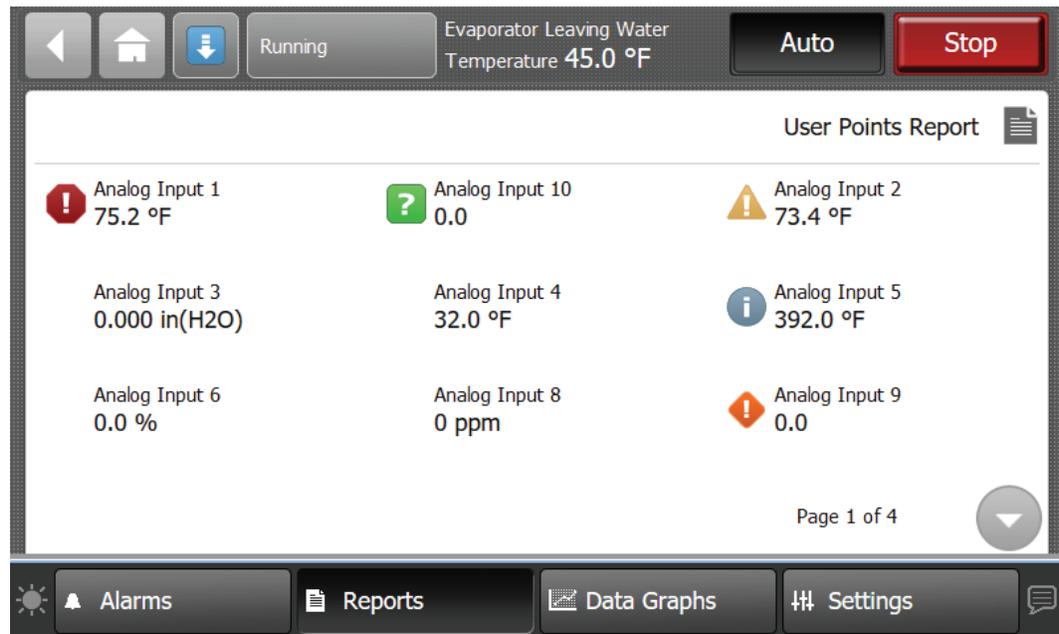
Figure 9. Points report screen



User Points Report

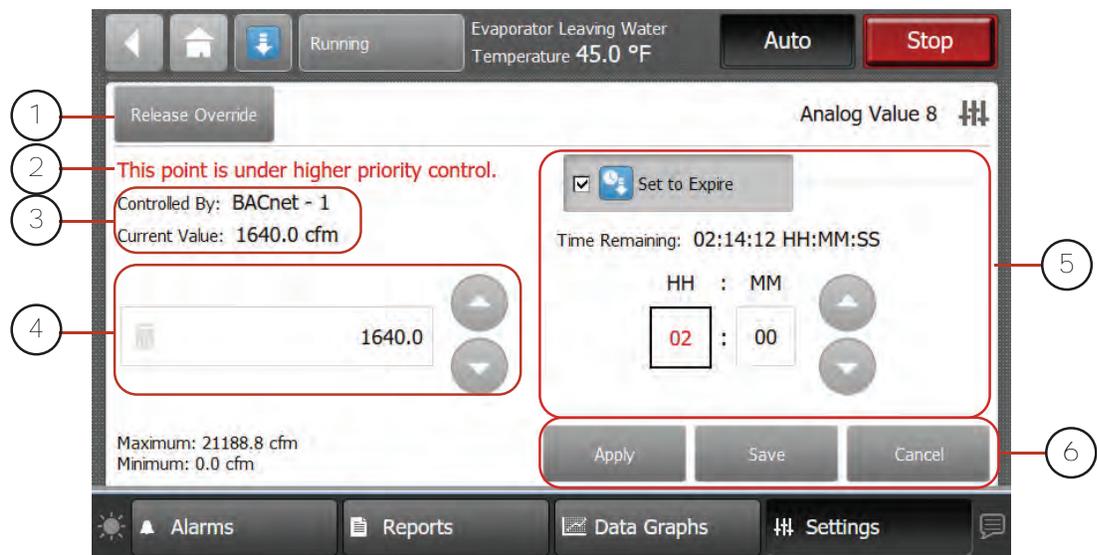
Touch the **User Points Report** button to view the User Points Report screen, which contains user created points for the unit controller. Use the up and down arrows located at the right most bottom of the screen to page up or down.

Figure 10. User Points Report screen



Override Status Area

Figure 11. Override status area report



- Releasing an Override** — Touch the **Release Override** button to release the current override. This action returns you to the Override Summary screen.
- Releasing an Override Note** — If a point is under a higher priority control, you can still proceed with releasing the override. However, it will not take effect until the higher priority level is removed in Tracer® TU, Tracer® SC+, or Tracer® Ensemble™.
- Override Status Area** — This area shows who is controlling the point, followed by the active priority level and the current value of the point. If security is enabled, the name of the user that performed the override will be shown in the Controlled By field. If security is disabled, "Front Panel" is displayed for all overrides performed by the AdaptiView™ display.

4. **Override Value Setting Area** — This area contains buttons that when pressed, change the override status. The button that is active has a shaded appearance in color. The exception is analog points, which require manually entering a value.
5. **Temporary Override Area** — This area allows you to set up a temporary override.
6. **Action Area** — This area allows you to apply, save, or cancel edits made to the point override.

Analog Overrides

The Analog Override screen contains up and down arrows in the Override setting area, as well as a keypad icon that when touched, opens the Analog Keypad.

- Use the up and down arrow buttons to select a value. Touch the **Apply** or **Save** button to retain your changes.
- To manually enter a value, touch the keypad icon.
 - Enter a value by tapping the numerals on the keypad.
 - Touch **Save** to save and return to the Override Screen.

Figure 12. Keypad icon

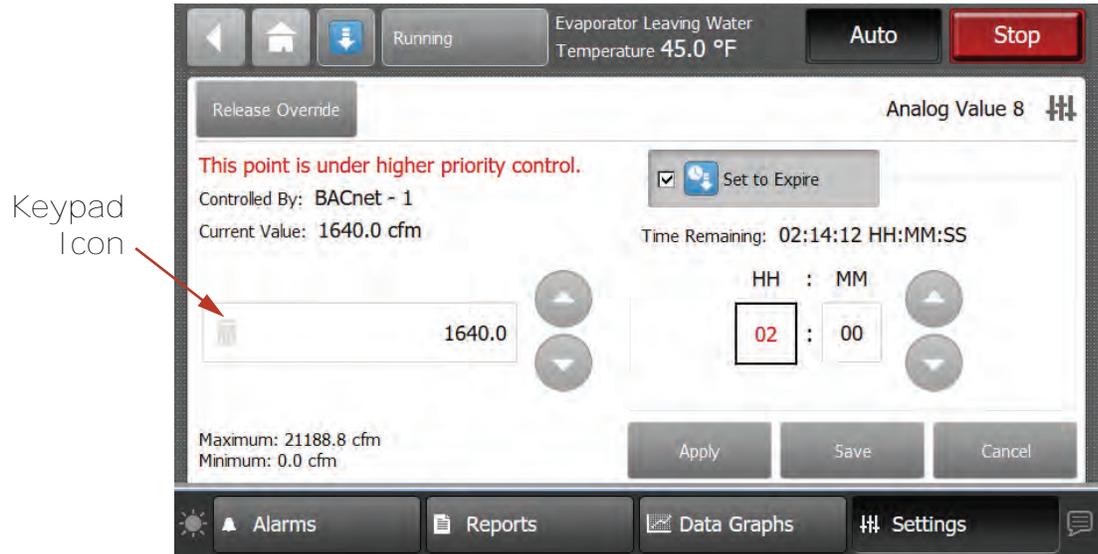
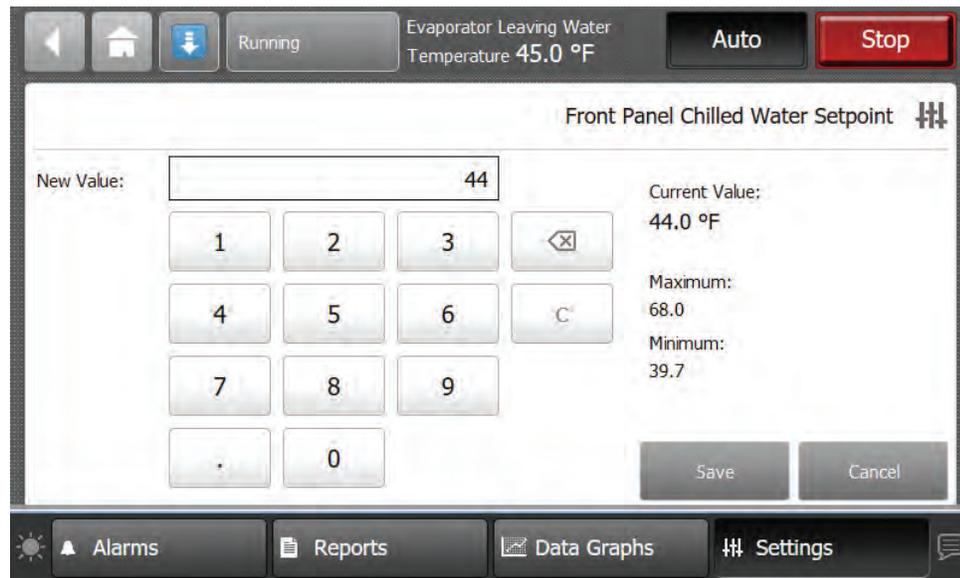


Figure 13. Analog keypad screen



Binary Overrides

The Binary Override screen provides buttons with point state text that is used to set the current value. Multistate overrides with four or fewer states have similar screen functions as the binary override screen. Touch a button in the override setting area to select a state. Touch the **Apply** or **Save** button to retain your changes.

Multistate Overrides

Multistate override screens that contain five or more items will contain up and down arrow buttons in the Override setting area. Use the up and down arrow buttons to select a state. Touch the **Apply** or **Save** button to retain your changes.

Setting Up a Temporary Override

A temporary override can be set by using the buttons in the Temporary Override area. The default duration for temporary overrides is 2 hours 0 minutes. The maximum duration for a temporary override is 99 hours 59 minutes. If more time is needed, consider setting up a permanent override.

1. Touch the **Set to Expire** button. A check mark appears in the check box, the override icon becomes blue, and the Time Remaining area appears.
2. Touch either the hours (**HH**) or minutes (**MM**) button, then use the up and down arrows to set the override.

Note: The **HH** and **MM** buttons, when pressed change by one increment. Press down on the buttons to accelerate. A second touch of the (**HH**) or (**MM**) buttons will open the Analog keypad screen.

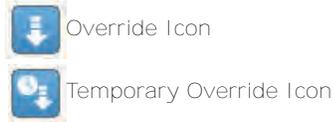
3. Touch the **Apply** or **Save** button to set the temporary override.

Override Summary

The AdaptiView™ has a built in override summary report. Touch the Override Summary button on the Points screen.

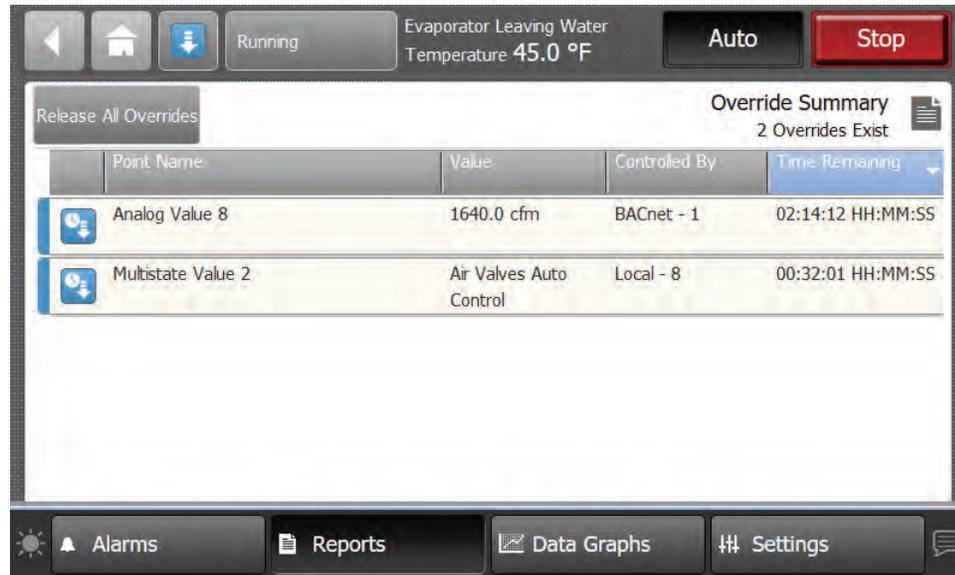
The Override Summary screen contains all active overrides. Columns are sortable and automatically default to Time Remaining.

- The override icon indicates that a point override is in effect indefinitely.
- The temporary override icon indicates that an override will expire after a specified duration.

Figure 14. Override icons


To release all overrides in the list, touch the **Release All Overrides** button (only points that are controlled at the AdaptiView user's priority level will be released).

Touch anywhere in a point row to navigate to the corresponding Point Override screen.

Figure 15. Override Summary screen


Active Points Alarms and Event Log

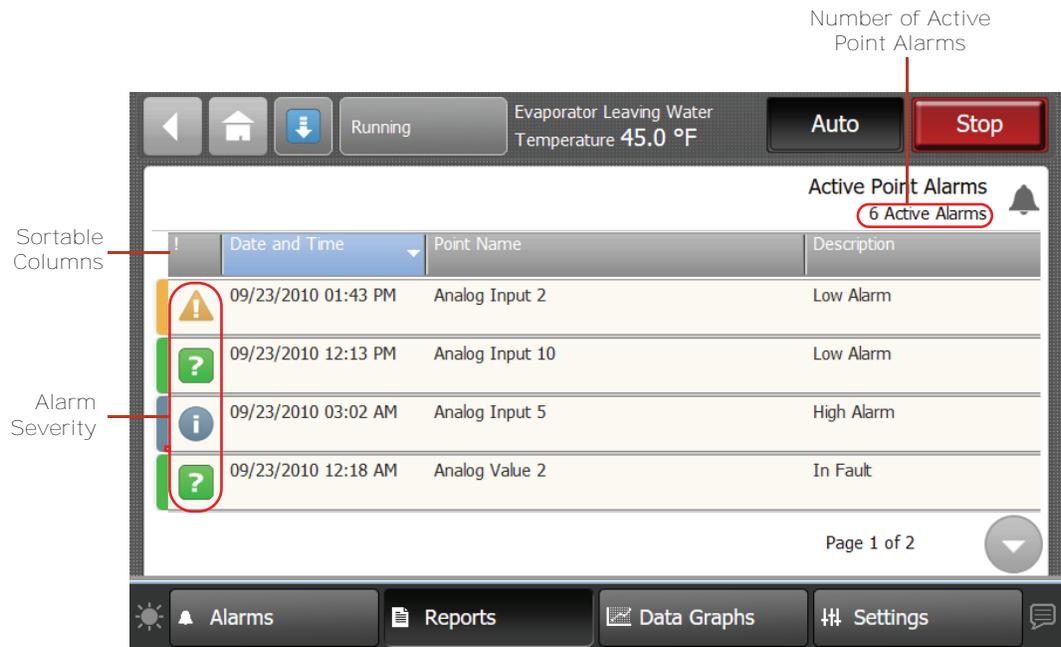
Active Point Alarms

Active Point Alarms appear on the AdaptiView™ display immediately upon detection. Touch the Active Point Alarms to view the Active Point Alarms.

The figure below shows the Active Point Alarms screen and commonly used functions. When the point alarm clears and the point returns to normal, the alarm will automatically be removed from the list. The number of active point alarms is displayed in the top right portion of the screen.

For the point alarms to appear on the AdaptiView display, the point must have an alarm notification class selected other than None when it was set up in Symbio™ UI or Tracer® TU. Additionally, the point must have entered the appropriate notification (In Alarm, When Failed, Return to Normal, or the notification class set to a value other than None).

Figure 16. Active Point Alarms screen



Event Log

Touch the Event Log to view the Event Log.

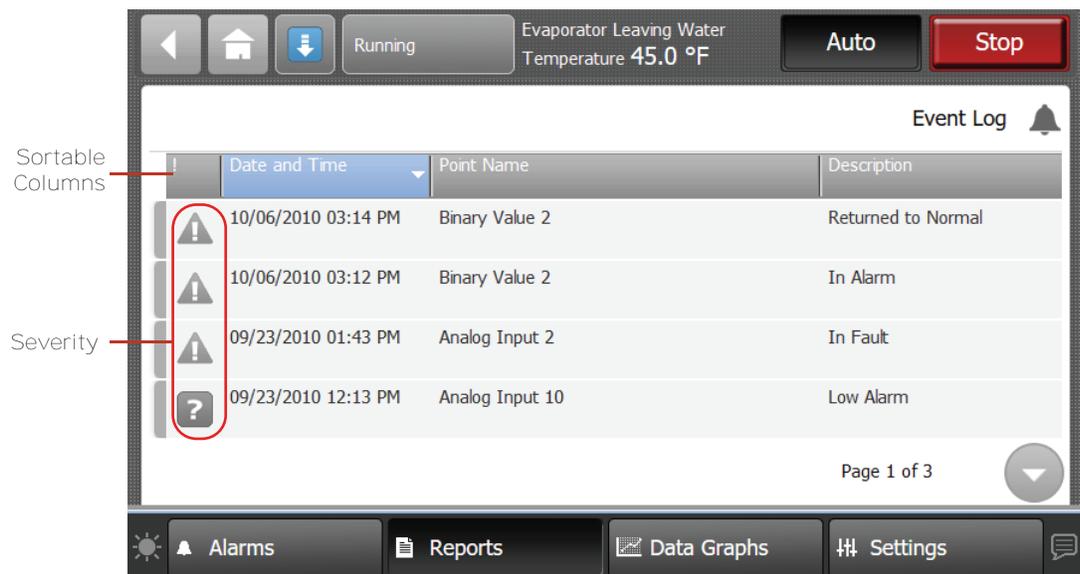
Point Alarm icons appear in the left-most column of the Active Point alarms and Event Log screens.

They are identifiable by their shape and color.

The figure below shows the Event Log screen and commonly used functions.

For the events to appear on the AdaptiView display, the point must have an alarm notification class selected other than None when it was set up in Symbio™ UI or Tracer® TU. Additionally, the point must have entered the appropriate notification (In Alarm, When Failed, Return to Normal, or the notification class set to a value other than None).

Figure 17. Event Log screen



Point Alarm and Event Log Icons

Point Alarm icons appear in the left-most column of the Active Point alarms and Event Log screens.

They are identifiable by their shape and color.

Active Alarm	Event Log	Notification Class / Severity
		Critical
		Service Required
		Warning
		Information
		None

Sorting Point Alarms and Event Log Events

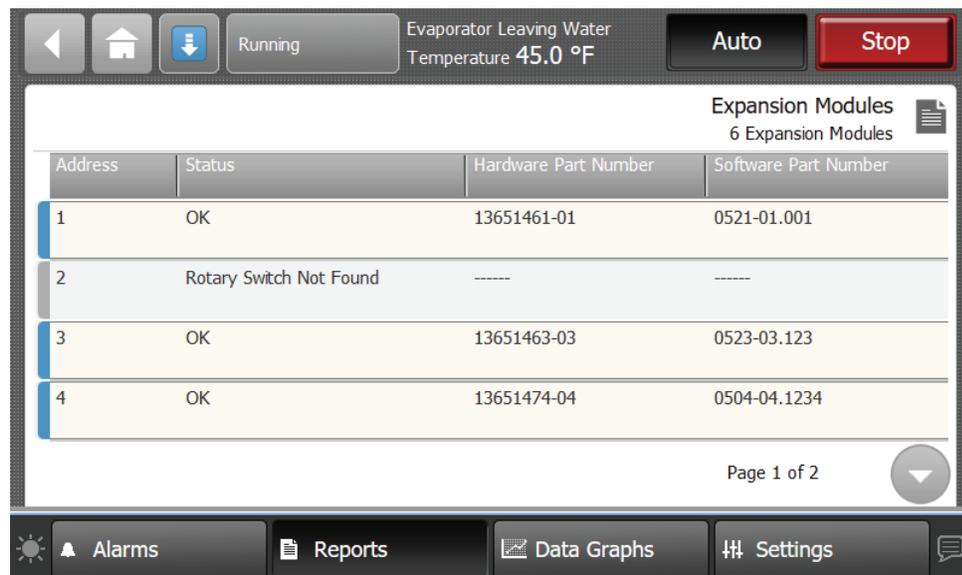
To sort point alarms or events in the event log by a category other than date and time, touch one of the other column headings in the table. The column heading responds by changing to blue, and the alarms table re-sorts according to the blue column heading. By touching the blue column heading again, the column will change the sort direction.

- **Severity (!):** Active alarms are at the top followed by the most severe.
- **Date and Time** (the default sort): Most recent alarms are at the top.
- **Point Name:** Alphabetical sort based on the point name.
- **Description:** Alarms are sorted alphabetically by description.

Expansion Modules

Touch the **Expansion Module** button to view the Expansion Modules screen. If expansion modules have been installed, they will appear in Expansion Modules screen as shown in the figure below.

