



Liebert[®] iCOM[™] CMS

Installer/User Guide

**Intelligent Communication & Monitoring for Liebert[®] Mini-Mate2
and Liebert[®] DataMate Systems**

The information contained in this document is subject to change without notice and may not be suitable for all applications. While every precaution has been taken to ensure the accuracy and completeness of this document, Vertiv assumes no responsibility and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

Refer to local regulations and building codes relating to the application, installation, and operation of this product. The consulting engineer, installer, and/or end user is responsible for compliance with all applicable laws and regulations relation to the application, installation, and operation of this product.

The products covered by this instruction manual are manufactured and/or sold by Vertiv. This document is the property of Vertiv and contains confidential and proprietary information owned by Vertiv. Any copying, use, or disclosure of it without the written permission of Vertiv is strictly prohibited.

Names of companies and products are trademarks or registered trademarks of the respective companies. Any questions regarding usage of trademark names should be directed to the original manufacturer.

Technical Support Site

If you encounter any installation or operational issues with your product, check the pertinent section of this manual to see if the issue can be resolved by following outlined procedures.

Visit <https://www.vertiv.com/en-us/support/> for additional assistance.

TABLE OF CONTENTS

1 Getting Started with Vertiv™ Liebert® iCOM™ CMS	1
1.1 Liebert® iCOM™ CMS has 3 Main Features	1
1.2 What Features Would You Like to Use?	1
1.2.1 Access the web-based user interface	1
1.2.2 Access the BMS protocols	1
1.2.3 Access the mobile cloud/mobile app	1
1.3 Liebert® iCOM™ CMS web-based user interface	2
1.3.1 Sensor status	4
1.3.2 Unit Status	4
1.4 Logging-on to Vertiv™ Liebert® iCOM™ CMS and Unlocking controls	5
1.4.1 Powering-on the cooling unit	5
1.4.2 Powering-off the cooling unit	5
1.4.3 Logging out	5
1.5 Setting general display properties	6
1.6 Setting the date and time	6
1.7 Searching	7
1.8 Using Context-sensitive Help	7
1.9 About Vertiv™ Liebert® iCOM™ CMS version	7
1.10 Accessing the User, Service and Advanced functions	8
2 User Operation	13
2.1 Viewing setpoints for the cooling unit	13
2.2 Viewing the event log for a cooling unit	13
2.3 Viewing cooling-unit alarms	14
2.3.1 Clearing alerts for resolved conditions	15
2.3.2 Acknowledging alarms	15
3 Service and Advanced Operation	17
3.1 Editing setpoints for the cooling unit	17
3.1.1 Setting Restart Delay	17
3.2 Managing Alarm and Warning Notifications	18
3.2.1 Enabling alarm/warning notifications and editing settings	18
3.2.2 Setting-up custom-alarm events	19
3.3 Sensor Calibration	20
3.4 Maintenance scheduling and component run hours	20
3.4.1 Setting Maintenance Dates	21
3.4.2 Setting run hours to zero	21
3.5 External Monitoring and Building-management systems	21
3.5.1 BMS Passthrough Set Up	22
3.5.2 Modbus RTU Set Up	22
3.5.3 Modbus TCP Set Up	23
3.5.4 SNMP Set Up	24

3.6 Connection Settings	24
3.7 Backing-up and Restoring settings	25
3.7.1 Backing-up Liebert® iCOM™ CMS settings	25
3.7.2 Restoring Vertiv™ Liebert® iCOM™ CMS settings	26
3.7.3 Exporting Liebert® iCOM™ CMS settings	26
3.7.4 Importing Liebert® iCOM™ CMS Settings	26
3.7.5 Resetting hardware to factory defaults	27
3.8 Updating Vertiv™ Liebert® iCOM™ CMS firmware	28
3.8.1 Firmware update using USB drive	28
3.8.2 Firmware update using drag-and-drop	28
3.9 Managing Access Permission and PINS	29
3.10 Generating a Diagnostics Report	30
3.11 Setting unit name, location and serial number	30
3.12 Setting the Vertiv™ Liebert® iCOM™ CMS Name	31
3.13 Setting the Managing Mode	31
3.14 Managing SSL Certificates	31
3.14.1 Generating a Certificate Signing Request	32
3.14.2 Generating a Self-signed Certificate	32
4 Installing and Connecting Vertiv™ Liebert® iCOM™ CMS	33
4.1 Mounting Liebert® iCOM™ CMS on Thermal-management Unit	33
4.2 Setting up Communication with the Web-based User Interface	34
4.3 Registering with the Administration Portal to Allow Mobile-app Users Access	34
4.4 Setting Up Network Communication	35
4.5 Setting Up BMS serial communication	36
Appendices	37
Appendix A: Technical Support and Contacts	37

1 Getting Started with Vertiv™ Liebert® iCOM™ CMS

The web-based user interface for Liebert® iCOM™ CMS offers the highest capability for unit control, communication, and monitoring of Liebert® Thermal Management units. It is available factory-installed on new units and assemblies or may be retrofitted in existing units. For details on first-time set-up and retro-fit installation, see [Installing and Connecting Vertiv™ Liebert® iCOM™ CMS](#) on page 33.

1.1 Liebert® iCOM™ CMS has 3 Main Features

- A web-based user interface providing remote connectivity to a unit-level display with full read/write capabilities.
- BMS connectivity via Modbus RTU, Modbus TCP/IP and SNMP.
- Mobile cloud/Mobile app access to view status and notification information on a mobile device.