Figure 18. Expansion Modules screen



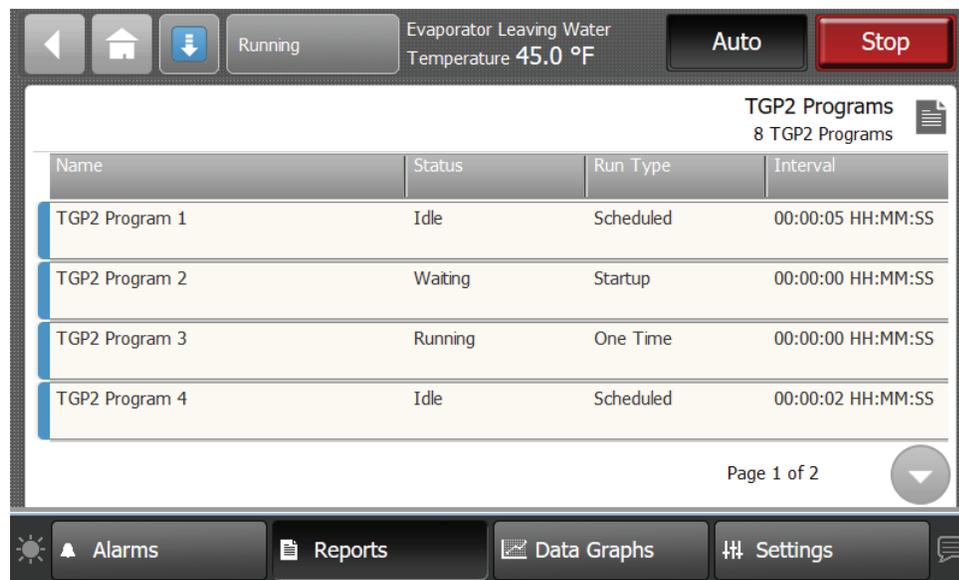
Expansion module screen columns:

- **Address** — This is the rotary address of the defined or discovered expansion module.
- **Status** — Under normal conditions, OK will display in this column. If not refer to “Tracer® XM30, XM32, XM70, and XM90 Expansion Modules IOM,” BAS SVX46*-EN.
- **Hardware Part Number** — This is the part number for the expansion module.
- **Software Part Number** — This is the version number of the software running in the expansion module.

TGP2 Programs

Touch the **TGP2 Programs** button to view the TGP2 Programs screen. All TGP2 programs that have been installed on the controller appear here. The program name, status, run type, and interval for each program is provided. Interval is the scheduled run interval for the program and is displayed in HH:MM:SS. If the run type is Startup or Event, the interval field will display all zeros.

Figure 19. TGP2 Programs screen



Name	Status	Run Type	Interval
TGP2 Program 1	Idle	Scheduled	00:00:05 HH:MM:SS
TGP2 Program 2	Waiting	Startup	00:00:00 HH:MM:SS
TGP2 Program 3	Running	One Time	00:00:00 HH:MM:SS
TGP2 Program 4	Idle	Scheduled	00:00:02 HH:MM:SS

Viewing the Log Sheet

On the Reports screen, touch **Log Sheet** to view the information that is itemized in the appendix. The items included in the Log Sheet are those recommended by Trane. Refer to current Trane service literature for more information.

Viewing the ASHRAE Report

On the Reports screen, touch **ASHRAE Report** to view the information as itemized in the Appendix.

Creating and Viewing a Custom Report

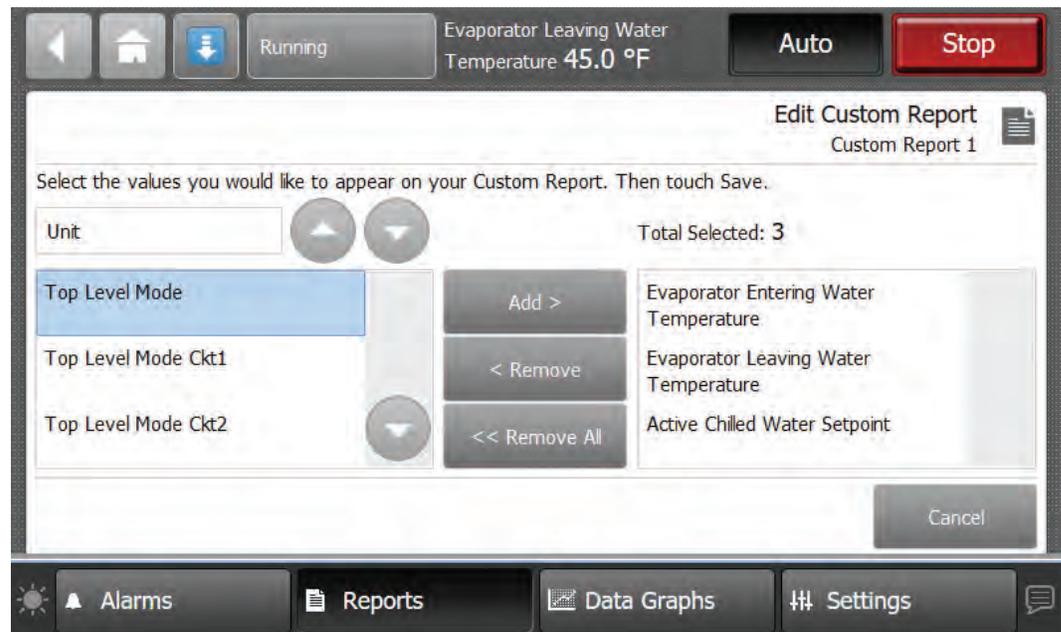
You can create a custom report in which you specify the type and order of data that it contains. Items available to select for a custom report are grouped according to subsystem. (See Appendix for more information.)

To create and view a custom report:

1. On the Reports screen, touch **Custom Report**. The Custom Report screen appears.
2. On the Custom Report screen, touch **Edit**. The Edit Custom Report screen appears in the

following figure.

Figure 20. Edit Custom Report screen



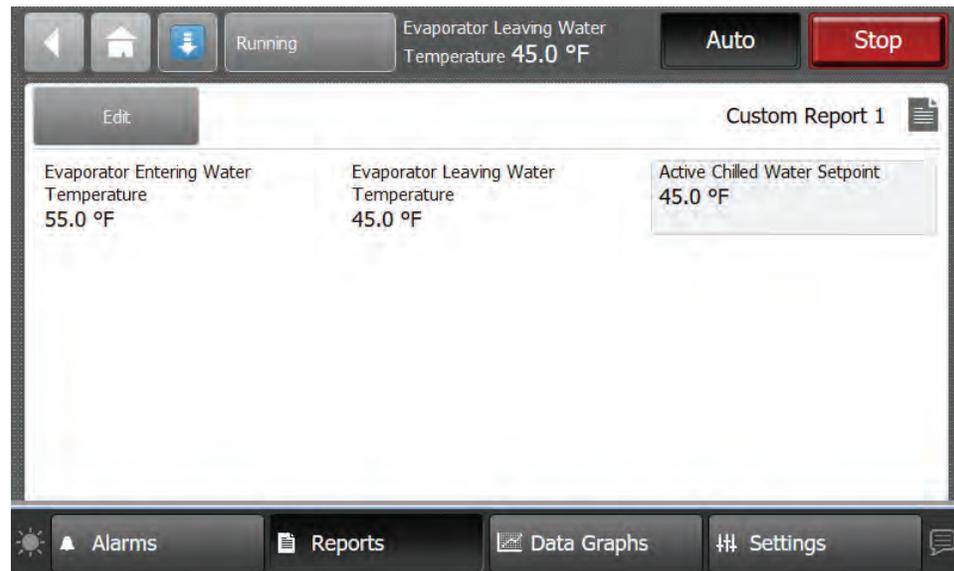
3. Touch the up/down arrows at the top of the left box on this screen to scroll through the items that are available to add to a custom report.
4. To add an item to a custom report, touch the item. It responds by changing to blue. Touch **Add** to move the selected item to the right box on the screen.

Note: Selections can be organized in any order by using the down arrows that appear in the right box, and by adding them one at a time in the order in which you want them to appear in your report.

5. To save and view your custom report, touch **Save**. The Custom Reports screen appears, containing the custom report you have just created as shown in the next figure.

Note: A page number appears in the lower right corner of the screen. If a screen contains more than one page, up/down arrows also appear for viewing the other pages, as in the following figure.

Figure 21. Custom Report screen



Editing a Custom Report

A custom report can be edited by adding, removing, or re-order data as follows:

1. On the Custom Report screen, touch **Edit**. The **Edit Custom Report** screen appears.
2. Add, remove, or re-order as follows:
 - To add an item to the custom report, touch it. It responds by changing to blue. You can use the arrows to scroll through the rest of the items that can be added to the custom report. Then touch **Add** to move the selected item to the box on the right side of the screen.
 - To remove an item from the custom report, touch it. It responds by changing to blue. You can use the arrows to scroll through the rest of the items that can be removed from the custom report. Then touch **Remove** to move the selected item to the box on the left side of the screen.
 - To re-order items in the custom report, touch it. It responds by changing to blue. Use the arrows to change the order of a highlighted item.
3. To save and view your edited custom report, touch **Save**. The Custom Reports screen appears, containing the custom report you have just edited.

About

On the Reports screen, touch **About** to view the following unit information:

- Controller Name
- Unit Model Number
- Unit Sales Order Number
- Unit Serial Number
- Controller Product Name
- Controller Build Part Number
- Controller Hardware Part Number
- Controller Hardware Serial Number
- Display Firmware Build
- Display Boot Code

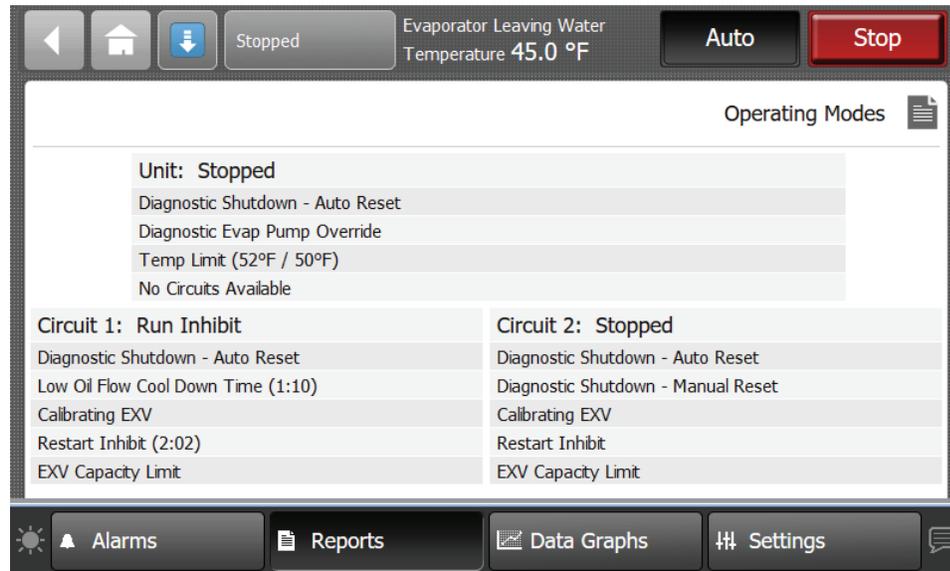
Viewing Operating Modes

On the Reports screen, touch **Operating Modes** to view the current operating status of the chiller in terms of the top-level operating mode and submodes.

Note: You can also access the Operating Modes screen from the chiller status button in the upper part of the screen.

The following figure shows an example of a Chiller Operating Modes screen.

Figure 22. Operating Modes screen



Note: Screen shown is for 150 to 300 ton units. Larger unit sizes will have the same buttons, but other content may vary.

Ascend™ model ACR chillers operate in one of the top-level operating modes; the following tables provide lists and descriptions of top-level modes and submodes.

Submodes are dependent on the top-level mode. Their appearance on the Operating Modes screen has the following characteristics:

- The newest submode appears at the top of the submode list.
- Submodes disappear when they no longer apply.
- The screen displays up to five submodes.
- If less than five submodes are active, the submode rows that do not apply are blank.

150 to 300 Ton Units

Table 4. Chiller top-level operating modes — 150 to 300 ton units

Chiller Top-level Modes	Description
Stopped	Unit inhibited from running and will require user action to go to Auto.
Run Inhibit	Unit inhibited from running.
Auto	The chiller is not currently running but can be expected to start at any moment given that the proper conditions and interlocks are satisfied.
Waiting to Start	The chiller is not currently running and there is a call for cooling but the lead circuit start is delayed by certain interlocks or proofs.
Running	At least one circuit on the chiller is currently running.

Table 4. Chiller top-level operating modes — 150 to 300 ton units (continued)

Chiller Top-level Modes	Description
Shutting Down	The chiller is still running but shutdown is imminent.
MP Resetting	Unit is in the process of a reset.

Table 5. Chiller sub-level operating modes — 150 to 300 ton units

Chiller Sub-level Mode	Description
Local Stop	Chiller is stopped by the TD7 Stop button command– cannot be remotely overridden.
Immediate Stop	Chiller is stopped by the TD7 Immediate Stop (by pressing the Stop then Immediate Stop buttons in succession) – previous shutdown was manually commanded to shutdown immediately.
No Circuits Available	The entire chiller is stopped by circuit diagnostics or lockouts.
Diagnostic Shutdown - Manual Reset	The chiller is stopped by a Chiller Level diagnostic that requires manual intervention to reset.
Power Up Delay Inhibit: min:sec	On Power up, the chiller will wait for the Power Up Delay Timer to expire.
Software Service Lock	TU service tool invoked chiller lockout to prevent operation of the chiller during certain procedures, such as configuration or binding
Ice Building Is Complete	The chiller is inhibited from running as the Ice Building process has been normally terminated on the evaporator entering temperature. The chiller will not start unless the ice building command (hardwired input or Building Automation System command) is removed or cycled.
Ice to Normal Transition	The chiller is inhibited from running for a brief period of time if it is commanded from active ice building mode into normal cooling mode via the ice building hardwired input or Tracer.
Start Inhibited by BAS	Chiller is stopped by Tracer or other BAS system per BAS communicated commands or (depending on configuration and settings) by lack of communication with the BAS system.
Start Inhibited by External Source	The chiller is inhibited from starting or running by the “external stop” hardwired input.
Diagnostic Shutdown - Auto Reset	The entire chiller is stopped by a diagnostic that may automatically clear. The chiller is stopped by a Chiller Level diagnostic that may be reset automatically depending on conditions and the specific diagnostic’s reset criteria.
Start Inhibited by Low Ambient Temp	The chiller(mechanical operation) is inhibited based on the outdoor air temperature.
Maximum Capacity	Because the chiller is unable to run, when the chiller is in a Top Level Run Inhibit mode, the maximum capacity submode simply echoes that there is no additional capacity available at this time, unless the cause of the inhibit is removed.
Waiting For Evap Water Flow	The unit will wait up to 20 minutes in this mode for water flow to be established per the flow switch hardwired input.
Waiting For A Need To Cool	The chiller will wait indefinitely in this mode, for a leaving water temperature higher than the Chilled Water Setpoint plus some control dead-band.
Cold Ambient Start Inhibit – Waiting for Warmer Water	During startups with Outdoor Ambient temperatures less than 18°F, it may be necessary to require warmer entering water to avoid a freeze danger at startup. The occurrence of this mode suggests that startup is being inhibited pending warmer water temperatures than otherwise would be required by the Differential to Start and Active Chilled Water Temperature settings.
Chilled Water Control	Chiller is running to provide a chilled water temperature per the active chilled water setpoint.
Maximum Capacity	The chiller is operating at its maximum capacity.

Table 5. Chiller sub-level operating modes — 150 to 300 ton units (continued)

Chiller Sub-level Mode	Description
Capacity Control Softloading	The control is limiting the chiller loading due to capacity based softloading setpoints.
Demand Limit Softloading	The chiller is running, and loading of individual compressors may be limited by a gradual filter of the chiller's softloading Demand Limit setpoint. The starting Demandlimit and the settling time of this filter is user adjustable as part of the Demand control softload feature. The mode will be displayed as long as the Demand Control Softloading limit is ramping or "settling".
Free Cooling	The chiller is running and Free Cooling is active and delivering cooling capacity with or without compressor operation. If Free Cooling cannot satisfy the cooling load, mechanical cooling can be sequenced on to satisfy the remaining load.
Free Cooling - Compressors Inhibited	The chiller is running and Free Cooling is active and delivering cooling capacity exclusive of compressor operation as per the Free Cooling Compressor Lockout setting
Evaporator Water Pump Off Delay: min:sec	The Evaporator water pump is continuing to run past the shutdown of the compressors, executing the pump off delay timer.
Manual Evap Pump Override	The Evaporator water pump relay is on due to a manual command.
Diagnostic Evap Pump Override	The Evaporator water pump relay is on due to a diagnostic.
Waiting for BAS Communications	The chiller has not detected communication with the BAS. This mode is only supported by LonTalk systems. Depending on configurations and Setpoint source setting, lack of communication may cause the chiller to shut down and or become inhibited from starting, but if so, the "Starting is Inhibited by BAS" mode will also occur. (Only applied to UC800)
Manual Compressor Control Signal	Chiller capacity control is being controlled by AdaptiView or TU.
Noise Reduction	The chiller's Noise Reduction Mode has been activated. The condenser fans may be limited to a lower speed than design, to reduce fan noise.
Chilled Water Control Ice Building	These modes are mutually exclusive and they indicate that the chiller is controlling to the active chilled water setpoint, or the active ice termination setpoint respectively.

Table 6. Circuit top-level operating modes — 150 to 300 ton units

Circuit Top-level Modes	Description
Stopped	The circuit is not running, and cannot run without intervention.
Run Inhibit	The given circuit is currently being inhibited from starting (and running), but may be allowed to start if the inhibiting or diagnostic condition is cleared.
Auto	The circuit is not currently running but can be expected to start at any moment given that the proper conditions are satisfied.
Running	The compressor on the given circuit is currently running.
Running — Limit	The circuit, and compressor are currently running, but the operation of the chiller/compressor is being actively limited by the controls. Further information is provided by the sub-mode.* See the section below regarding criteria for annunciation of limit modes
Shutting Down	The circuit is preparing to de-energize the compressor.

Table 7. Circuit sub-level operating modes – 150 to 300 ton units

Circuit Sub-level Mode	Description
Diagnostic Shutdown – Manual Reset	The circuit has been shutdown on a latching diagnostic.
Front Panel Circuit Lockout	The circuit is manually locked out by the circuit lockout setting – the nonvolatile lockout setting is accessible through either the AdaptiView or TU.
External Circuit Lockout	The respective circuit is locked out by the external circuit lockout binary input.
Service Pumpdown	The circuit is currently performing a service pumpdown.
Diagnostic Shutdown – Auto Reset	The circuit has been shutdown on a diagnostic that may clear automatically.
Low Oil Flow Cool Down Time mn:sec	See oil flow protection spec
Restart Inhibit min:sec	The compressor (and therefore, its circuit) is currently unable to start due to its restart inhibit timer. A given compressor is not allowed to start until 5 minutes (adj) has expired since its last start, once a number of “free starts” have been used up.
Low Evap Rfqt Temp Inhibit	A start of the circuit had been requested, but the circuit is inhibited from starting due to a high value of the Low Evaporator Refrigerant Temperature Integral from the last cycle. If the alternate circuit is available, it will be substituted. Delaying a start in this situation, avoids a latching diagnostic of the running Low Evaporator Refrigerant Temperature Cutout protection.
Start Inhibited by Low Ambient Temp	The circuit(mechanical operation) is inhibited based on the outdoor air temperature.
Calibrating EXV	This submode is displayed when the EXV is performing a calibration. A calibration is only performed when the chiller is not running and never more frequently than once every 24 hours
Start Inhibited Waiting For Oil	The compressor (and thus its circuit) will wait up to 2 minutes in this mode for oil level to appear in the oil tank.
Establishing Min(imum)* Cap(acity)* – Low Diff(erential)* Pressure	The circuit is experiencing low system differential pressure and its compressor is being force loaded, irrespective of the Chilled Water Temperature Control, to develop pressure sooner.
Establishing Min Cap – High Disch Temp	The circuit is running with high discharge temperatures and its compressor is being forced loaded to its step load point, without regard to the leaving water temperature control, to prevent tripping on high compressor discharge temperature.
Establishing Min Cap – Low Vi Min Speed	The compressor is being forced to a higher speed than desired for capacity control, in order to maintain compressor bearing reliability while in the low Vi state.
Maximum Capacity	The individual circuit is running at the maximum speed possible – no more capacity is available from this circuit.
Current Limit	The compressor is running and its capacity is being limited by high currents. The current limit setting is 120% RLA (to avoid overcurrent trips)
Condenser Pressure Limit	The circuit is experiencing condenser pressures at or near the condenser limit setting. Compressors on the circuit will be unloaded to prevent exceeding the limits.*
Evaporator Temperature Limit	The circuit is experiencing saturated evaporator temperatures at or near the Low Refrigerant Temperature Cutout setting. Compressors on the circuit will be unloaded to prevent tripping.
EXV Capacity Limit	The EXV is near or beyond 95% wide open, or is predicted to get to that position if the compressor was to run at full speed, and the capacity of the circuit (compressor speed) is being held or reduced in order to prevent loss of oil return or insufficient drive cooling.
Noise Reduction	The condenser fans of the circuit are potentially being limited by an active chiller-level Noise Reduction Request to a lower maximum possible speed in order to limit the noise levels.

Table 7. Circuit sub-level operating modes – 150 to 300 ton units (continued)

Circuit Sub-level Mode	Description
Flooded or Hot Start Capacity Limit	This mode will occur at circuit start, if the evaporator is sensed to be full of liquid, or if the evaporator entering water temperature is greater than 65F while the outdoor air temperature is greater than 70F. This transient starting mode implies the compressor has begun operation at a speed below the configured "normal" minimum compressor speed, in order to avoid carryover.
Demand Limit	The compressor is running and is being capacity limited by a high demand power draw in excess of the compressor's share of the active Demand Limit Setting for the entire chiller.
Operational Pumpdown	The circuit is in the process shutting down by performing an operational pumpdown just prior to stopping the circuit's compressor. The EXV is commanded closed. Pumpdown will terminate when the evaporator pressure reaches the termination pressure (below a specific criteria) or after a specific time has expired.

Units Larger than 300 Tons

Table 8. Chiller top-level operating modes – units larger than 300 tons

Chiller Top-level Modes	Description
Stopped	Unit inhibited from running and will require user action to go to Auto.
Run Inhibit	Unit inhibited from running.
Auto	The chiller is not currently running but can be expected to start at any moment given that the proper conditions and interlocks are satisfied.
Waiting to Start	The chiller is not currently running and there is a call for cooling but the lead circuit start is delayed by certain interlocks or proofs.
Running	At least one circuit on the chiller is currently running.
Running – Limit	At least one circuit on the chiller is currently running, but the operation of any of the circuits on the chiller is being actively limited by a chiller level limit.
Shutting Down	The chiller is still running but shutdown is imminent.
MP Resetting	Unit is in the process of a reset.

Table 9. Chiller sub-level operating modes – units larger than 300 tons

Chiller Sub-level Mode	Description
Local Stop	Chiller is stopped by the TD7 Stop button command– cannot be remotely overridden.
Immediate Stop	Chiller is stopped by the TD7 Immediate Stop (by pressing the Stop then Immediate Stop buttons in succession) – previous shutdown was manually commanded to shutdown immediately.
No Circuits Available	The entire chiller is stopped by circuit diagnostics or lockouts.
Diagnostic Shutdown - Manual Reset	The chiller is stopped by a Chiller Level diagnostic that requires manual intervention to reset.
Chilled Water Control	Chiller is running to provide a chilled water temperature per the active chilled water setpoint (may be as arbitrated from various sources). (For cooling only units, this mode may be suppressed.)
Start Inhibited by Low Ambient Temp	The chiller is inhibited based on the outdoor air temperature.
Start Inhibited by External Source	The chiller is inhibited from starting or running by the "external stop" hardwired input.
Power Up Delay Inhibit: min:sec	On power up, the chiller will wait for the Power Up Delay Timer to expire.

Table 9. Chiller sub-level operating modes — units larger than 300 tons (continued)

Chiller Sub-level Mode	Description
Software Service Lock	Software is currently being downloaded to the Unit Controller.
No Circuits Available	The entire chiller is stopped by circuit diagnostics or lockouts that may automatically clear.
Ice Building Is Complete	The chiller is inhibited from running as the Ice Building process has been normally terminated on the evaporator entering temperature. The chiller will not start unless the ice building command (hardwired input or Building Automation System command) is removed or cycled.
Ice to Normal Transition Inhibit	The chiller is inhibited from running for a brief period of time if it is commanded from active ice building mode into normal cooling mode via the ice building hardwired input or Tracer. This allows time for the external system load to "switchover" from an ice bank to the chilled water loop, and provides for a controlled pull down of the loop's warmer temperature. This mode is not seen if the ice making is automatically terminated on return brine temperature per the mode below.
Start Inhibited by BAS	Chiller is stopped by Tracer or other BAS system.
Start Inhibited by External Surce	The chiller is inhibited from starting or running by the "external stop" hardwired input.
Diagnostic Shutdown -Auto Reset	The entire chiller is stopped by a diagnostic that may automatically clear.
Start Inhibited by Low Ambient Temp	The chiller is inhibited based on the outdoor air temperature.
Power Up Delay Inhibit: min:sec	On power up, the chiller will wait for the Power Up Delay Timer to expire.
Chilled Water Control	Chiller is running to provide a chilled water temperature per the active chilled water setpoint (may be as arbitrated from various sources). (For cooling only units, this mode may be suppressed.)
Waiting For Evaporator Water Flow	The unit will wait up to 20 minutes in this mode for water flow to be established per the flow switch hardwired input.
Waiting For A Need To Cool	The chiller will wait indefinitely in this mode, for a leaving water temperature higher than the Chilled Water Setpoint plus some control dead-band.
Chilled Water Control	Chiller is running to provide a chilled water temperature per the active chilled water setpoint (may be as arbitrated from various sources). (For cooling only units, this mode may be suppressed.)
Chilled Water Control	Chiller is running to provide a chilled water temperature per the active chilled water setpoint (may be as arbitrated from various sources). (For cooling only units, this mode may be suppressed.)
Maximum Capacity	The chiller is operating at its maximum capacity.
Capacity Control Softloading	The control is limiting the chiller loading due to capacity based softloading setpoints.
Demand Limit Softloading	The chiller is running, and loading of individual compressors may be limited by a gradual filter of the chiller's softloading demand limit setpoint. The starting demand limit and the settling time of this filter is user adjustable as part of the demand limit softload feature. The mode will be displayed as long as the Demand Limit Softloading is ramping or "settling".
Demand Limit	The chiller is running and the compressor capacity is unloaded or restricted to load slowly or not at all to keep the chiller from exceeding the demand limit set by the customer.
Demand Limit Softloading	The chiller is running, and loading of individual compressors may be limited by a gradual filter of the chiller's softloading demand limit setpoint. The starting demand limit and the settling time of this filter is user adjustable as part of the demand limit softload feature. The mode will be displayed as long as the Demand Limit Softloading is ramping or "settling".
Evaporator Water Pump Off Delay: MIN:SEC	The evaporator water pump is continuing to run past the shutdown of the compressors, executing the pump off delay timer.

Table 9. Chiller sub-level operating modes — units larger than 300 tons (continued)

Chiller Sub-level Mode	Description
Local Stop, Maximum Capacity	These can display (and likely others) when the chiller is shutting down. Remain displayed during Operational Pumpdown and Evaporator Water Pump Off Delay time.
Manual Evap Pump Override	The evaporator water pump relay is on due to a manual command.
Diagnostic Evap Pump Override	The evaporator water pump relay is on due to a diagnostic.
Manual Compressor Control Signal	Chiller capacity control is being controlled by Operator Display or Service Tool.
Noise Reduction Request	The Noise Reduction Request feature has been activated. If the unit is running, fans will be running at lower speed.
Chilled Water Control Ice Building	These modes are mutually exclusive and they indicate that the chiller is controlling to the active chilled water setpoint, or the active ice termination setpoint respectively. Chiller is running to provide a chilled water temperature per the active chilled water setpoint.

Table 10. Circuit top-level operating modes — units larger than 300 tons

Circuit Top-level Modes	Description
Stopped	The circuit is not running, and cannot run without intervention.
Run Inhibit	The given circuit is currently being inhibited from starting (and running), but may be allowed to start if the inhibiting or diagnostic condition is cleared.
Auto	The circuit is not currently running but can be expected to start at any moment given that the proper conditions are satisfied.
Waiting to Start	The chiller is going through the necessary steps to allow the lead circuit to start.
Running	The compressor on the given circuit is currently running.
Running — Limit	The circuit, and compressor are currently running, but the operation of the chiller/compressor is being actively limited by the controls. Further information is provided by the sub-mode.* See the section below regarding criteria for annunciation of limit modes
Shutting Down	The circuit is preparing to de-energize the compressor.

Table 11. Circuit sub-level operating modes — units larger than 300 tons

Circuit Sub-level Mode	Description
Front Panel Circuit Lockout	The circuit is manually locked out by the circuit lockout setting – the nonvolatile lockout setting is accessible through either the Operator Display or Service Tool.
External Circuit Lockout	The respective circuit is locked out by the external circuit lockout binary input.
No Compressors Available	The circuit cannot run because necessary compressors are being prevented from running.
Diagnostic Shutdown - Manual Reset	The chiller has been shut down on a latching diagnostic that requires manual intervention to reset.
Diagnostic Shutdown - Auto Reset	The circuit has been shutdown on a diagnostic that may clear automatically.
No Compressors Available	The circuit cannot run because necessary compressors are being prevented from running.
BAS Circuit Lockout	The respective circuit is manually locked out by a BAS Remote Circuit Lockout command.
Low Condenser Temperature	The respective circuit is inhibited from starting due to low circuit's condensing temperature.

Table 11. Circuit sub-level operating modes — units larger than 300 tons (continued)

Circuit Sub-level Mode	Description
Calibrating EXV	This submode is displayed when the EXV is performing a calibration. A calibration is only performed when the chiller is not running and never more frequently than once every 24 hours.
Start Inhibited Waiting For Oil	The compressor (and thus its circuit) will wait up to 2 minutes in this mode for oil level to appear in the oil tank.
Waiting For EXV Preposition	The circuit will wait for the time it takes the EXV to get to its commanded pre-position prior to starting the compressor. This is typically a relatively short delay and no countdown timer is necessary (less than 15 seconds)
Part-Load Efficiency Optimization	The circuit has part-load efficiency optimization that is active. Condenser fan speed will be decreased while evaporator capacity is held constant to improve unit EER.
Establishing Min Cap – Low Vi Min Speed	The compressor(GP4 VVi) is being forced to a higher speed than desired for capacity control, in order to maintain compressor bearing reliability while in the Low Vi state.
Establishing Min Cap – Inverted Start	The compressor(GP4 VVi) is being forced to a higher speed than desired for capacity control, in order to maintain compressor discharge superheat.
Condenser Pressure Limit	The circuit is experiencing condenser pressures at or near the condenser limit setting. Compressors on the circuit will be unloaded to prevent exceeding the limits.*
Evaporator Refrigerant Temperature Limit	The circuit is experiencing saturated evaporator temperatures at or near the Low Refrigerant Temperature Cutout setting. Compressors on the circuit will be unloaded to prevent tripping.*
EXV Capacity Limit	The EXV is near or beyond 95% wide open, and the capacity of the circuit (compressor speed) is being held or reduced in order to prevent loss of oil return or insufficient drive cooling.
Minimum Capacity – Low Differential Pressure	For circuits with manifolded compressors only, the compressor(s) are being loaded to meet requested capacity. See Low Compressor Differential Pressure Limit spec. Note: This mode can be displayed at a Compressor level as well.
Flooded or Hot Start Capacity Limit	This mode will occur at circuit start, if the evaporator shows to be full of liquid, or if the evaporator entering water temperature is greater than 65° F while the outdoor air temperature is greater than 70°F. This transient starting mode implies the compressor has begun operation at a speed below the configured "normal" minimum compressor speed, in order to avoid carryover.
Maximum Capacity Limit	Compressor mass flow is greater than the design limit for the circuit.
Operational Pumpdown	The circuit is in the process shutting down by performing an operational pumpdown just prior to stopping the last running compressor. The EXV is commanded closed. Pumpdown will terminate when both the liquid level and the evap pressure are low (below specific criteria) or after a specific time has expired.
EXV Pressure Equalization	The circuit is performing an EXV Equalization process. This can occur either during the circuit off mode, or as part of the circuit startup sequence.
Diagnostic Shutdown - Manual Reset	The circuit has been shut down on a latching diagnostic that requires manual intervention to reset.

Table 12. Compressor top-level operating modes — units larger than 300 tons

Compressor Top-level Modes	Description
Stopped	The compressor is not running, and cannot run without intervention.
Run Inhibit	The given compressor is currently being inhibited from starting (and running), but may be allowed to start if the inhibiting or diagnostic condition is cleared.

Table 12. Compressor top-level operating modes — units larger than 300 tons (continued)

Compressor Top-level Modes	Description
Auto	The circuit is not currently running but can be expected to start at any moment given that the proper conditions are satisfied.
Running	A compressor on the given circuit is currently running.
Running — Limit	The compressor is currently running, but the operation of the chiller/compressor is being actively limited by the controls.
Shutting Down	The circuit is preparing to de-energize the compressor.

Table 13. Compressor sub-level operating modes — units larger than 300 tons

Compressor Sub-level Mode	Description
Diagnostic Shutdown -Manual Reset	The compressor has been shut down on a latching diagnostic that requires manual intervention to reset.
Front Panel Compressor Lockout	Compressor is manually locked out by the compressor lockout setting – the nonvolatile lockout setting is accessible through either the Operator Display or Service Tool.
Low Oil Flow Cool Down Time min:sec	See oil flow protection spec.
Diagnostic Shutdown - Auto Reset	The compressor has been shut down on a diagnostic that may clear automatically.
Inhibited by Start Sequence	GP2 compressor is prevented from running or starting if the respective manifolded GP4 compressor is not running.
Minimum Capacity – High Discharge Temp	The compressor is running with high discharge temperatures and is being forced loaded to its step load point, without regard to the leaving water temperature control, to prevent tripping on high compressor discharge temperature.
Current Limit	The compressor is running and its capacity is being limited by high currents. The current limit setting is 120% RLA (to avoid overcurrent trips) or lower as set by the compressor's "share" of the active current limit (demand limit) setting for the entire chiller.
Hot Start Limit	<p>This mode will occur if the compressor's suction saturated temperature exceeds the Hot Start Threshold Temperature at the point at which the step load for the respective circuit would be desired. This is often the case in a high water temperature pulldown. While in this mode, the compressor will not be allowed to load past its minimum load capacity step, but it will not inhibit other compressors from staging on. This mode is necessary to prevent nuisance trips due to compressor overcurrent or high pressure cutout. Reasonable pulldown rates can still be expected despite this limit, since the compressor's capacity even at partial load is much greater at high suction saturated temperatures.</p> <p>This mode will occur at circuit start, if the evaporator shows to be full of liquid, or if the evaporator entering water temperature is greater than 65F while the outdoor air temperature is greater than 70F. This transient starting mode implies the compressor has begun operation at a speed below the configured "normal" minimum compressor speed, in order to avoid carryover.</p>
Compressor Differential Pressure Limit	The compressor is running and is inhibited to load or unload in order to prevent conditions that would exceed safety trip points. See High Compressor Differential Pressure Limitation spec.
Compressor Pressure Ratio Limit	The compressor is running and is inhibited to load or unload in order to prevent conditions that would exceed safety trip points. See High Compressor Differential Pressure Limitation spec.
Minimum Capacity – Low Differential Pressure	For manifolded compressors only, the Compressor's Low Differential Pressure Protection Integral has risen to 30% of its trip value. This will force load the female load step on that circuit's compressor. Note: This mode can be displayed at a Circuit level as well.

Table 13. Compressor sub-level operating modes – units larger than 300 tons (continued)

Compressor Sub-level Mode	Description
Oil Return Limit	A compressor is in this limit due to low discharge superheat. The oil return solenoid valve will be cycled closed/open which allows the discharge gas temperature and the corresponding discharge superheat to increase, improving oil quality to the compressor.
Locked Out – Cycle Power to Restart	The compressor's AFD is currently locked out due to a Lock Out diagnostic and requires a Power Cycle to reset.
Compressor Unloading	The compressor is in its run unload time. The run unload time must expire before the compressor will shut down. (The unload time is typically about 5 seconds.)
Service Pumpdown	The compressor is currently performing a service pumpdown.
Restart Inhibit min:sec	If there is accumulated Restart Inhibit Time, it must expire before a compressor is allowed to start.

Data Graphs

The AdaptiView™ display can be used to view a variety of default data graphs and to create up to four custom data graphs with up to four data points per graph. The default sample rate is 30 seconds. Default storage duration is 8 days. These rates can be adjusted.

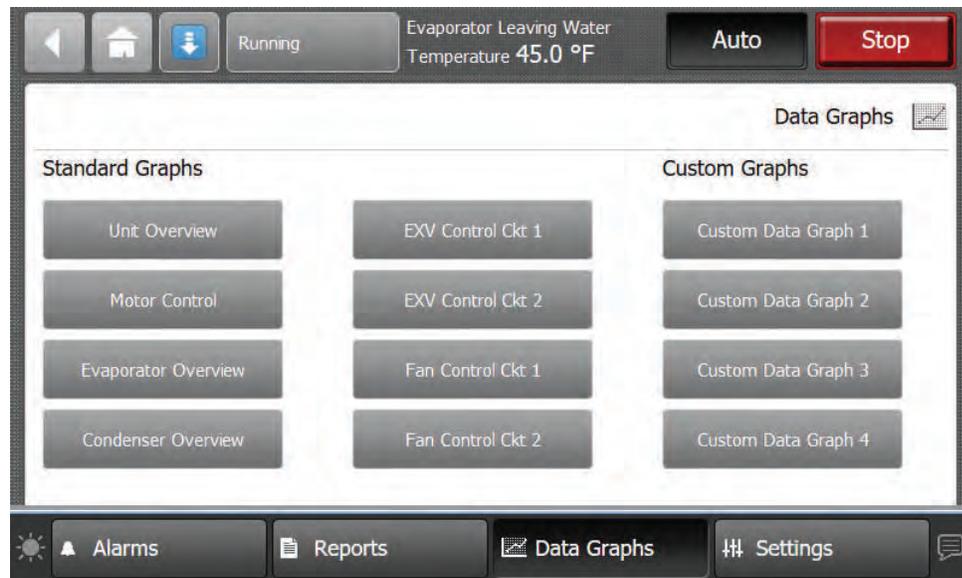
Data Graphs Screen

Touch the **Data Graphs** button in the main menu area to view the Data Graphs screen shown in the following figure. Each button on the screen links to a data graph.

The buttons under the Default Graphs heading for chillers are:

- Unit Overview
- Motor Control
- Evaporator Overview
- Condenser Overview
- EXV Control Ckt 1
- EXV Control Ckt 2
- Fan Control Ckt 1
- Fan Control Ckt 2

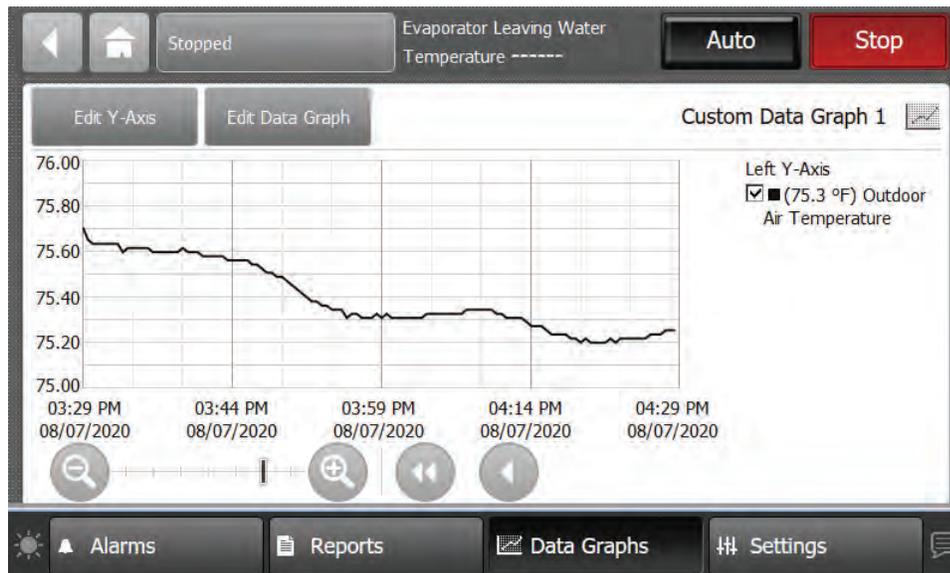
Figure 23. Data Graphs screen



Viewing Data Graphs

On the Data Graphs screen, touch any of the buttons to view a live graph. (The following figure shows Custom Graph 1 as an example). For every graph, the X-axis shows time. The Y-axis presents data points specific to each graph. The data points are listed in the Appendix.

Figure 24. Example of Data Graph (Custom Graph 1 shown)



Changing the Scales on Data Graphs

Changing the Scale of the X-axis

The X-axis scale defaults to the most recent 60 minutes with 15 minutes intervals. Labels appear across the bottom of the graph. The scale can be changed to 20 minutes (minimum) up to 8 days (maximum). Options are as follows:

- 20-minute graph with 5 minute intervals
- 60-minute graph with 15 minute intervals
- 4-hour graph with 1 hour intervals
- 8-hour graph with 2 hour intervals
- 1-day graph with 6 hour intervals
- 4-day graph with 1 day intervals
- 8-day graph with 2 day intervals

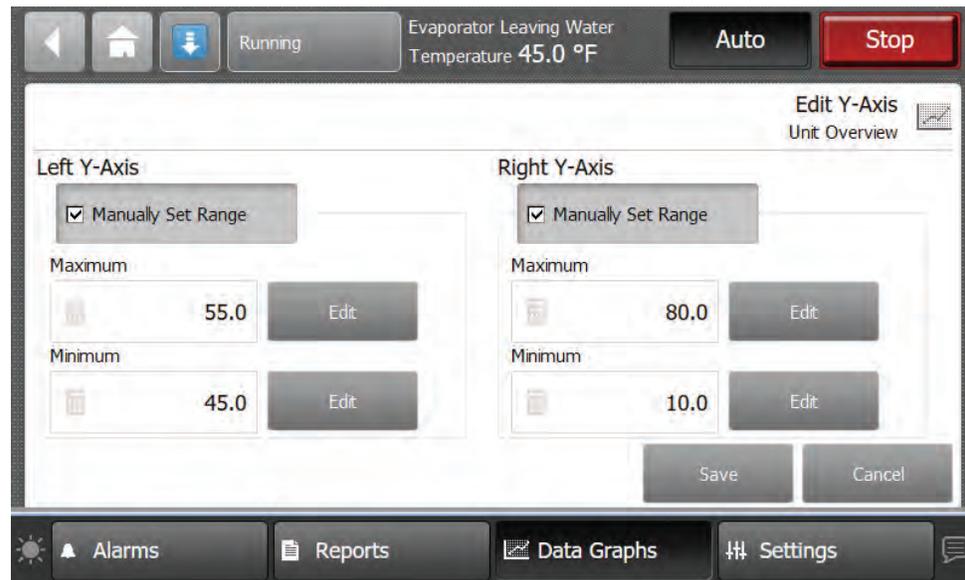
To change the scale, touch the plus or minus button in the magnifying glass in the lower left corner of a data graph that you want to edit. The slider scale moves to the right or left as you touch either the plus or minus button. The time scale for the X-axis changes in response.

Changing the Scale of the Y-axes

The Y-axes scales have a default range that varies for each data graph. You can change the range for each graph.

1. Touch the **Edit Y-Axis** button at the bottom of a data graph that you want to edit. The Set Axis Range screen appears in the following figure. The screen shows the minimum and maximum values for that particular graph.

Figure 25. Set Axis Range screen



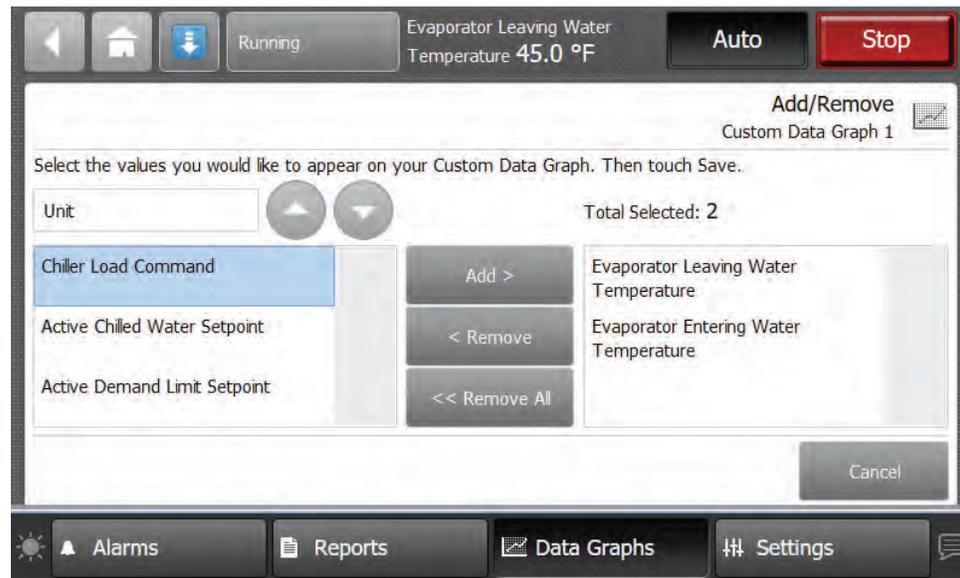
2. Touch the **Manually set values** button under either the Left Y-Axis or Right Y-Axis heading. **Enter number** buttons appear to the right of the minimum and maximum values.
3. Touch the **Enter number** button for the value you want to change. A keypad appears on the screen.
4. Touch the appropriate numbers to change the current value. The new value appears above the keypad.
5. Touch the **Enter** button. The graph you were previously viewing appears with changed maximum and/or minimum values.
6. Touch **Save**. The data graph appears with changed Y-axes scales.

Custom Data Graphs

Creating Custom Data Graph

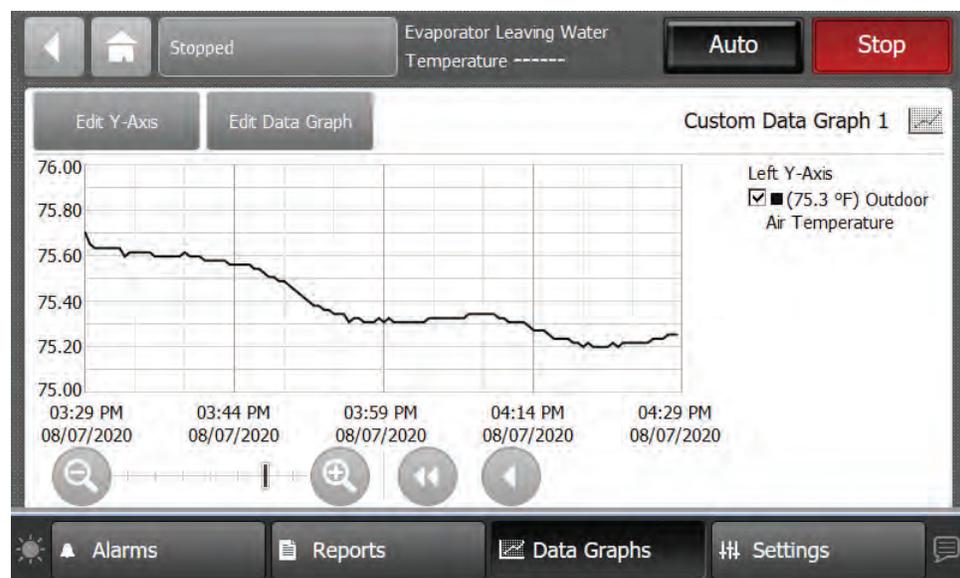
1. Navigate to the Data Graphs screen, then touch one of the **Custom Data Graph** buttons in the right column. The Custom Data Graph screen appears.
2. Touch the **Edit Data Graph** button. The Add/Remove screen will appear.
3. Touch the up/down arrows at the top of the left box on the Add/Remove screen to scroll through a list of chiller subcomponents. The list of items in the box just below the up/down arrows changes to correspond to the subcomponent choice. (For reference, these items are listed in the Appendix.)

Figure 26. Add/Remove screen example



4. Choose points to include in the custom data graph as follows:
 - To add one item at a time, touch the item in the left box. It responds by changing to blue. Touch **Add** to move the selected item to the right box.
 - To remove one item at a time, touch the item in the right box. It responds by changing to blue. Touch **Remove** to move the selected item to the left box.
 - To remove all of the items in the right box to the left box, touch **Remove All**. A confirmation screen appears, asking you to verify your request.
5. When data point selections are complete, touch the **Save** button. The Edit Data Graph screen appears, which reflects the selected values. Touch the **View Data Graph** button to display the new graph.

Figure 27. Custom data graph example

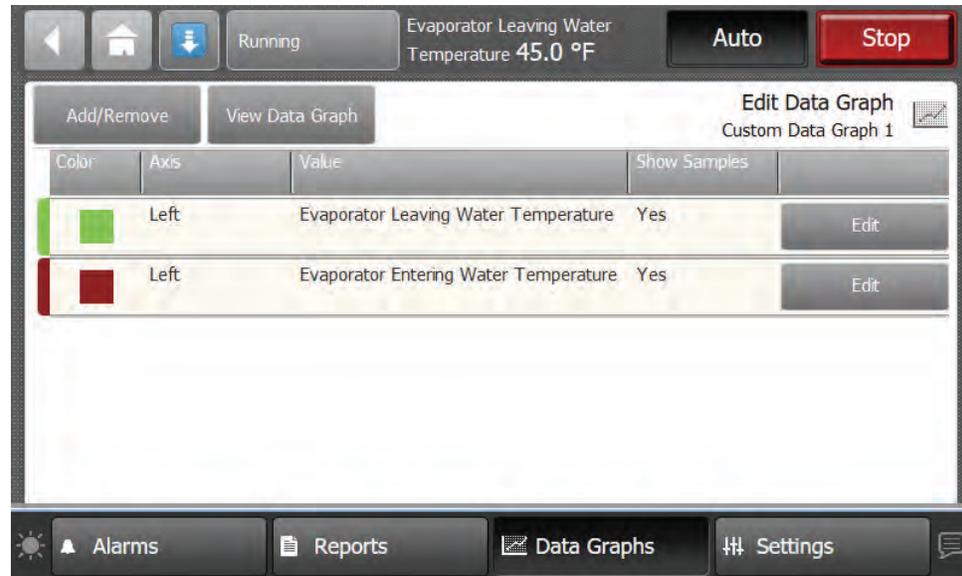


Editing Custom Data Graphs

Custom data graphs may be edited by:

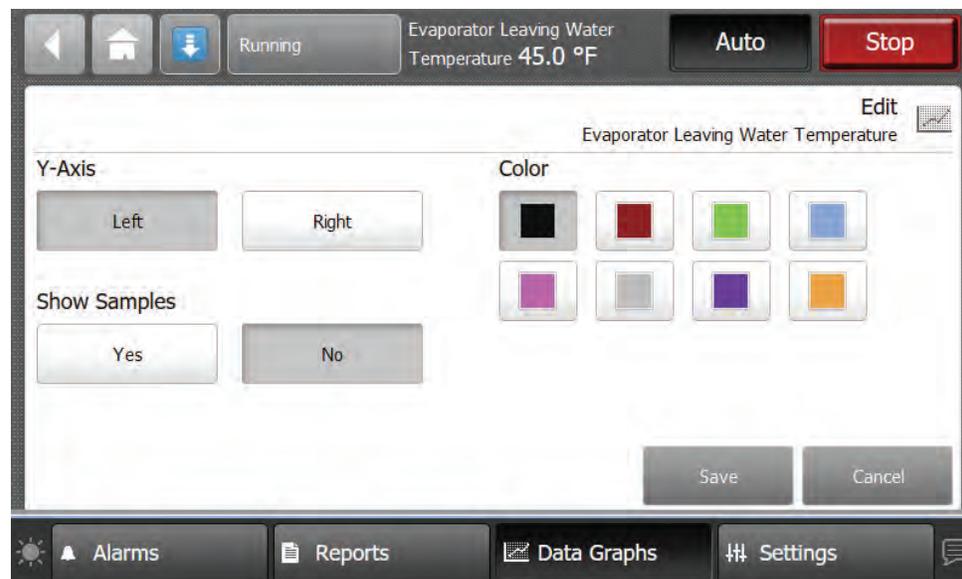
- Changing the axis scales
 - Changing Y-axis location between left and right
 - Changing line color
 - Selecting whether to Show Samples (yes/no)
1. Use the Edit Data Graph screen to modify the data graph. To edit a data point, touch the **Edit** button that corresponds to the value that you want to change. Only one value can be edited at a time.

Figure 28. Edit Data Graph screen (after values have been added)



2. From the Edit screen, you can choose which Y-axis to display the value, a color, and whether or not to show data samples. Touch **Save** button when finished.

Figure 29. Customizing the data graph



3. Repeat the process with remaining values.

Equipment Settings

A variety of equipment settings can be viewed and changed using the AdaptiView™ display.

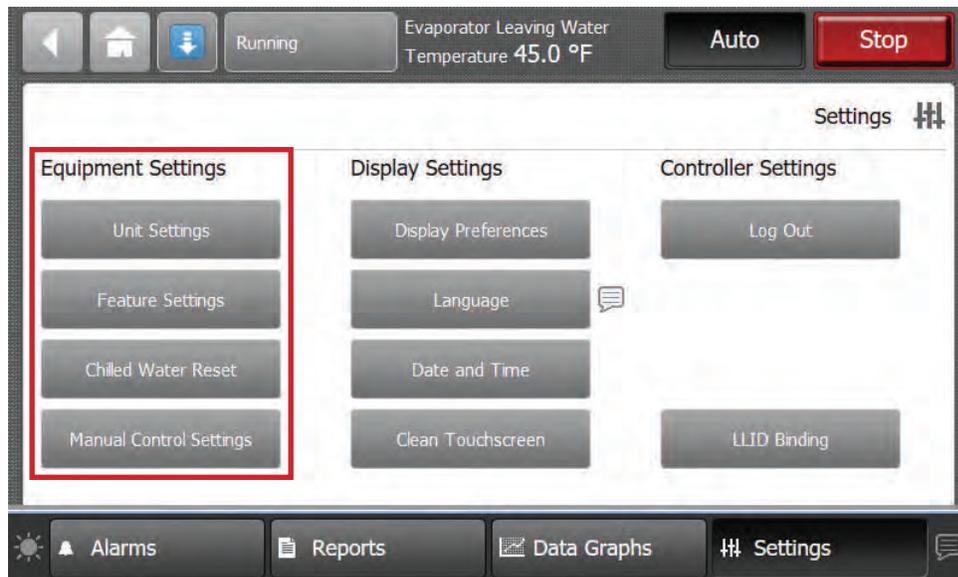
Settings Screen

Touch the **Settings** button in the main menu area to view the Settings screen. *Equipment Settings* identifies a column of buttons located on the screen. The buttons are:

- Unit Settings
- Feature Settings
- Chilled Water Reset
- Manual Control Settings

Each of these buttons provide access to a screen that contains additional buttons related to each topic. This section provides detailed information about these screens.

Figure 30. Settings screen with the Equipment Settings column highlighted

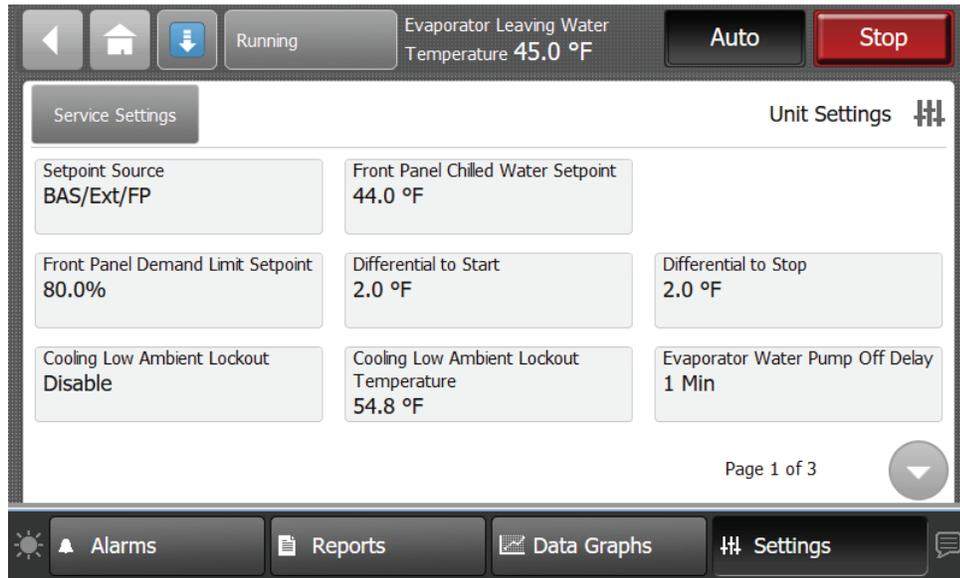


Viewing and Changing Equipment Settings

Each button in the Equipment Settings column on the Settings screen takes you to a menu screen that contains a group of buttons. Each button displays the name of a setting and its current value (refer to the following figure). Touch any button to view a screen where you can change the setting for the feature shown on the button.

Note: A page number appears in the lower right corner of the screen. If a screen contains more than one page, up/down arrows also appear for viewing the other pages, as in the following figure.

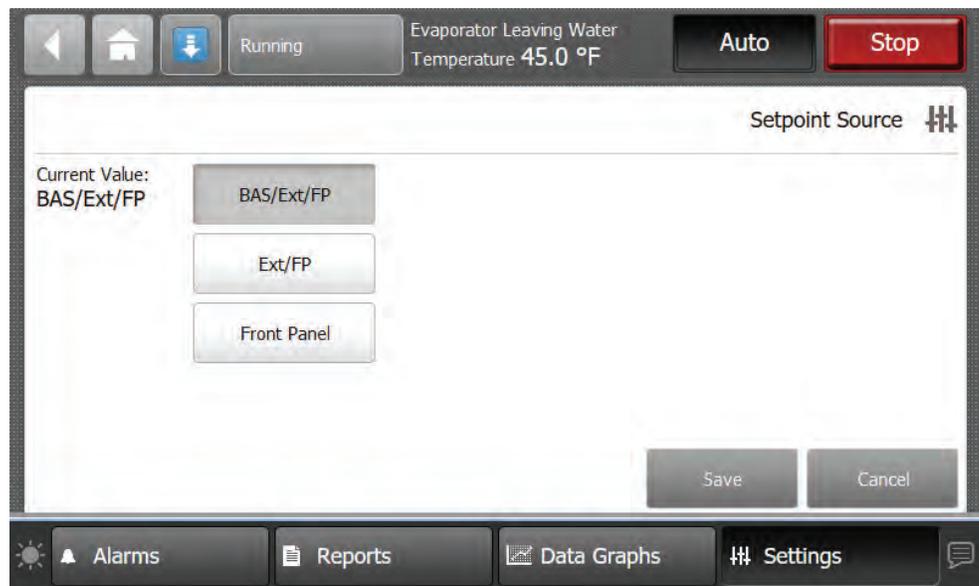
Figure 31. Example equipment settings screen (Unit Settings shown)



To change an equipment setting, follow this procedure:

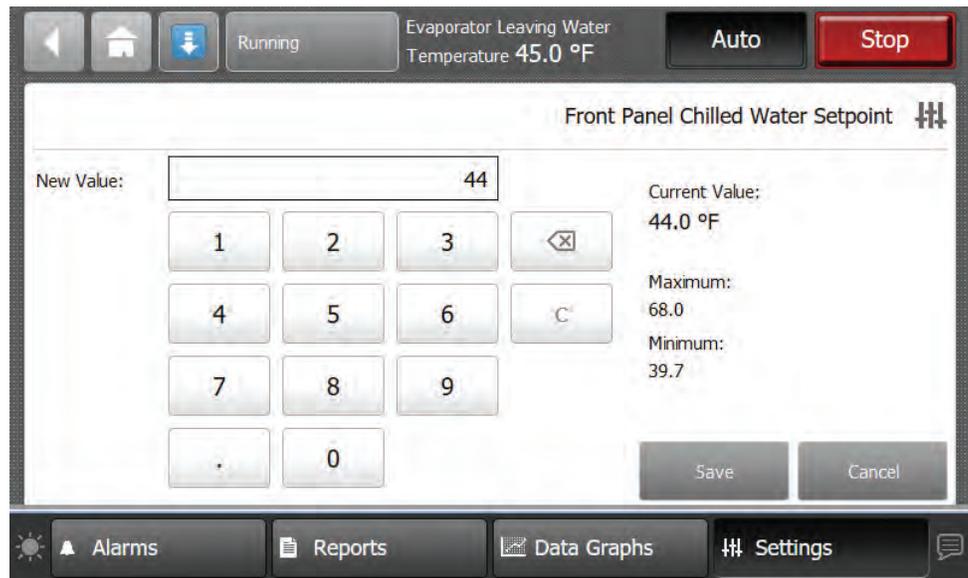
1. Touch one of the buttons in the Equipment Settings column on the Settings screen, such as Unit Settings. The corresponding screen appears (in this case, the Unit Settings screen).
2. Touch the button that shows the equipment setting you want to change. A screen that allows you to change the equipment setting appears. There are two types of these screens:
 - For screens with button selections, touch the button that represents the setting you want. The button becomes shaded, and a **Save** button appears at the bottom of the screen as shown in the following figure.

Figure 32. Example equipment settings screen with buttons for changing setting



- For screens with numerical keypads, touch the appropriate numbers to change the current value as shown in the following figure. The new value appears above the keypad.

Figure 33. Example equipment settings screen with keypad for changing setting



Keypad features:

- When you enter a new number, the value in the **New value** field is deleted and replaced with the new entry.
 - The backspace (arrow) key deletes the characters you previously entered.
 - If the keypad is used to enter a setpoint that is out of range, an error dialog will appear when you touch the **Save** button.
 - Keypads that allow negative numbers have positive and negative number (+/-) keys.
3. Touch **Save** to complete the change. The current value is updated in the upper left side of the screen, demonstrating that the change has been communicated to the controller. The screen you were previously viewing appears.

Note: *Manual Control Settings screens have Apply buttons in addition to Save buttons. Touching Apply is the same as touching Save, except that you remain at the current screen after the change is communicated to the controller.*

Unit Settings

The following table lists the settings that are available as buttons on the Unit Settings menu screen, along with their corresponding setting options. The chiller configuration determines which of the settings appear.

Table 14. Unit Settings menu screen: Buttons and available setting options – 150 to 300 ton units

Setpoint Source BAS/Ext/FP Ext/FP Front Panel	Front Panel Chilled Water Setpoint XX.X °F/C	
Front Panel Demand Limit Setpoint XXX.X %	Differential to Start XX.X °F/C	Differential to Stop XX.X °F/C
Cooling Low Ambient Lockout Enable/Disable	Cooling Low Ambient Lockout Temperature XX.X °F/C	Evaporator Water Pump Off Delay XX Min
Front Panel Ice Building Command Off/On	Ice Termination Setpoint XX.X °F/C	
Front Panel Noise Reduction Request Off/On	Noise Reduction Cond Fan Speed Clamp XXX.X °F/C	



Equipment Settings

Table 14. Unit Settings menu screen: Buttons and available setting options – 150 to 300 ton units (continued)

Power-Up Start Delay XXX Sec	Chiller Power Demand Time Period XX Min	
Front Panel Free Cooling Command Off/Auto	Free Cooling Target Offset XXX.X °F/C	

Table 15. Unit Settings menu screen: Buttons and available setting options – units larger than 300 tons

Setpoint Source BAS/Ext/FP Ext/FP Front Panel	Front Panel Chilled Water Setpoint XX.X °F/C	Auxiliary Chilled Water Setpoint XX.X °F/C
Front Panel Demand Limit Setpoint XXX.X %	Differential to Start XX.X °F/C	Differential to Stop XX.X °F/C
Cooling Low Ambient Lockout Enable/Disable	Cooling Low Ambient Lockout Temperature XX.X °F/C	
Evaporator Water Pump Off Delay XX Min		
Front Panel Ice Building Command Off/On	Ice Termination Setpoint XX.X °F/C	
Front Panel Noise Reduction Request Off/On	Noise Reduction Cond Fan Speed Clamp XXX.X °F/C	
Power-Up Start Delay XXX Sec	Chiller Power Demand Time Period XX Min	

Service Settings

The following table lists the settings that are available as buttons on the Service Settings menu screen, along with their corresponding setting options. The chiller configuration determines which of the settings appear.

Important: Service settings screen should ONLY be used by experienced service personnel.

Table 16. Service Settings menu screen: Buttons and available settings options – 150 to 300 ton units

Demand Limit Startup Target XXX.X %	Demand Limit Softload Time XXXX Sec	Capacity Control Softload Time XXXX Sec
Local Atmospheric Pressure XX.X PSIA/kPaA		
High Evaporator Water Temp Cutout XX.X °F/C	Low Evaporator Water Temp Cutout XX.X °F/C	Low Refrigerant Temperature Cutout XX.X °F/C
Free Cooling Rated Capacity XXXX.X %	Free Cooling Valve Control Fan Speed XXX.X%	
Condenser Pressure Limit Setpoint XXX.X %		
Variable Vi Switchover Deadband X.XXX	Variable Vi Anti-recycle Time Setting XXX Min	

Table 17. Service Settings menu screen: Buttons and available settings options – units larger than 300 tons

Chilled Water Control Feedforward Gain XXXX.XXX	Modulation Proportional Gain XX.XXX	Modulation Integral Time XXXX.X Sec
Control Staging Time XXXX Sec	Stage On Control Level XXX.X %	Stage Off Control Level XXX.X %
Demand Limit Startup Target XXX.X %	Demand Limit Softload Time XXXX Sec	Capacity Control Softload Time XXXX Sec
Cooling Design Delta Temp (Waterside) XX.X °F/C	Limit Relay Filter Time XXXX Sec	Head Relief Relay Filter Time XXXX Sec

Table 17. Service Settings menu screen: Buttons and available settings options – units larger than 300 tons (continued)

Chiller Service Enable Enable/Disable	Compressor Service Enable Enable/Disable	Evap Water PumpService Enable Enable/Disable
Operational Pumpdown Enable Enable/Disable	Inverted Water Temp Diagnostic Severity Warning/Normal Shutdown	Rapid Restart Enable/Disable
Local Atmospheric Pressure XX.X PSIA/kPaA	Condenser Rfgt Tank Valve Open Delay XX Sec	
User Cmd Min Capacity Cprsr1A Enable/Disable	User Cmd Min Capacity Delay Time Cpsr1A XXX Sec	
User Cmd Min Capacity Cprsr1B Enable/Disable	User Cmd Min Capacity Delay Time Cpsr1B XXX Sec	
User Cmd Min Capacity Cprsr2A Enable/Disable	User Cmd Min Capacity Delay Time Cpsr2A XXX Sec	
User Cmd Min Capacity Cprsr2B Enable/Disable	User Cmd Min Capacity Delay Time Cpsr2B XXX Sec	
High Evaporator Water Temp Cutout XX.X °F/C	Low Evaporator Water Temp Cutout XX.X °F/C	
Low Refrigerant Temperature Cutout XX.X °F/C	LERTC Integral Trip Setpoint XXXX.X °F/C	
Evap Flow Overdue Wait Time XXXX Sec		
Evap Min Speed Water Pressure Gain XXX.XXX	Evap Min Speed Water Pressure Reset Time XXX Sec	Evap Min Speed Water Pressure Deadband XX.XXX PSID/kPaD
Low Rfgt Temp Limit Proportional Gain XXX.XXX	Low Rfgt Temp Limit Integral Time XXX Sec	
Evap Pool Temp Diagnostic Threshold Ckt1 XX.X °F/C	Evap Pool Temp Diagnostic Threshold Ckt2 XX.X °F/C	
EXV Pre-Position Setpoint XXX.X %	EXV Pre-Position Hold Time XX Sec	
EXV Equalization Off Mode Start Diff Press XX.XX PSID/kPaD	EXV Equalization Term Diff Press XX.XX PSID/kPaD	EXV Equalization Term Diff Press Rate X.XX PSID/kPaD
EXV Equalization Term Time XXXX Sec	EXV Equalization in Off Mode Enable/Disable	EXV Equalization Flow Command XXX.X %
Hot Start Threshold Temperature XXX.X °F/C		
Oil Return Limit Enable Enable / Disable	Oil Return Valve Minimum On/Off Time XXXX Sec	
GP4 Oil Return Valve Normal Pos Ckt1 XXX.X%	GP4 Oil Return Valve Minimum Pos Ckt1 XXX.X %	
GP4 Oil Return Valve Normal Pos Ckt2 XXX.X%	GP4 Oil Return Valve Minimum Pos Ckt2 XXX.X %	
Air Coil Correction XXX.XXX	Damping Coefficient XXX.X %	
Condenser Subcooling Integral Time XXX Sec	Condenser Subcooling Tracking Time XXX Sec	Condenser Subcooling Proportional Gain X.XXX
Part-Load Efficiency Optimization Enable Enable / Disable	Part-Load Efficiency Setpt Settling Time XXX Sec	Part-Load Efficiency Integral Gain XXXXX.XXX
Condenser Pressure Limit Setpoint XXX.X %	HPC Limit Proportional Gain XXX.XXX	HPC Limit Integral Time XXX Sec
Compressor Minimum Speed XXXX.X RPM	Compressor Maximum Speed XXXX.X RPM	AFD Running RLA Setpoint XXX.X %

Equipment Settings

Table 17. Service Settings menu screen: Buttons and available settings options – units larger than 300 tons (continued)

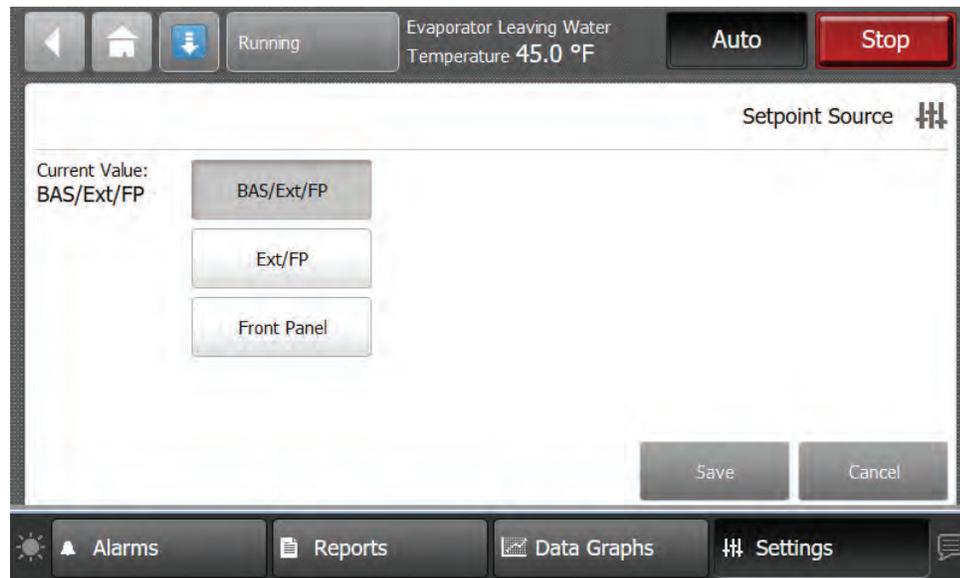
Under/Over Voltage Protection Enable Enable / Disable	Current Limit Ti XXX.X Sec	Current Limit Kp X.XXX
Restart Inhibit Diagnostic Enable / Disable	Restart Inhibit Free Starts X	Restart Inhibit Start to Start Time XX Min
Low Disch Superheat Trip Setpt Cprsr1A XX.X °F/C	Low Disch Superheat Trip Setpt Cprsr1B XX.X °F/C	
Low Disch Superheat Trip Setpt Cprsr2A XX.X °F/C	Low Disch Superheat Trip Setpt Cprsr2B XX.X °F/C	
Variable Vi Switchover Deadband X.XXX	Variable Vi Anti-recycle Time Setting XXX Min	
Winding Temp Diagnostic Severity Motor 1A Normal Shutdown Warning None	Winding Temp Diagnostic Severity Motor 2A Normal Shutdown Warning None	

Setpoint Source

Allows selection of the active source of setpoints and settings:

- **BAS** – Result of arbitration from external controls (For example: Tracer® SC+, TGP2, 3rd party system control).
- **External** – Isolates unit setpoints and settings to local wired or wireless sources. Removes BAS Sources.
- **Front Panel** – Isolates unit to TD7 display setpoints and settings. Removes External and BAS sources.

Figure 34. Setpoint Source screen



Feature Settings

The following table lists the settings that are available as buttons on the Feature Settings menu screen, along with their corresponding setting options. The chiller configuration determines which of the settings appear.

Table 18. Feature Settings menu screen: Buttons and available setting options — all unit sizes

Ext Chilled/Hot Water Setpoint Enable Enable/Disable	External Demand Limit Setpoint Enable Enable/Disable	
Staging Sequence Balanced Circuit 1 Lead Circuit 2 Lead		
Ice Building Feature Enable Enable/Disable		

Chilled Water Reset

Table 19. Chilled Water Reset menu screen: buttons and available setting options

Chilled Water Reset Type Disable/Return/Outdoor Air/Constant		
Return Water Reset Ratio XXX.X%	Return Water Start Reset XXX.X °F/C	Return Water Maximum Reset XXX.X °F/C
Outdoor Air Reset Ratio XXX.X%	Outdoor Air Start Reset XXX.X °F/C	Outdoor Air Maximum Reset XXX.X °F/

Manual Control Settings

150 to 300 Ton Units

Table 20. Manual Control settings menu screen: buttons, available setting options, and status points — 150 to 300 ton units

Manual Capacity Control Auto / Manual	Evaporator Water Pump Override Auto / On	Clear Energy Consumption XXXX kWh
Free Cooling Valve Override Auto / Manual	Free Cooling Bypass Valve Override Auto / Manual	

Table 21. Manual Control settings menu screen — 150 to 300 ton units, circuit 1

Front Panel Circuit Lockout Ckt1 Not Locked Out / Locked Out	EXV Manual Control Override Ckt1 Auto / Manual	Service Pumpdown Command Cprsr1A Abort / Start
Compressor Vi Manual Control Ckt1 Auto / Manual	Drive Cooling Bypass Valve Override Ckt1 Auto / Manual	

Table 22. Manual Control settings menu screen — 150 to 300 ton units, circuit 2

Front Panel Circuit Lockout Ckt2 Not Locked Out / Locked Out	EXV Manual Control Override Ckt2 Auto / Manual	Service Pumpdown Command Cprsr2A Abort / Start
Compressor Vi Manual Control Ckt2 Auto / Manual	Drive Cooling Bypass Valve Override Ckt2 Auto / Manual	

Units Larger than 300 Tons

Table 23. Manual Control settings menu screen: buttons, available setting options, and status points — units larger than 300 tons

Manual Capacity Control Auto / Manual	Evaporator Water Pump Override Auto / On	Clear Energy Consumption XXXX kWh
--	---	--------------------------------------

Equipment Settings

Table 24. Manual Control settings menu screen — units larger than 300 tons, circuit 1

Front Panel Circuit Lockout Ckt1 Not Locked Out / Locked Out	EXV Manual Control Override Ckt1 Auto / Manual	
Front Panel Compressor Lockout Cprsr1A Not Locked Out / Locked Out	Service Pumpdown Command Cprsr1A Abort / Start	
Front Panel Compressor Lockout Cprsr1B Not Locked Out / Locked Out	Service Pumpdown Command Cprsr1B Abort / Start	
Vi Manual Control Override Cprsr 1A Auto / Manual	Drive Cooling Byp Valve Override Cprsr1A Auto / Manual	

Table 25. Manual Control settings menu screen — units larger than 300 tons, circuit 2

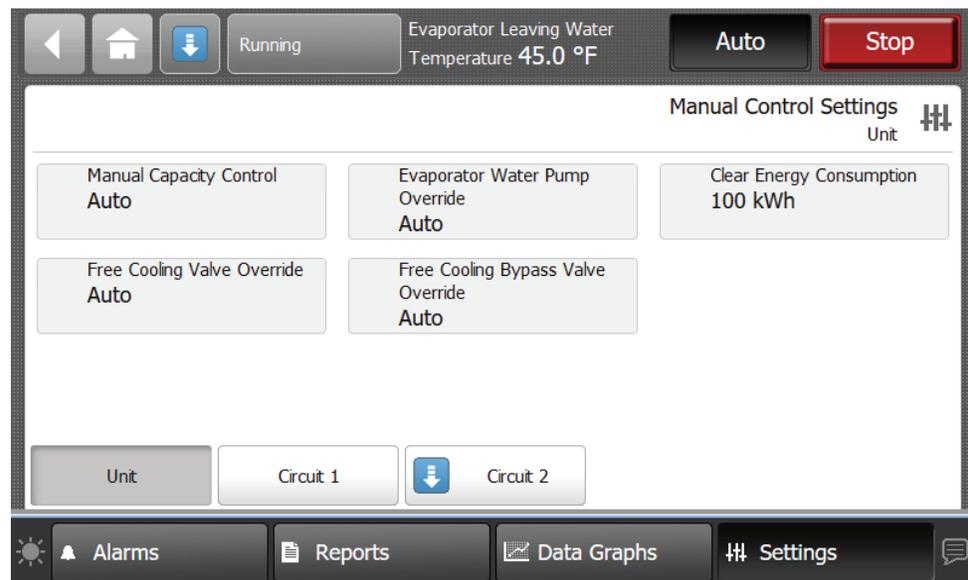
Front Panel Circuit Lockout Ckt2 Not Locked Out / Locked Out	EXV Manual Control Override Ckt2 Auto / Manual	
Front Panel Compressor Lockout Cprsr2A Not Locked Out / Locked Out	Service Pumpdown Command Cprsr2A Abort / Start	
Front Panel Compressor Lockout Cprsr2B Not Locked Out / Locked Out	Service Pumpdown Command Cprsr2B Abort / Start	
Vi Manual Control Override Cprsr 2A Auto / Manual	Drive Cooling Byp Valve Override Cprsr2A Auto / Manual	

Changing a Manual Control Setting

To change a manual control setting:

1. In the Equipment Settings column on the Settings screen, touch **Manual Control Settings**. The Manual Control Settings screen appears as shown in the following figure.

Figure 35. Manual Control Settings screen

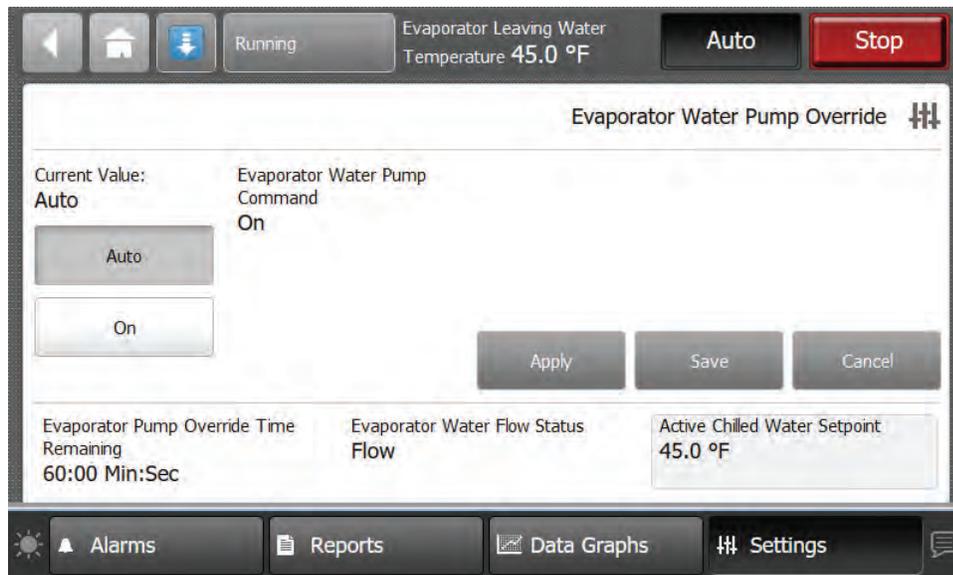


2. Touch the button that shows the manual control setting you want to change. A screen for changing the manual control setting appears as shown in the following figure.
3. Touch the button that represents the setting you want. The button becomes shaded and **Apply** and **Save** buttons appear at the bottom of the screen.

Note: The Compressor Control Signal screen provides up/down arrow keys and numerical fields for selecting a value.

4. To save your change, do one of the following:
 - Touch **Apply**. The change is communicated to the Symbio™ 800 controller. You can observe the status points in the lower half of the screen change in response to the setting change you just made. Also, a Manual Override button appears in the upper left corner of the screen (refer to the following figure).
 - Touch **Save**. The change is communicated to the Symbio™ 800 controller. The screen you were previously viewing appears.

Figure 36. Manual Control Settings detail screen



Display Settings

The Tracer® AdaptiView™ display can be used to change the format of the information that appears on the display, and to clean the touch screen.

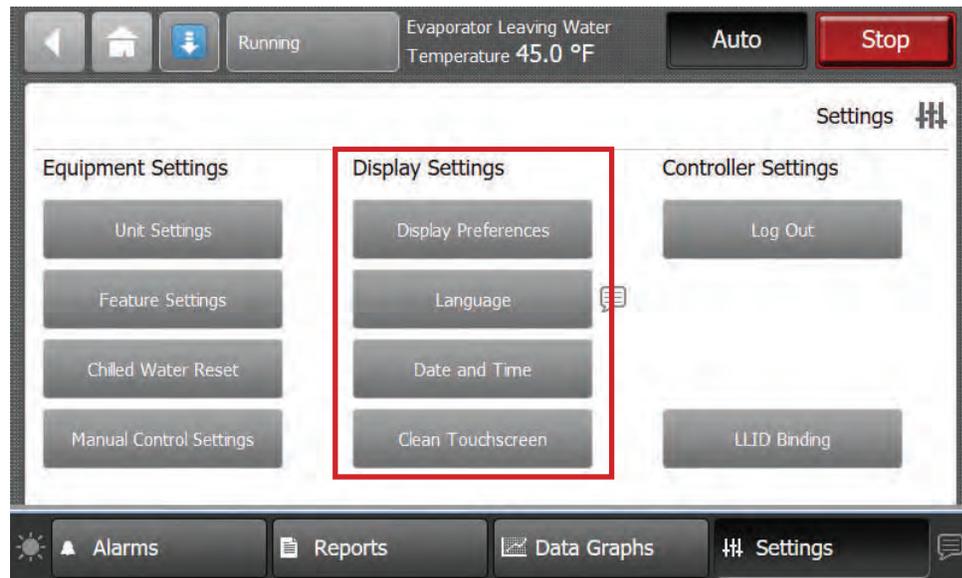
Settings Screen

Touch the **Settings** button in the main menu area to view the Settings screen. *Display Settings* identifies a column of buttons located on the screen as shown in the following figure. The buttons are:

- Display Preferences
- Language
- Date and Time
- Clean Touchscreen

Each button provides access to a screen that is related to the button name.

Figure 37. Settings screen with the Display Settings column highlighted

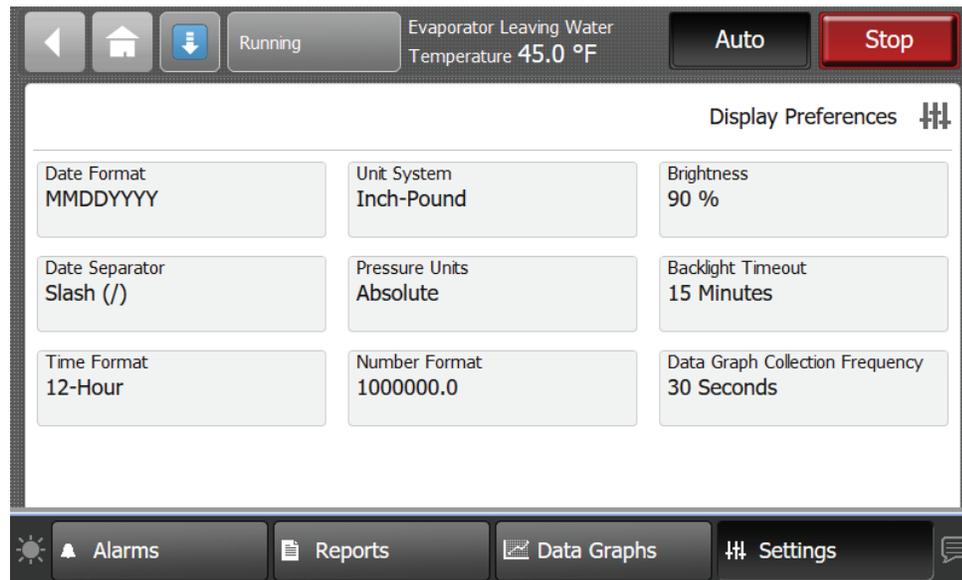


Viewing and Changing Display Preferences

On the Settings screen, touch **Display Preferences** to view a screen containing the following buttons.

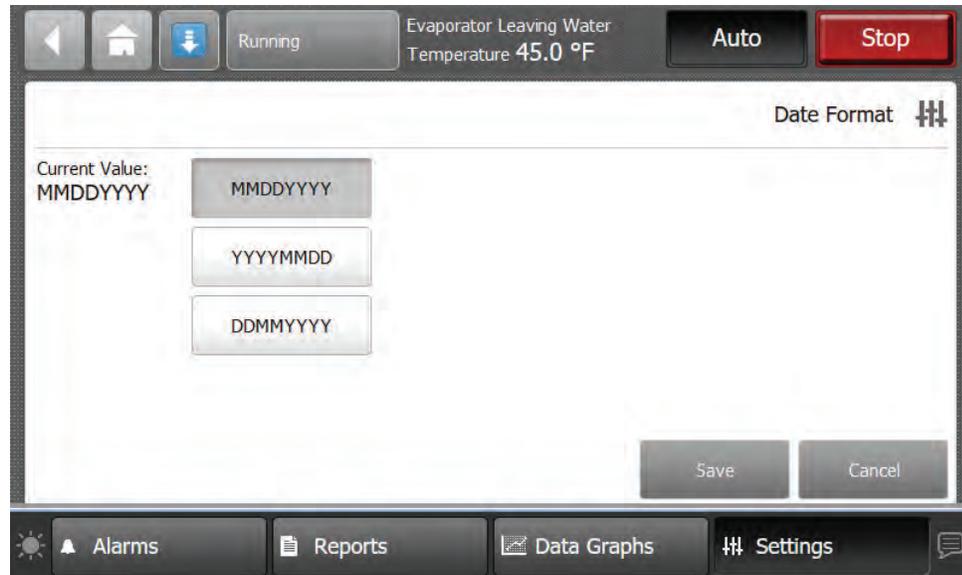
- Date Format
- Date Separator
- Time Format
- Unit System
- Pressure Units
- Number Format
- Brightness
- Backlight Timeout
- Data Graph Collection Frequency

Figure 38. Display Preferences screen



Each of the buttons in the previous figure shows the name of a display preference and its format (current value). Touch any of these buttons to view a screen where you can change the format. (Refer to the following figure for an example.) The button representing the format currently used is shaded (see the “MMDDYYYY” button).

Figure 39. Example of Display Preference screen



To change the format:

1. Touch the button that shows that format you prefer.
2. Touch **Save** to confirm your selection and to return to the Display Preferences screen.

Date Format

Use the Date Format screen to choose from the following date formats:

- MMDDYYYY (default)
- YYYYMMDD

- DDMMYYYY

Date Separator

Use the Date Separator screen to choose from the following date formats:

- None
- Slash (/) (default)
- Hyphen (-)
- Period (.)
- Underscore (_)

Time Format

Use the Time Format screen to choose from the following time formats:

- 12-Hour (default)
- 24-Hour

Unit System

Use the Unit System screen to choose from the following display units:

- SI
- Inch-Pound (default)

Pressure Units

Use the Pressure Units screen to choose from the following pressure units:

- Absolute (default)
- Gauge

Number Format

- 1000000.0 (default)
- 1000000,0

Brightness

Use the numerical keypad on the Brightness screen to change the brightness of the screen. (The default is 90%.)

Backlight Timeout

Use the numerical keypad on the Backlight Timeout screen to change the number of minutes of inactivity that pass until the screen dims. (The default is 15 minutes, and maximum value is 30 minutes.)

Data Graph Collection Frequency

30 seconds (default)

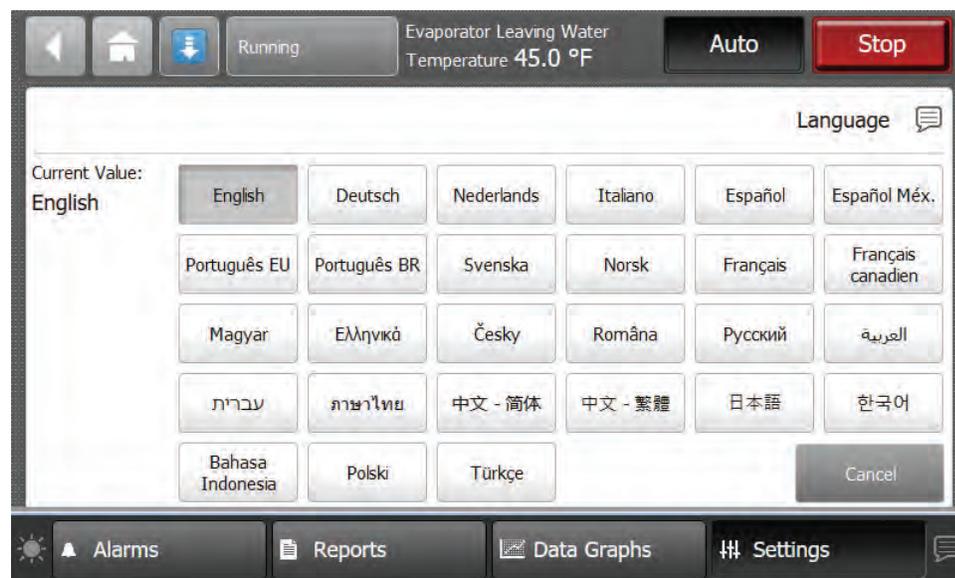
Viewing and Changing the Language Preference

On the Settings screen, touch **Languages** to view a screen containing the following buttons (refer to the following figure):

- Arabic (Gulf Regions)
- Chinese—China
- Chinese—Taiwan
- Czech
- Dutch
- English
- French
- French (Canada)
- German

- Greek
- Hebrew
- Hungarian
- Indonesian
- Italian
- Japanese
- Korean
- Norwegian
- Polish
- Portuguese (Portugal)
- Portuguese (Brazil)
- Russian
- Romanian
- Spanish (Europe)
- Spanish (Latin America)
- Swedish
- Thai
- Turkish

Figure 40. Language screen



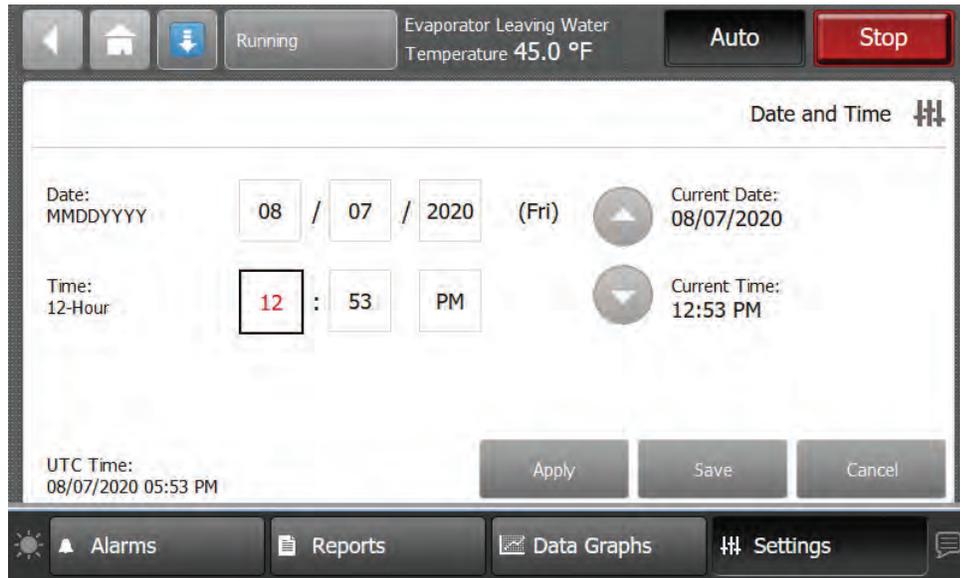
1. Touch the button that identifies the language you prefer.
2. Touch **Save** to confirm your selection and to return to the Settings screen.

Viewing and Changing Date and Time Preferences

Touch the **Date and Time** button to open the associated screen. To enter a new date or time: Touch the digit you want to change. When enabled for editing, the digit will appear red with a black border. when finished, touch **Apply** or **Save**.

OR

Tap the digit twice which opens the keypad screen where you can make date and time entries. When finished, touch **Enter**; you will be returned to the Date and Time screen. Touch **Apply** or **Save**.

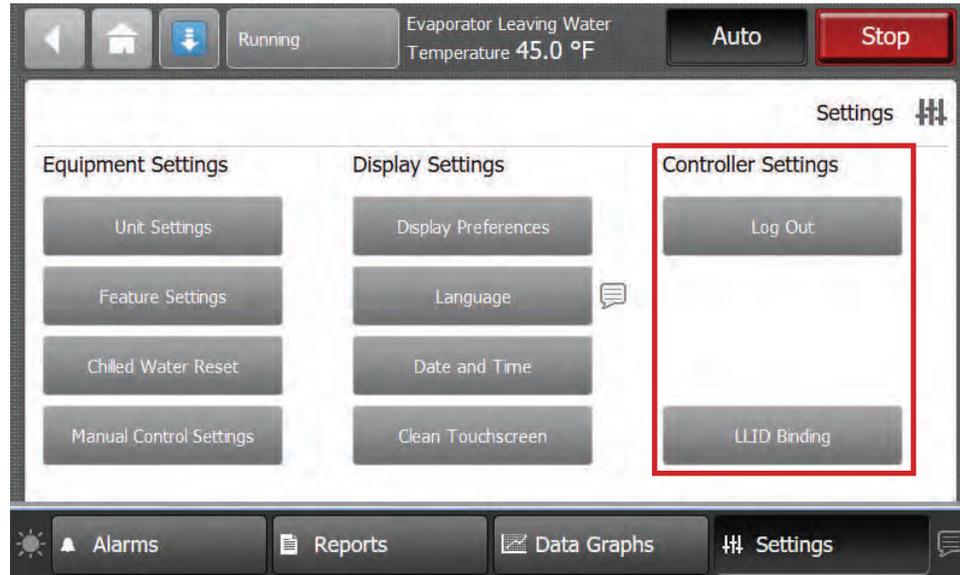
Figure 41. Date and Time screen

Controller Settings

Controller Settings Screen

Touch the **Settings** button in the main menu area to view the Settings screen. *Controller Settings* identifies a column of buttons located on the screen as shown in the following figure.

Figure 42. Equipment Settings screen with the Controller Settings column highlighted



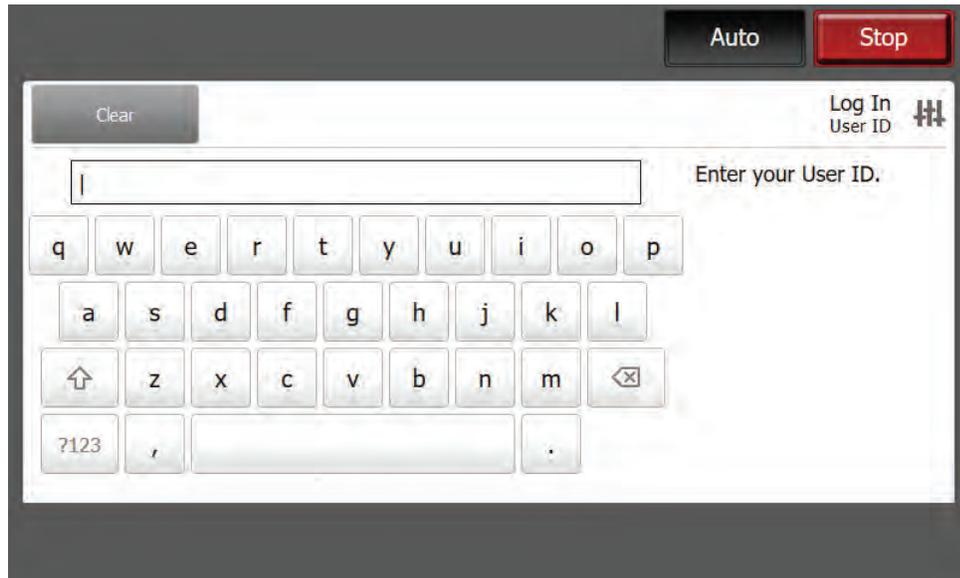
Log In

By default, security for the display connection is disabled and the Log In screen is hidden. When security is enabled for the display connection, the display will show the Log In screen. A valid User ID and Password is required to access the status and settings on the display.

Both the User ID and Password screen display the virtual keyboard. The user IDs, passwords, and password complexity are configured by the Symbio™ UI and can't be configured using the display.

Log In – User ID Screen

To Log In enter a valid User ID. Press Next button to complete the User ID entry and navigate to the Password screen. Press the Clear to erase the User ID.

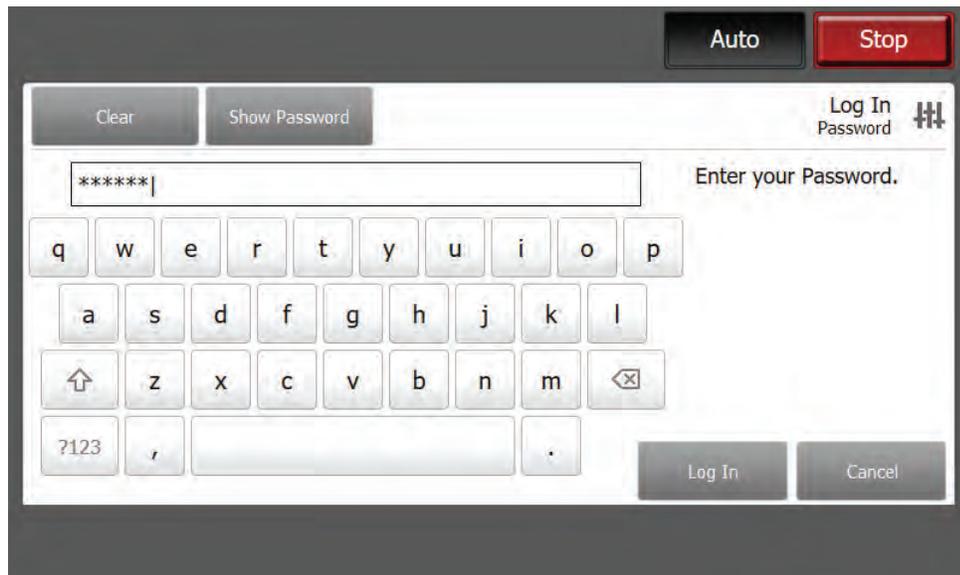
Figure 43. User ID screen


Log In – Password Screen

Enter a valid User ID and Password to unlock the display. Press Log In to complete the Password entry.

- Press **Show Password** to make the characters entered visible
- Press **Hide Password** to display characters as an asterisks (*).
- Press **Cancel** to return to the User ID screen.
- Press **Clear** to erase the Password.

Entering a valid combination of User ID and Password the display will navigate to the home page. Entering an invalid combination of User ID and password causes the display to show the error message **“The User ID and/or Password is not valid.”** and the display will remain on the Password Screen.

Figure 44. Password screen


Log Out

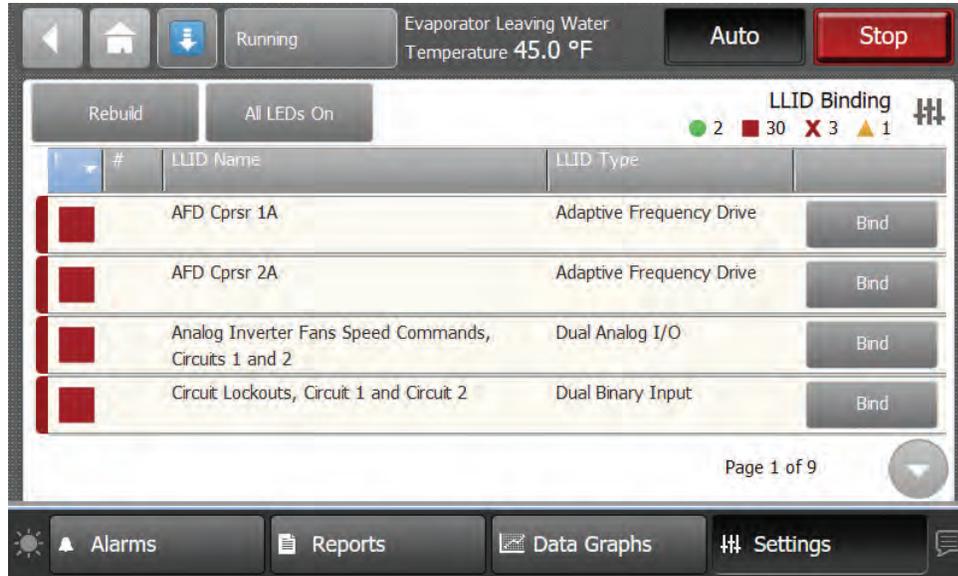
This button logs out the currently logged in user. Users are automatically logged out when the backlight times out. The button is only displayed when Security is enabled via Symbio™ UI.

LLID Binding

LLID binding screen provides the capability to bind and unbind LLIDs, similar to Tracer® TU.

Important: LLID binding screen should ONLY be used by experienced service personnel.

Figure 45. LLID Binding screen





Troubleshooting

The following table contains information to help troubleshoot the Tracer® AdaptiView™ displays.

Table 26. Common error messages with possible causes and solutions

Issue — Error Message Text	Possible Causes/Solutions
Symbio™ 800 Configuration is Invalid	Configuration on the controller is invalid. Symbio 800 configuration must be updated with Tracer® TU service tool.
Communication Lost	Communications were established with the controller, but since have been lost. Try the following: <ul style="list-style-type: none"> • Check power and communications cables between Symbio 800 and display. • Touch Restart. • Update the Symbio 800 software with the service tool.
Display Failed to Establish Communication	Communications were never established with the controller. Check power and communication cables. The display will try to establish communication: <i>X (countdown timer in seconds)</i>
File Not Found	Files missing from the file system Update the Symbio 800 software with the service tool.
Confirm Restart of Display	To optimize performance, the display will restart: <i>X (countdown timer in seconds)</i> <ul style="list-style-type: none"> • Touch Yes to restart immediately. • Touch No to delay restart for 24 hours.
The display is about to restart	The display needs to restart due to a controller reset. A 10 second countdown will occur before restart. Touch Yes to restart immediately. <i>X (countdown timer in seconds)</i>
Updating Data	The Symbio 800 Registry revision number increments, the point data needs to be reinitialized, or the Backlight Timeout activates. The display is unavailable while updating data.



Appendix: Chiller Data

The following lists contain all of the data available for viewing on a Tracer® AdaptiView™ display that is connected to a Ascend™ Model ACR chiller.

Subcomponent Screen Data

Chiller configuration determines which of the following settings and status points appear on the display.

Table 27. Evaporator data — 150 to 300 ton units

Active Chilled Water Setpoint XXX.X °F/C	Evaporator Entering Water Temperature XXX.X °F/C	Evaporator Leaving Water Temperature XXX.X °F/C
Evaporator Water Pump Override Auto/On	Evaporator Water Flow Status Flow/No Flow	Evaporator Approach Temperature CktX XX.X °F/C
Evaporator Refrigerant Pool Temp CktX XXX.X °F/C	Evaporator Saturated Rfgt Temp CktX XXX.X °F/C	Evaporator Refrigerant Pressure CktX XXX.X PSI/kPa
Evap and Oil Return Signal CktX XXX.X %	Evap and Oil Return Target CktX XXX.X %	Evap Spillover Tank Liquid Level CktX XXX.X in/mm
EXV Percent Open XXX.X %		
Free Cooling Capacity XXX.X %	Free Cooling Valve Percent Open XXX.X %	Free Cooling Bypass Valve Percent Open XXX.X %
Free Cooling Entering Water Temperature XXX.X °F/C		

Table 28. Evaporator data — units larger than 300 tons

Active Chilled Water Setpoint XXX.X °F/C	Evaporator Entering Water Temperature XXX.X °F/C	Evaporator Leaving Water Temperature XXX.X °F/C
Evaporator Water Pump Override Auto/On	Evaporator Water Flow Status Flow/No Flow	Evaporator Approach Temperature CktX XX.X °F/C
Evaporator Refrigerant Pool Temp CktX XXX.X °F/C	Evaporator Saturated Rfgt Temp CktX XXX.X °F/C	Evaporator Refrigerant Pressure CktX XXX.X PSI/kPa
EXV Percent Open XXX.X %	Oil Return Solenoid Valve CprsrXB Open / Closed	

Table 29. Condenser data — 150 to 300 ton units

Outdoor Air Temperature XXX.X °F/C	Air Flow CktX XXX.X %	
Condenser Saturated Rfgt Temp CktX XXX.X °F/C	Condenser Refrigerant Pressure CktX XXX.X PSI/kPa	Differential Refrigerant Pressure CktX XXX.XX PSID/kPaD
EXV Percent Open CktX XXX.X %		

Table 30. Condenser data — units larger than 300 tons

Outdoor Air Temperature XXX.X °F/C	Air Flow CktX XXX.X %	
Condenser Saturated Rfgt Temp CktX XXX.X °F/C	Condenser Refrigerant Pressure CktX XXX.X PSI/kPa	Differential Refrigerant Pressure CktX XXX.XX PSID/kPaD
Cond Liquid Line Rfgt Saturated Temp CktX XXX.X °F/C	Condenser Liquid Line Rfgt Temp CktX XXX.X °F/C	Cond Liquid Line Rfgt Subcooling CktX XXX.X °F/C
EXV Percent Open CktX XXX.X %	Condenser Liquid Line Rfgt Pressure CktX XXX.X PSI/kPa	Condenser Refrigerant Tank Valve CktX Open/Closed



Appendix: Chiller Data

Table 31. Compressor data – 150 to 300 ton units

Running Status CprsrXY On/Off	Average Motor Current % RLA AFD XX XXX.X %	Percent Speed CprsrXY XXX.X %
Starts CprsrXY XXXX	Running Time CprsrXY XXXX:XX Hr:Min	Chiller Running Time XXXX:XX Hr:Min
Evaporator Refrigerant Pressure CktX XXX.X PSI/kPa	Condenser Refrigerant Pressure CktX XXX.X PSI/kPa	Differential Refrigerant Pressure CktX XXX.XX PSID/kPaD
Oil Loss Level Sensor CktX Wet/Dry	Discharge Temperature CprsrXY XXX.X °F/C	Discharge Superheat CprsrXY XXX.X °F/C
Oil Pressure CprsrXY XXX.X PSI/kPa	Compressor Vi State Command CktX Inactive/High/Low	

Table 32. Compressor data – units larger than 300 tons

Running Status CprsrXY On/Off	Average Motor Current % RLA AFD XX or Average Line Current % RLA Starter XX XXX.X%	Percent Speed CprsrX XXX.X%
Starts CprsrXY XXXX	Running Time CprsrXX XXXX:XX Hr:Min	Chiller Running Time XXXX:XX Hr:Min
Suction Refrigerant Pressure CprsrXX XXX.X PSI/kPa	Condenser Refrigerant Pressure CktX XXX.X PSI/kPa	Differential Refrigerant Pressure CktX XXX.XX PSID/kPaD
Oil Loss Level Sensor CktX Wet/Dry	Discharge Temperature CprsrXX XXX.X °F/C	Discharge Superheat CprsrXX XXX.X °F/C
Oil Pressure CprsrXY XXX.X PSI/kPa	Oil Supply Temperature CktX XXX.X °F/C	

Table 33. Motor data – 150 to 300 ton units

Active Demand Limit Setpoint XXX.X %	Average Motor Current % RLA AFD XX XXX.X %	Percent Speed CprsrXY XXX.X %
Motor Current U % RLA AFD XX XXX.X %	Motor Current V % RLA AFD XX XXX.X %	Motor Current W % RLA AFD XX XXX.X %
Motor Current U AFD XX XXX.X Amps	Motor Current V AFD XX XXX.X Amps	Motor Current W AFD XX XXX.X Amps
Motor Voltage UV AFD XX XXXX.X Volts	Motor Voltage VW AFD XX XXXX.X Volts	Motor Voltage WU AFD XX XXXX.X Volts
Average Input Current AFD XX XXX.X Amps	Calculated Input Voltage VW AFD XX XXXX.X Volts	Input Power AFD XX XXXX.X kW
Speed AFD XX XXXX.X rpm	DC Bus Voltage AFD XX XXXX.X Volts	Output Power AFD XX XXXX.X kW
Inverter Base Temperature AFD XX XXX.X °F/C	Transistor Temperature AFD XX XXX.X °F/C	Rectifier Base Temperature AFD XX XXX.X °F/C
Energy Consumption Last Reset MM/DD/YYYY HH:MM AM/PM	Energy Consumption Resettable XXXX kWh	Energy Consumption NonReset XXXX kWh
Maximum Winding Temperature Motor XX XXX.X °F/C	Unit Power Consumption XXXX.X kWh	Chiller Power Demand XXXX.X kW

Table 34. Motor data – units larger than 300 tons

Active Demand Limit Setpoint XXX.X %	Average Motor Current % RLA AFD XX or Average Line Current % RLA Starter XX XXX.X%	Percent Speed CprsrX XXX.X% or Motor Voltage AB Starter XX XXXX.X Volts
Motor Current L1 % RLA Starter XX XXX.X%	Motor Current L2 % RLA Starter XX XXX.X%	Motor Current L3 % RLA Starter XX XXX.X%
Motor Current L1 Starter XX XXX.X Amps	Motor Current L2 Starter XX XXX.X Amps	Motor Current L3 Starter XX XXX.X Amps
Motor Current U % RLA AFD XX XXX.X%	Motor Current V % RLA AFD XX XXX.X%	Motor Current W % RLA AFD XX XXX.X%
Motor Current U AFD XX XXX.X Amps	Motor Current V AFD XX XXX.X Amps	Motor Current W AFD XX XXX.X Amps
Speed CprsrXX XXXX.X rpm	Calculated Input Voltage AFD XX XXXX.X Volts	Input Power AFD XX XXX.X kW
Average Motor Voltage AFD XX XXXX.X Volts	Winding Temp #1 Motor XX XXX.X °F/C	Winding Temp #2 Motor XX XXX.X °F/C
Transistor Temperature AFD XX XXX.X °F/C	DC Bus Voltage AFD XX XXXX.X Volts	Output Power AFD XX XXX.X kW
Energy Consumption Last Reset MM/DD/YYYY HH:MM AM/PM	Energy Consumption Resettable XXXX kWh	Energy Consumption NonReset XXXX kWh
Unit Power Consumption XXXX.X kWh	Chiller Power Demand XXXX.X kW	
Power Demand Meter 1 XXXX.X kWh	Power Factor Meter 1 XX.XXX	Line Frequency Meter 1 XX.X Hz
Average Line Current Meter 1 XXX.X Amps	Average Line Voltage Meter 1 XXXX.X V	
Line Current L1 Meter 1 XXX.X Amps	Line Current L2 Meter 1 XXX.X Amps	Line Current L3 Meter 1 XXX.X Amps
Line Voltage L1–L2 Meter 1 XXXX.X V	Line Voltage L2–L3 Meter 1 XXXX.X V	Line Voltage L1–L3 Meter 1 XXXX.X V
Power Demand Meter 2 XXXX.X kWh	Power Factor Meter 2 XX.XXX	Line Frequency Meter 2 XX.X Hz
Average Line Current Meter 2 XXX.X Amps	Average Line Voltage Meter 2 XXXX.X V	
Line Current L1 Meter 2 XXX.X Amps	Line Current L2 Meter 2 XXX.X Amps	Line Current L3 Meter 2 XXX.X Amps
Line Voltage L1–L2 Meter 2 XXXX.X V	Line Voltage L2–L3 Meter 2 XXXX.X V	Line Voltage L1–L3 Meter 2 XXXX.X V

Reports

Table 35. Log Sheet – 150 to 300 ton units

Evaporator		
Active Chilled Water Setpoint XXX.X °F/C	Evaporator Entering Water Temperature XXX.X °F/C	Evaporator Leaving Water Temperature XXX.X °F/C
Evaporator Approach Temp Ckt1 XXX.X °F/C	Evaporator Saturated Rfgrt Temp Ckt1 XXX.X °F/C	Evaporator Refrigerant Pressure Ckt1 XXX.X PSI/kPa
Evaporator Approach Temp Ckt2 XXX.X °F/C	Evaporator Saturated Rfgrt Temp Ckt2 XXX.X °F/C	Evaporator Refrigerant Pressure Ckt2 XXX.X PSI/kPa
Evaporator Water Flow Status Flow/No Flow	Evaporator Water Pump Override Auto/On	



Appendix: Chiller Data

Table 35. Log Sheet — 150 to 300 ton units (continued)

Evap and Oil Return Signal Ckt1 XXX.X %	Evap and Oil Return Target Ckt1 XXX.X %	EXV Percent Open Ckt1 XXX.X %
Evap and Oil Return Signal Ckt2 XXX.X %	Evap and Oil Return Target Ckt2 XXX.X %	EXV Percent Open Ckt2 XXX.X %
Condenser		
Outdoor Air Temperature XXX.X °F/C	Air Flow Ckt1 XXX.X %	Air Flow Ckt2 XXX.X %
Condenser Saturated Rfgt Temp Ckt1 XXX.X °F/C	Condenser Refrigerant Pressure Ckt1 XXX.X PSI/kPa	Differential Refrigerant Pressure Ckt1 XXX.XX PSID/kPaD
Condenser Saturated Rfgt Temp Ckt2 XXX.X °F/C	Condenser Refrigerant Pressure Ckt12 XXX.X PSI/kPa	Differential Refrigerant Pressure Ckt2 XXX.XX PSID/kPaD
Compressor		
Running Status Cprsr1A On/Off	Average Motor Current % RLA AFD 1A XXX.X %	Percent Speed Cprsr1A XXX.X %
Running Status Cprsr2A On/Off	Average Motor Current % RLA AFD 2A XXX.X %	Percent Speed Cprsr2A XXX.X %
Starts Cprsr1A XXXX	Running Time Cprsr1A XXXX:XX Hr:Min	Oil Pressure Cprsr1A XXX.X PSI/kPa
Starts Cprsr2A XXXX	Running Time Cprsr2A XXXX:XX Hr:Min	Oil Pressure Cprsr2A XXX.X PSI/kPa
Evaporator Refrigerant Pressure Ckt1 XXX.X PSI/kPa	Condenser Refrigerant Pressure Ckt1 XXX.X PSI/kPa	Differential Refrigerant Pressure Ckt1 XXX.XX PSID/kPaD
Evaporator Refrigerant Pressure Ckt2 XXX.X PSI/kPa	Condenser Refrigerant Pressure Ckt2 XXX.X PSI/kPa	Differential Refrigerant Pressure Ckt2 XXX.XX PSID/kPaD
Motor		
Active Demand Limit Setpoint XXX.X %	Unit Power Consumption XXXX.X kWh	Chiller Power Demand XXXX.X kW
Motor Current U % RLA AFD 1A XXX.X %	Motor Current V % RLA AFD 1A XXX.X %	Motor Current W % RLA AFD 1A XXX.X %
Motor Current U % RLA AFD 2A XXX.X %	Motor Current V % RLA AFD 2A XXX.X %	Motor Current W % RLA AFD 2A XXX.X %
Percent Speed Cprsr1A XXX.X %	Average Motor Current % RLA AFD 1A XXX.X %	Maximum Winding Temperature Motor 1A XXX.X °F/C
Percent Speed Cprsr2A XXX.X %	Average Motor Current % RLA AFD 2A XXX.X %	Maximum Winding Temperature Motor 2A XXX.X °F/C
Motor Current U AFD 1A XXX.X Amps	Motor Current V AFD 1A XXX.X Amps	Motor Current W AFD 1A XXX.X Amps
Motor Current U AFD 2A XXX.X Amps	Motor Current V AFD 2A XXX.X Amps	Motor Current W AFD 2A XXX.X Amps
Motor Voltage UV AFD 1A XXXX.X Volts	Motor Voltage VW AFD 1A XXXX.X Volts	Motor Voltage WU AFD 1A XXXX.X Volts
Motor Voltage UV AFD 2A XXXX.X Volts	Motor Voltage VW AFD 2A XXXX.X Volts	Motor Voltage WU AFD 2A XXXX.X Volts
Average Input Current AFD 1A XXX.X Amps	Calculated Input Voltage VW AVD 1A XXXX.X Volts	Input Power AFD 1A XXXX.X kW
Average Input Current AFD 2A XXX.X Amps	Calculated Input Voltage VW AVD 2A XXXX.X Volts	Input Power AFD 2A XXXX.X kW
Speed AFD 1A XXXX.X rpm	DC Bus Voltage AFD 1A XXXX.X Volts	Output Power AFD 1A XXXX.X kW
Speed AFD 2A XXXX.X rpm	DC Bus Voltage AFD 2A XXXX.X Volts	Output Power AFD 2A XXXX.X kW

Table 35. Log Sheet – 150 to 300 ton units (continued)

Inverter Base Temperature AFD 1A XXX.X °F/C	Transistor Temperature AFD 1A XXX.X °F/C	Rectifier Base Temperature AFD 1A XXX.X °F/C
Inverter Base Temperature AFD 2A XXX.X °F/C	Transistor Temperature AFD 2A XXX.X °F/C	Rectifier Base Temperature AFD 2A XXX.X °F/C

Table 36. Log Sheet – units larger than 300 tons

Evaporator		
Active Chilled Water Setpoint XXX.X °F/C	Evaporator Entering Water Temperature XXX.X °F/C	Evaporator Leaving Water Temperature XXX.X °F/C
Evaporator Approach Temp Ckt1 XXX.X °F/C	Evaporator Saturated Rfgt Temp Ckt1 XXX.X °F/C	Evaporator Refrigerant Pressure Ckt1 XXX.X PSI/kPa
Evaporator Approach Temp Ckt2 XXX.X °F/C	Evaporator Saturated Rfgt Temp Ckt2 XXX.X °F/C	Evaporator Refrigerant Pressure Ckt2 XXX.X PSI/kPa
Evaporator Water Flow Status Flow/No Flow	Evaporator Water Pump Override Auto/On	
Oil Return Solenoid Valve Cprsr1B Open/Closed	EXV Percent Open Ckt1 XXX.X %	
Oil Return Solenoid Valve Cprsr2B Open/Closed	EXV Percent Open Ckt2 XXX.X %	
Condenser		
Outdoor Air Temperature XXX.X °F/C	Air Flow Ckt1 XXX.X %	Air Flow Ckt2 XXX.X %
Condenser Saturated Rfgt Temp Ckt1 XXX.X °F/C	Condenser Refrigerant Pressure Ckt1 XXX.X PSI/kPa	Differential Refrigerant Pressure Ckt1 XXX.XX PSID/kPaD
Condenser Saturated Rfgt Temp Ckt2 XXX.X °F/C	Condenser Refrigerant Pressure Ckt2 XXX.X PSI/kPa	Differential Refrigerant Pressure Ckt2 XXX.XX PSID/kPaD
Cond Liquid Line Rfgt Saturated Temp Ckt1 XXX.X °F/C	Condenser Liquid Line Rfgt Temp Ckt1 XXX.X °F/C	Cond Liquid Line Rfgt Subcooling Ckt1 XXX.X °F/C
Cond Liquid Line Rfgt Saturated Temp Ckt2 XXX.X °F/C	Condenser Liquid Line Rfgt Temp Ckt2 XXX.X °F/C	Cond Liquid Line Rfgt Subcooling Ckt2 XXX.X °F/C
Compressor		
Running Status Cprsr1A On/Off	Average Motor Current % RLA AFD 1A XXX.X %	Percent Speed Cprsr1A XXX.X %
Running Status Cprsr1B On/Off	Average Line Current % RLA Starter 1B XXX.X %	
Running Status Cprsr2A On/Off	Average Motor Current % RLA AFD 2A XXX.X %	Percent Speed Cprsr2A XXX.X %
Running Status Cprsr2B On/Off	Average Line Current % RLA Starter 2B XXX.X %	
Starts Cprsr1A XXXX	Running Time Cprsr1A XXXX:XX Hr:Min	Oil Pressure Cprsr1A XXX.X PSI/kPa
Starts Cprsr1B XXXX	Running Time Cprsr1B XXXX:XX Hr:Min	Oil Pressure Cprsr1B XXX.X PSI/kPa
Starts Cprsr2A XXXX	Running Time Cprsr2A XXXX:XX Hr:Min	Oil Pressure Cprsr2A XXX.X PSI/kPa
Starts Cprsr2B XXXX	Running Time Cprsr2B XXXX:XX Hr:Min	Oil Pressure Cprsr2B XXX.X PSI/kPa
Evaporator Refrigerant Pressure Ckt1 XXX.X PSI/kPa	Condenser Refrigerant Pressure Ckt1 XXX.X PSI/kPa	Differential Refrigerant Pressure Ckt1 XXX.XX PSID/kPaD



Appendix: Chiller Data

Table 36. Log Sheet – units larger than 300 tons (continued)

Evaporator Refrigerant Pressure Ckt2 XXX.X PSI/kPa	Condenser Refrigerant Pressure Ckt2 XXX.X PSI/kPa	Differential Refrigerant Pressure Ckt2 XXX.XX PSID/kPaD
Oil Supply Temperature Ckt1 XXX.X °F/C	Oil Supply Temperature Ckt2 XXX.X °F/C	
Motor		
Active Demand Limit Setpoint XXX.X %	Unit Power Consumption XXXX.X kWh	Chiller Power Demand XXXX.X kW
Average Motor Current % RLA AFD 1A XXX.X %	Average Line Current % RLA Starter 1B XXX.X %	
Average Motor Current % RLA AFD 2A XXX.X %	Average Line Current % RLA Starter 2B XXX.X %	
Motor Current U % RLA AFD 1A XXX.X %	Motor Current V % RLA AFD 1A XXX.X %	Motor Current W % RLA AFD 1A XXX.X %
Motor Current U AFD 1A XXX.X Amps	Motor Current V AFD 1A XXX.X Amps	Motor Current W AFD 1A XXX.X Amps
Speed Cpsr1A XXXX.X rpm	Calculated Input Voltage AFD 1A XXXX.X Volts	Input Power AFD 1A XXXX.X kW
Average Motor Voltage AFD 1A XXXX.X Volts	Winding Temp #1 Motor 1A XXX.X °F/C	Winding Temp #2 Motor 1A XXX.X °F/C
Transistor Temperature AFD 1A XXX.X °F/C	DC Bus Voltage AFD 1A XXX.X Volts	Output Power AFD 1A XXX.X kW
Motor Current L1 % RLA Starter 1B XXX.X %	Motor Current L2 % RLA Starter 1B XXX.X %	Motor Current L3 % RLA Starter 1B XXX.X %
Motor Current L1 Starter 1B XXX.X Amps	Motor Current L2 Starter 1B XXX.X Amps	Motor Current L3 Starter 1B XXX.X Amps
Motor Voltage AB Starter 1B XXXX.X Volts		
Motor Current U % RLA AFD 2A XXX.X %	Motor Current V % RLA AFD 2A XXX.X %	Motor Current W % RLA AFD 2A XXX.X %
Motor Current U AFD 2A XXX.X Amps	Motor Current V AFD 2A XXX.X Amps	Motor Current W AFD 2A XXX.X Amps
Speed Cpsr2A XXXX.X rpm	Calculated Input Voltage AFD 2A XXXX.X Volts	Input Power AFD 2A XXXX.X kW
Average Motor Voltage AFD 2A XXXX.X Volts	Winding Temp #1 Motor 2A XXX.X °F/C	Winding Temp #2 Motor 2A XXX.X °F/C
Transistor Temperature AFD 2A XXX.X °F/C	DC Bus Voltage AFD 2A XXX.X Volts	Output Power AFD 2A XXX.X kW
Motor Current L1 % RLA Starter 2B XXX.X %	Motor Current L2 % RLA Starter 2B XXX.X %	Motor Current L3 % RLA Starter 2B XXX.X %
Motor Current L1 Starter 2B XXX.X Amps	Motor Current L2 Starter 2B XXX.X Amps	Motor Current L3 Starter 2B XXX.X Amps
Motor Voltage AB Starter 2B XXXX.X Volts		

Table 37. ASHRAE report data – 150 to 300 ton units

Current Date/Time MM/DD/YYYY HH:MM AM/PM	Top Level Mode Running/Stopped/etc.	Active Chilled Water Setpoint XXX.X °F/C
Evaporator Entering Water Temperature XXX.X °F/C	Evaporator Leaving Water Temperature XXX.X °F/C	
Evaporator Water Flow Status Flow/No Flow	Outdoor Air Temperature XXX.X °F/C	Active Demand Limit Setpoint XXX.X %

Table 37. ASHRAE report data – 150 to 300 ton units (continued)

Top Level Mode Ckt1 Running/Stopped/etc.	Evaporator Saturated Rfgt Temp Ckt1 XXX.X °F/C	Evaporator Refrigerant Pressure Ckt1 XXX.X PSI/kPa
Evaporator Approach Temperature Ckt1 XX.X °F/C	Condenser Saturated Rfgt Temp Ckt1 XXX.X °F/C	Condenser Refrigerant Pressure Ckt1 XXX.X PSI/kPa
Starts Cprsr1A XXXX	Running Time Cprsr1A XXXX:XX Hr:Min	
Top Level Mode Ckt2 Running/Stopped/etc.	Evaporator Saturated Rfgt Temp Ckt2 XXX.X °F/C	Evaporator Refrigerant Pressure Ckt2 XXX.X PSI/kPa
Evaporator Approach Temperature Ckt2 XX.X °F/C	Condenser Saturated Rfgt Temp Ckt2 XXX.X °F/C	Condenser Refrigerant Pressure Ckt2 XXX.X PSI/kPa
Starts Cprsr2A XXXX	Running Time Cprsr2A XXXX:XX Hr:Min	

Table 38. ASHRAE report data – units larger than 300 tons

Current Date/Time MM/DD/YYYY HH:MM AM/PM	Top Level Mode Running/Stopped/etc.	Active Chilled Water Setpoint XXX.X °F/C
Evaporator Entering Water Temperature XXX.X °F/C	Evaporator Leaving Water Temperature XXX.X °F/C	
Evaporator Water Flow Status Flow/No Flow	Outdoor Air Temperature XXX.X °F/C	Active Demand Limit Setpoint XXX.X %
Top Level Mode Ckt1 Running/Stopped/etc.	Evaporator Saturated Rfgt Temp Ckt1 XXX.X °F/C	Evaporator Refrigerant Pressure Ckt1 XXX.X PSI/kPa
Evaporator Approach Temperature Ckt1 XX.X °F/C	Condenser Saturated Rfgt Temp Ckt1 XXX.X °F/C	Condenser Refrigerant Pressure Ckt1 XXX.X PSI/kPa
Starts Cprsr1A XXXX	Running Time Cprsr1A XXXX:XX Hr:Min	
Top Level Mode Ckt2 Running/Stopped/etc.	Evaporator Saturated Rfgt Temp Ckt2 XXX.X °F/C	Evaporator Refrigerant Pressure Ckt2 XXX.X PSI/kPa
Evaporator Approach Temperature Ckt2 XX.X °F/C	Condenser Saturated Rfgt Temp Ckt2 XXX.X °F/C	Condenser Refrigerant Pressure Ckt2 XXX.X PSI/kPa
Starts Cprsr2A XXXX	Running Time Cprsr2A XXXX:XX Hr:Min	
Starts Cprsr1B XXXX	Running Time Cprsr1B XXXX:XX Hr:Min	
Starts Cprsr2B XXXX	Running Time Cprsr2B XXXX:XX Hr:Min	



Appendix: Chiller Data

Table 39. Items available to include in custom reports – 150 to 300 ton units

Unit	Evaporator	Condenser
<ul style="list-style-type: none"> • Top Level Mode • Top Level Mode Ckt1 • Top Level Mode Ckt2 • Refrigerant Type • Chiller Running Time • Chiller Load Command • Active Chiller Mode Command • Ice Building Active • Free Cooling Active • Active Chilled Water Setpoint • External Chilled Water Setpoint • Active Demand Limit Setpoint • External Demand Limit Setpoint 	<ul style="list-style-type: none"> • Evaporator Water Flow Status • Evaporator Entering Water Temperature • Evaporator Leaving Water Temperature • Evaporator Water Pump Command • Evaporator Water Pump Override • Evaporator Pump Override Time Remaining • Evaporator Approach Temperature Ckt1 • Evaporator Saturated Rfght Temp Ckt1 • Evaporator Refrigerant Pressure Ckt1 • Evaporator Refrigerant Pool Temp Ckt1 • EXV Percent Open Ckt1 • EXV Override Time Remaining Ckt1 • Evap and Oil Return Signal Ckt1 • Evap and Oil Return Target Ckt1 • Evap Spillover Tank Liquid Level Ckt1 • Evaporator Approach Temperature Ckt2 • Evaporator Saturated Rfght Temp Ckt2 • Evaporator Refrigerant Pressure Ckt2 • Evaporator Refrigerant Pool Temp Ckt2 • EXV Percent Open Ckt2 • EXV Override Time Remaining Ckt2 • Evap and Oil Return Signal Ckt2 • Evap and Oil Return Target Ckt2 • Evap Spillover Tank Liquid Level Ckt2 • Free Cooling Capacity • Free Cooling Valve Percent Open • Free Cooling Bypass Valve Percent Open • Free Cooling Entering Water Temperature 	<ul style="list-style-type: none"> • Outdoor Air Temperature • Condenser Saturated Rfght Temp Ckt1 • Condenser Refrigerant Pressure Ckt1 • Condenser Temperature Target Ckt1 • Differential Refrigerant Pressure Ckt1 • Air Flow Ckt1 • Condenser Saturated Rfght Temp Ckt2 • Condenser Refrigerant Pressure Ckt2 • Condenser Temperature Target Ckt2 • Differential Refrigerant Pressure Ckt2 • Air Flow Ckt2
Compressor	Motor	
<ul style="list-style-type: none"> • Oil Loss Level Sensor Ckt1 • Compressor Vi State Command Ckt1 • Pressure Ratio Ckt1 • Percent Speed Cprsr1A • Running Status Cprsr1A • Running Time Cprsr1A • Starts Cprsr1A • Discharge Temperature Cprsr1A • Discharge Superheat Cprsr1A • Oil Pressure Cprsr1A • Load Command Cprsr1A • Oil Loss Level Sensor Ckt2 • Compressor Vi State Command Ckt2 • Pressure Ratio Ckt2 • Percent Speed Cprsr2A • Running Status Cprsr2A • Running Time Cprsr2A • Starts Cprsr2A • Discharge Temperature Cprsr2A • Discharge Superheat Cprsr2A • Oil Pressure Cprsr2A • Load Command Cprsr2A 	<ul style="list-style-type: none"> • Energy Consumption Last Reset • Energy Consumption Resettable • Energy Consumption NonReset • Unit Power Consumption • Chiller Power Demand • Drive Cooling Supply Temperature Ckt1 • Drive Cooling Bypass Valve Position Ckt1 • Drive Cooling Bypass Valve Command Ckt1 • Drive Cooling Inline Valve Position Ckt1 • Speed AFD 1A • Transistor Temperature AFD 1A • DC Bus Voltage AFD 1A • Average Motor Current % RLA AFD 1A • Motor Current U % RLA AFD 1A • Motor Current V % RLA AFD 1A • Motor Current W % RLA AFD 1A • Motor Current U AFD 1A • Motor Current V AFD 1A • Motor Current W AFD 1A • Motor Voltage UV AFD 1A • Motor Voltage VW AFD 1A • Motor Voltage WU AFD 1A • Average Motor Voltage AFD 1A • Output Power AFD 1A • Input Power AFD 1A • Inverter Base Temperature AFD 1A • Rectifier Base Temperature AFD 1A • Average Input Current AFD 1A • Calculated Input Voltage AFD 1A • Calculated Input Frequency AFD 1A • Maximum Winding Temperature Motor 1A 	<ul style="list-style-type: none"> • Drive Cooling Supply Temperature Ckt2 • Drive Cooling Bypass Valve Position Ckt2 • Drive Cooling Bypass Valve Command Ckt2 • Drive Cooling Inline Valve Position Ckt2 • Speed AFD 2A • Transistor Temperature AFD 2A • DC Bus Voltage AFD 2A • Average Motor Current % RLA AFD 2A • Motor Current U % RLA AFD 2A • Motor Current V % RLA AFD 2A • Motor Current W % RLA AFD 2A • Motor Current U AFD 2A • Motor Current V AFD 2A • Motor Current W AFD 2A • Motor Voltage UV AFD 2A • Motor Voltage VW AFD 2A • Motor Voltage WU AFD 2A • Average Motor Voltage AFD 2A • Output Power AFD 2A • Input Power AFD 2A • Inverter Base Temperature AFD 2A • Rectifier Base Temperature AFD 2A • Average Input Current AFD 2A • Calculated Input Voltage AFD 2A • Calculated Input Frequency AFD 2A • Maximum Winding Temperature Motor 2A

Table 40. Items available to include in custom reports – units larger than 300 tons

Unit	Evaporator	Condenser
<ul style="list-style-type: none"> • Top Level Mode • Top Level Mode Ckt1 • Top Level Mode Cprsr1A • Top Level Mode Cprsr1B • Top Level Mode Ckt2 • Top Level Mode Cprsr2A • Top Level Mode Cprsr2B • Refrigerant Type • Chiller Running Time • Chiller Load Command • Total Compressor Current %RLA • Active Chiller Mode Command • Ice Building Active • Active Chilled Water Setpoint • External Chilled Water Setpoint • Active Demand Limit Setpoint • External Demand Limit Setpoint 	<ul style="list-style-type: none"> • Evaporator Water Flow Status • Evaporator Entering Water Temperature • Evaporator Leaving Water Temperature • Evaporator Water Pump Command • Evaporator Water Pump Override • Evaporator Pump Override Time Remaining • Evaporator Approach Temperature Ckt1 • Evaporator Saturated Rfght Temp Ckt1 • Evaporator Refrigerant Pressure Ckt1 • Evaporator Refrigerant Pool Temp Ckt1 • EXV Percent Open Ckt1 • EXV Override Time Remaining Ckt1 • Oil Return Solenoid Valve Cprsr1B • Evaporator Approach Temperature Ckt2 • Evaporator Saturated Rfght Temp Ckt2 • Evaporator Refrigerant Pressure Ckt2 • Evaporator Refrigerant Pool Temp Ckt2 • EXV Percent Open Ckt2 • EXV Override Time Remaining Ckt2 • Oil Return Solenoid Valve Cprsr2B 	<ul style="list-style-type: none"> • Outdoor Air Temperature • Condenser Saturated Rfght Temp Ckt1 • Condenser Refrigerant Pressure Ckt1 • Condenser Temperature Target Ckt1 • Differential Refrigerant Pressure Ckt1 • Air Flow Ckt1 • Cond Liquid Line Rfght Saturated Temp Ckt1 • Condenser Liquid Line Rfght Temp Ckt1 • Cond Liquid Line Rfght Subcooling Ckt1 • Condenser Liquid Line Rfght Pressure Ckt1 • Condenser Refrigerant Tank Valve Ckt1 • Condenser Discharge Rfght Temp Ckt1 • Condenser Saturated Rfght Temp Ckt2 • Condenser Refrigerant Pressure Ckt2 • Condenser Temperature Target Ckt2 • Differential Refrigerant Pressure Ckt2 • Air Flow Ckt2 • Cond Liquid Line Rfght Saturated Temp Ckt2 • Condenser Liquid Line Rfght Temp Ckt2 • Cond Liquid Line Rfght Subcooling Ckt2 • Condenser Liquid Line Rfght Pressure Ckt2 • Condenser Refrigerant Tank Valve Ckt2



Appendix: Chiller Data

Table 40. Items available to include in custom reports – units larger than 300 tons (continued)

Compressor	Motor
<ul style="list-style-type: none"> • Oil Loss Level Sensor Ckt1 • Oil Supply Temperature Ckt1 • Running Status Cprsr1A • Running Time Cprsr1A • Starts Cprsr1A • Discharge Temperature Cprsr1A • Discharge Superheat Cprsr1A • Oil Pressure Cprsr1A • Suction Refrigerant Pressure Cprsr1A • Differential Rfgt Pressure Cprsr1A • Load Command Cprsr1A • Percent Speed Cprsr1A • Vi State Command Cprsr1A • Pressure Ratio Cprsr1A • Running Status Cprsr1B • Running Time Cprsr1B • Starts Cprsr1B • Discharge Temperature Cprsr1B • Discharge Superheat Cprsr1B • Oil Pressure Cprsr1B • Suction Refrigerant Pressure Cprsr1B • Differential Rfgt Pressure Cprsr1B • Oil Loss Level Sensor Ckt2 • Oil Supply Temperature Ckt2 • Running Status Cprsr2A • Running Time Cprsr2A • Starts Cprsr2A • Discharge Temperature Cprsr2A • Discharge Superheat Cprsr2A • Oil Pressure Cprsr2A • Suction Refrigerant Pressure Cprsr2A • Differential Rfgt Pressure Cprsr2A • Load Command Cprsr2A • Percent Speed Cprsr2A • Vi State Command Cprsr2A • Pressure Ratio Cprsr2A • Running Status Cprsr2B • Running Time Cprsr2B • Starts Cprsr2B • Discharge Temperature Cprsr2B • Discharge Superheat Cprsr2B • Oil Pressure Cprsr2B • Suction Refrigerant Pressure Cprsr2B • Differential Rfgt Pressure Cprsr2B 	<ul style="list-style-type: none"> • Energy Consumption Last Reset • Energy Consumption Resettable • Energy Consumption NonReset • Unit Power Consumption • Chiller Power Demand • Power Demand Meter 1 • Power Factor Meter 1 • Line Frequency Meter 1 • Average Line Current Meter 1 • Line Current L1 Meter 1 • Line Current L2 Meter 1 • Line Current L3 Meter 1 • Average Line Voltage Meter 1 • Line Current L1–L2 Meter 1 • Line Current L2–L3 Meter 1 • Line Current L1–L3 Meter 1 • Power Demand Meter 2 • Power Factor Meter 2 • Line Frequency Meter 2 • Average Line Current Meter 2 • Line Current L1 Meter 2 • Line Current L2 Meter 2 • Line Current L3 Meter 2 • Average Line Voltage Meter 2 • Line Current L1–L2 Meter 2 • Line Current L2–L3 Meter 2 • Line Current L1–L3 Meter 2 • Speed Cprsr1A • Frequency Cprsr1A • Transister Temperature AFD 1A • DC Bus Voltage AFD 1A • Average Motor Current % RLA AFD 1A • Motor Current U % RLA AFD 1A • Motor Current V % RLA AFD 1A • Motor Current W % RLA AFD 1A • Motor Current U AFD 1A • Motor Current V AFD 1A • Motor Current W AFD 1A • Average Motor Voltage AFD 1A • Output Power AFD 1A • Input Power AFD 1A • Calculated Input Voltage AFD 1A • Winding Temp #1 Motor 1A • Winding Temp #2 Motor 1A • Drive Cooling Supply Temperature Cprsr1A • Drive Cooling Bypass Valve Pos Cprsr1A • Average Line Current % RLA Starter 1B • Motor Current L1 % RLA Starter 1B • Motor Current L2 % RLA Starter 1B • Motor Current L3 % RLA Starter 1B • Motor Current L1 Starter 1B • Motor Current L2 Starter 1B • Motor Current L3 Starter 1B • Motor Voltage AB Starter 1B • Drive Cooling Inline Valve Pos Cprsr1B • Speed Cprsr2A • Frequency Cprsr2A • Transister Temperature AFD 2A • DC Bus Voltage AFD 2A • Average Motor Current % RLA AFD 2A • Motor Current U % RLA AFD 2A • Motor Current V % RLA AFD 2A • Motor Current W % RLA AFD 2A • Motor Current U AFD 2A • Motor Current V AFD 2A • Motor Current W AFD 2A • Average Motor Voltage AFD 2A • Output Power AFD 2A • Input Power AFD 2A • Calculated Input Voltage AFD 2A • Winding Temp #1 Motor 2A • Winding Temp #2 Motor 2A • Drive Cooling Supply Temperature Cprsr2A • Drive Cooling Bypass Valve Pos Cprsr2A • Average Line Current % RLA Starter 2B • Motor Current L1 % RLA Starter 2B • Motor Current L2 % RLA Starter 2B • Motor Current L3 % RLA Starter 2B • Motor Current L1 Starter 2B • Motor Current L2 Starter 2B • Motor Current L3 Starter 2B • Motor Voltage AB Starter 2B

Data Graphs Data Points

Standard Graphs

Table 41. Unit overview – all unit sizes

Graph Item	Axis	Color
Active Chilled Water Setpoint	Left	Red
Evaporator Leaving Water Temperature	Left	Blue
Evaporator Entering Water Temperature	Left	Green
Outdoor Air Temperature	Right	Yellow
Chiller Load Command	Right	Black

Table 42. Motor control – 150 to 300 ton sizes

Graph Item	Axis	Color
Percent Speed Cprsr1A	Left	Pink
Percent Speed Cprsr2A	Left	Purple
Active Demand Limit Setpoint	Left	Yellow
AFD Motor Current % RLA AFD 1A	Left	Black
AFD Motor Current % RLA AFD 2A	Left	Red

Table 43. Motor control – units larger than 300 tons

Graph Item	Axis	Color
Active Demand Limit Setpoint	Left	Yellow
Percent Speed Cprsr1A	Left	Black
Average Line Current % RLA Starter 1B	Left	Green
Percent Speed Cprsr2A	Left	Red
Average Line Current % RLA Starter 2B	Left	Blue

Table 44. Evaporator – all unit sizes

Graph Item	Axis	Color
Active Chilled Water Setpoint	Left	Red
Evaporator Leaving Water Temperature	Left	Blue
Evaporator Entering Water Temperature	Left	Green
Evaporator Saturated Rfgt Temp Ckt1	Left	Pink
Evaporator Saturated Rfgt Temp Ckt2	Left	Purple

Table 45. Condenser – 150 to 300 ton units

Graph Item	Axis	Color
Outdoor Air Temperature	Left	Yellow
Condenser Saturated Rfgt Temp Ckt1	Left	Pink
Condenser Saturated Rfgt Temp Ckt2	Left	Purple

Appendix: Chiller Data
Table 46. Condenser — units larger than 300 tons

Graph Item	Axis	Color
Outdoor Air Temperature	Left	Yellow
Condenser Saturated Rfgt Temp Ckt1	Left	Pink
Condenser Saturated Rfgt Temp Ckt2	Left	Purple
Cond Liquid Line Rfgt Subcooling Ckt1	Right	Black
Cond Liquid Line Rfgt Subcooling Ckt2	Right	Red

Table 47. EXV Control Ckt X — 150 to 300 ton units

Graph Item	Axis	Color
EXV Percent Open CktX	Left	Black
Evap and Oil Return Signal CktX	Left	Yellow
Evap and Oil Return Target CktX	Left	Blue
Evaporator Approach Temperature CktX	Right	Green
Discharge Superheat CprsrXA	Right	Red

Table 48. EXV Control Ckt X — units larger than 300 tons

Graph Item	Axis	Color
EXV Percent Open CktX	Left	Black
Cond Liquid Line Rfgt Subooling CktX	Right	Red
Evaporator Saturated Rfgt Temp CktX	Right	Pink
Evaporator Refrigerant Pressure CktX	Right	Green

Table 49. Fan Control Ckt X — all unit sizes

Graph Item	Axis	Color
Condenser Saturated Rfgt Temp CktX	Left	Red
Condenser Temperature Target CktX	Left	Blue
Outdoor Air Temperature	Left	Yellow
Air Flow CktX	Left	Black
Differential Refrigerant Pressure CktX	Right	Pink

Custom Graphs

Table 50. Items available to include in custom graphs — 150 to 300 ton units

Unit	Evaporator	Condenser
<ul style="list-style-type: none"> • Chiller Load Command • Active Chilled Water Setpoint • Active Demand Limit Setpoint 	<ul style="list-style-type: none"> • Evaporator Entering Water Temperature • Evaporator Leaving Water Temperature • Evaporator Approach Temperature Ckt1 • Evaporator Saturated Rfgt Temp Ckt1 • Evaporator Refrigerant Pressure Ckt1 • Evaporator Refrigerant Pool Temp Ckt1 • EXV Percent Open Ckt1 • Evap and Oil Return Signal Ckt1 • Evap and Oil Return Target Ckt1 • Evap Spillover Tank Liquid Level Ckt1 • Evaporator Approach Temperature Ckt2 • Evaporator Saturated Rfgt Temp Ckt2 • Evaporator Refrigerant Pressure Ckt2 • Evaporator Refrigerant Pool Temp Ckt2 • EXV Percent Open Ckt2 • Evap and Oil Return Signal Ckt2 • Evap and Oil Return Target Ckt2 • Evap Spillover Tank Liquid Level Ckt2 • Free Cooling Capacity • Free Cooling Valve Percent Open • Free Cooling Bypass Valve Percent Open • Free Cooling Entering Water Temperature 	<ul style="list-style-type: none"> • Outdoor Air Temperature • Condenser Saturated Rfgt Temp Ckt1 • Condenser Refrigerant Pressure Ckt1 • Condenser Temperature Target Ckt1 • Differential Refrigerant Pressure Ckt1 • Air Flow Ckt1 • Condenser Saturated Rfgt Temp Ckt2 • Condenser Refrigerant Pressure Ckt2 • Condenser Temperature Target Ckt2 • Differential Refrigerant Pressure Ckt2 • Air Flow Ckt2
Compressor	Motor	
<ul style="list-style-type: none"> • Pressure Ratio Ckt1 • Percent Speed Cprsr1A • Discharge Temperature Cprsr1A • Discharge Superheat Cprsr1A • Oil Pressure Cprsr1A • Load Command Cprsr1A • Pressure Ratio Ckt2 • Percent Speed Cprsr2A • Discharge Temperature Cprsr2A • Discharge Superheat Cprsr2A • Oil Pressure Cprsr2A • Load Command Cprsr2A 	<ul style="list-style-type: none"> • Energy Consumption Resettable • Energy Consumption NonReset • Unit Power Consumption • Chiller Power Demand • Drive Cooling Supply Temperature Ckt1 • Drive Cooling Bypass Valve Position Ckt1 • Drive Cooling Bypass Valve Command Ckt1 • Drive Cooling Inline Valve Position Ckt1 • Speed AFD 1A • Transistor Temperature AFD 1A • DC Bus Voltage AFD 1A • Average Motor Current % RLA AFD 1A • Motor Current U % RLA AFD 1A • Motor Current V % RLA AFD 1A • Motor Current W % RLA AFD 1A • Motor Current U AFD 1A • Motor Current V AFD 1A • Motor Current W AFD 1A • Motor Voltage UV AFD 1A • Motor Voltage VW AFD 1A • Motor Voltage WU AFD 1A • Average Motor Voltage AFD 1A • Output Power AFD 1A • Input Power AFD 1A • Inverter Base Temperature AFD 1A • Rectifier Base Temperature AFD 1A • Average Input Current AFD 1A • Calculated Input Voltage AFD 1A • Calculated Input Frequency AFD 1A • Maximum Winding Temperature Motor 1A 	<ul style="list-style-type: none"> • Drive Cooling Supply Temperature Ckt2 • Drive Cooling Bypass Valve Position Ckt2 • Drive Cooling Bypass Valve Command Ckt2 • Drive Cooling Inline Valve Position Ckt2 • Speed AFD 2A • Transistor Temperature AFD 2A • DC Bus Voltage AFD 2A • Average Motor Current % RLA AFD 2A • Motor Current U % RLA AFD 2A • Motor Current V % RLA AFD 2A • Motor Current W % RLA AFD 2A • Motor Current U AFD 2A • Motor Current V AFD 2A • Motor Current W AFD 2A • Motor Voltage UV AFD 2A • Motor Voltage VW AFD 2A • Motor Voltage WU AFD 2A • Average Motor Voltage AFD 2A • Output Power AFD 2A • Input Power AFD 2A • Inverter Base Temperature AFD 2A • Rectifier Base Temperature AFD 2A • Average Input Current AFD 2A • Calculated Input Voltage AFD 2A • Calculated Input Frequency AFD 2A • Maximum Winding Temperature Motor 2A



Appendix: Chiller Data

Table 51. Items available to include in custom graphs — units larger than 300 tons

Unit	Evaporator	Condenser
<ul style="list-style-type: none"> • Chiller Load Command • Total Compressor Current %RLA • Active Chilled Water Setpoint • Active Demand Limit Setpoint 	<ul style="list-style-type: none"> • Evaporator Entering Water Temperature • Evaporator Leaving Water Temperature • Evaporator Approach Temperature Ckt1 • Evaporator Saturated Rfgt Temp Ckt1 • Evaporator Refrigerant Pressure Ckt1 • Evaporator Refrigerant Pool Temp Ckt1 • Measured Evap Rfgt Pool Temp Ckt1 • EXV Percent Open Ckt1 • Evap and Oil Return Signal Ckt1 • Evap and Oil Return Target Ckt1 • Evap Spillover Tank Liquid Level Ckt1 • Evaporator Approach Temperature Ckt2 • Evaporator Saturated Rfgt Temp Ckt2 • Evaporator Refrigerant Pressure Ckt2 • Evaporator Refrigerant Pool Temp Ckt2 • Measured Evap Rfgt Pool Temp Ckt2 • EXV Percent Open Ckt2 	<ul style="list-style-type: none"> • Outdoor Air Temperature • Condenser Saturated Rfgt Temp Ckt1 • Condenser Refrigerant Pressure Ckt1 • Condenser Temperature Target Ckt1 • Differential Refrigerant Pressure Ckt1 • Air Flow Ckt1 • Cond Liquid Line Rfgt Saturated Temp Ckt1 • Condenser Liquid Line Rfgt Temp Ckt1 • Cond Liquid Line Rfgt Subcooling Ckt1 • Condenser Liquid Line Rfgt Pressure Ckt1 • Condenser Saturated Rfgt Temp Ckt2 • Condenser Refrigerant Pressure Ckt2 • Condenser Temperature Target Ckt2 • Differential Refrigerant Pressure Ckt2 • Air Flow Ckt2 • Cond Liquid Line Rfgt Saturated Temp Ckt2 • Condenser Liquid Line Rfgt Temp Ckt2 • Cond Liquid Line Rfgt Subcooling Ckt2 • Condenser Liquid Line Rfgt Pressure Ckt2

Table 51. Items available to include in custom graphs – units larger than 300 tons (continued)

Compressor	Motor	
<ul style="list-style-type: none"> • Oil Supply Temperature Ckt1 • Discharge Temperature Cprsr1A • Discharge Superheat Cprsr1A • Oil Pressure Cprsr1A • Suction Refrigerant Pressure Cprsr1A • Differential Rfght Pressure Cprsr1A • Load Command Cprsr1A • Percent Speed Cprsr1A • Pressure Ratio Cprsr1A • Discharge Temperature Cprsr1B • Discharge Superheat Cprsr1B • Oil Pressure Cprsr1B • Suction Refrigerant Pressure Cprsr1B • Differential Rfght Pressure Cprsr1B • Oil Supply Temperature Ckt2 • Discharge Temperature Cprsr2A • Discharge Superheat Cprsr2A • Oil Pressure Cprsr2A • Suction Refrigerant Pressure Cprsr2A • Differential Rfght Pressure Cprsr2A • Load Command Cprsr2A • Percent Speed Cprsr2A • Pressure Ratio Cprsr2A • Discharge Temperature Cprsr2B • Discharge Superheat Cprsr2B • Oil Pressure Cprsr2B • Suction Refrigerant Pressure Cprsr2B • Differential Rfght Pressure Cprsr2B • 	<ul style="list-style-type: none"> • Energy Consumption Resettable • Energy Consumption NonReset • Unit Power Consumption • Chiller Power Demand • Power Demand Meter 1 • Power Factor Meter 1 • Line Frequency Meter 1 • Average Line Current Meter 1 • Line Current L1 Meter 1 • Line Current L2 Meter 1 • Line Current L3 Meter 1 • Average Line Voltage Meter 1 • Line Current L1–L2 Meter 1 • Line Current L2–L3 Meter 1 • Line Current L1–L3 Meter 1 • Power Demand Meter 2 • Power Factor Meter 2 • Line Frequency Meter 2 • Average Line Current Meter 2 • Line Current L1 Meter 2 • Line Current L2 Meter 2 • Line Current L3 Meter 2 • Average Line Voltage Meter 2 • Line Current L1–L2 Meter 2 • Line Current L2–L3 Meter 2 • Line Current L1–L3 Meter 2 • Speed Cprsr1A • Frequency Cprsr1A • Transister Temperature AFD 1A • DC Bus Voltage AFD 1A • Average Motor Current % RLA AFD 1A • Motor Current U % RLA AFD 1A • Motor Current V % RLA AFD 1A • Motor Current W % RLA AFD 1A • Motor Current U AFD 1A • Motor Current V AFD 1A • Motor Current W AFD 1A • Average Motor Voltage AFD 1A • Output Power AFD 1A • Input Power AFD 1A • Calculated Input Voltage AFD 1A • Winding Temp #1 Motor 1A • Winding Temp #2 Motor 1A • Drive Cooling Supply Temperature Cprsr1A • Drive Cooling Bypass Valve Pos Cprsr1A • Average Line Current % RLA Starter 1B • Motor Current L1 % RLA Starter 1B • Motor Current L2 % RLA Starter 1B • Motor Current L3 % RLA Starter 1B • Motor Current L1 Starter 1B • Motor Current L2 Starter 1B • Motor Current L3 Starter 1B • Motor Voltage AB Starter 1B 	<ul style="list-style-type: none"> • Speed Cprsr2A • Frequency Cprsr2A • Transister Temperature AFD 2A • DC Bus Voltage AFD 2A • Average Motor Current % RLA AFD 2A • Motor Current U % RLA AFD 2A • Motor Current V % RLA AFD 2A • Motor Current W % RLA AFD 2A • Motor Current U AFD 2A • Motor Current V AFD 2A • Motor Current W AFD 2A • Average Motor Voltage AFD 2A • Output Power AFD 2A • Input Power AFD 2A • Calculated Input Voltage AFD 2A • Winding Temp #1 Motor 2A • Winding Temp #2 Motor 2A • Drive Cooling Supply Temperature Cprsr2A • Drive Cooling Bypass Valve Pos Cprsr2A • Average Line Current % RLA Starter 2B • Motor Current L1 % RLA Starter 2B • Motor Current L2 % RLA Starter 2B • Motor Current L3 % RLA Starter 2B • Motor Current L1 Starter 2B • Motor Current L2 Starter 2B • Motor Current L3 Starter 2B • Motor Voltage AB Starter 2B

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