NOTE: You can control the unit using the web-based UI, including unit on/off, setpoints, and alarm set-up. The mobile app, however, does not allow unit control. It is a read-only interface for notifications.

1.2 What Features Would You Like to Use?

You can use one or all of these features, and the following sections provide an outline of the steps to set-up and get started using each one.

1.2.1 Access the web-based user interface

Place Liebert® iCOM™ CMS on your corporate network by configuring the network settings using the Connection Settings menu. See [Connection Settings](#) on page 24.

Once set-up, everyone using a computer with corporate-network access and provided with the assigned IP address can open the web UI in a web browser.

1.2.2 Access the BMS protocols

To configure communication with your building-management system, use the BMS Setup menu. See [External Monitoring and Building-management systems](#) on page 21.

1.2.3 Access the mobile cloud/mobile app

Place Liebert® iCOM™ CMS on your corporate network by configuring the network settings using the Connection Settings menu. See [Connection Settings](#) on page 24.

Then, register the Liebert® iCOM™ CMS cooling unit using the Cloud Setup menu. See [Registering with the Administration Portal to Allow Mobile-app Users Access](#) on page 34.

- Once the unit is registered, the e-mail address you used to register the device will receive a password-change e-mail with the credentials to log-in to the Liebert® iCOM™ CMS Administration Portal (www.icomcms.com) and the mobile app.

- Visit the Administration Portal at icomcms.com, and log-in to manage the registered devices and mobile-app users as follows:
 - Create a division.
 - Create a building and assign the building to a division.
 - Assign the registered Vertiv™ Liebert® iCOM™ CMS unit to a building.
 - Create users, define the user's role (Administrator, Mobile-app only), set-up e-mail or SMS-text notifications, and assign buildings to the user, which determines what units they can view in the mobile app.
 - The mobile-app users will get an e-mail with log-in credentials, and can download the Liebert® iCOM™ CMS mobile application and log in to receive notifications.

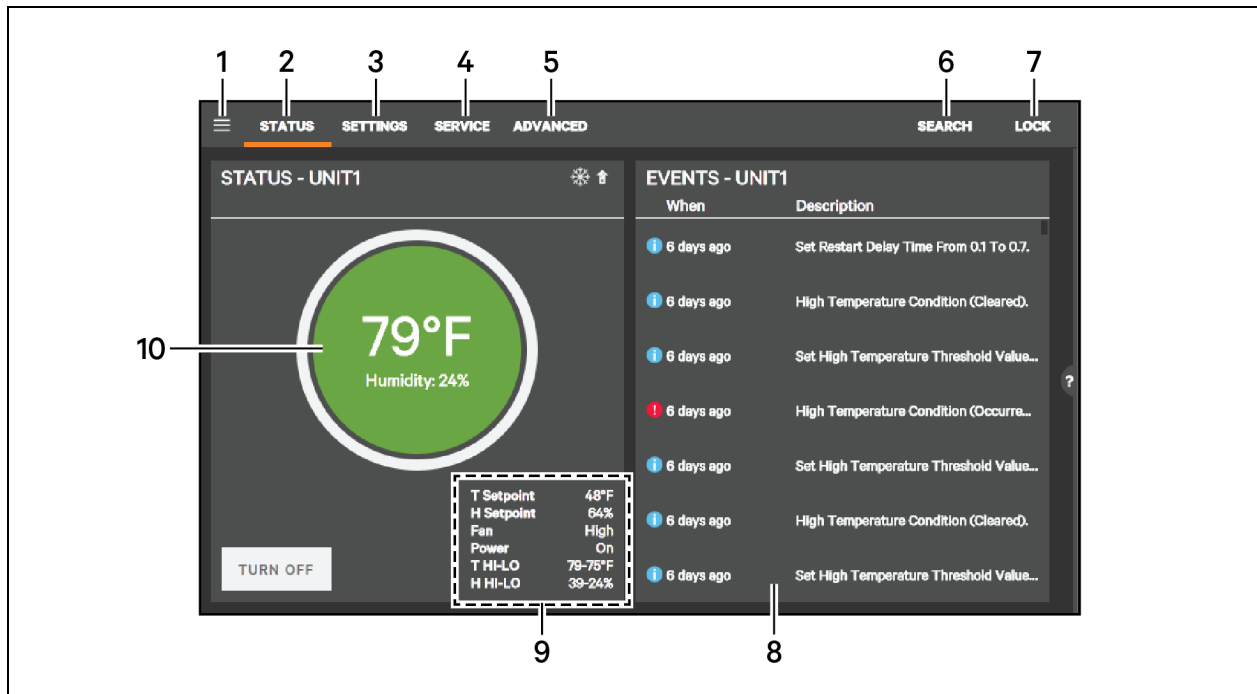
1.3 Liebert® iCOM™ CMS web-based user interface

The web-based user interface speeds set up and installation and simplifies control of Liebert cooling units.

- User, service and advanced menus are password-protected to prevent unauthorized changes to cooling-unit operation. See [Logging-on to Vertiv™ Liebert® iCOM™ CMS and Unlocking controls](#) on page 5 .
- Liebert® iCOM™ CMS ships with default settings for efficient and effective operation of most cooling-units and is easily configured to meet any need.
- Liebert® iCOM™ CMS requires a Google Chrome web browser version 50.0.xx or higher.

Figure 1.1 on the facing page , shows the controls and options available on the main display.

Figure 1.1 Vertiv™ Liebert® iCOM™ CMS web-based user interface



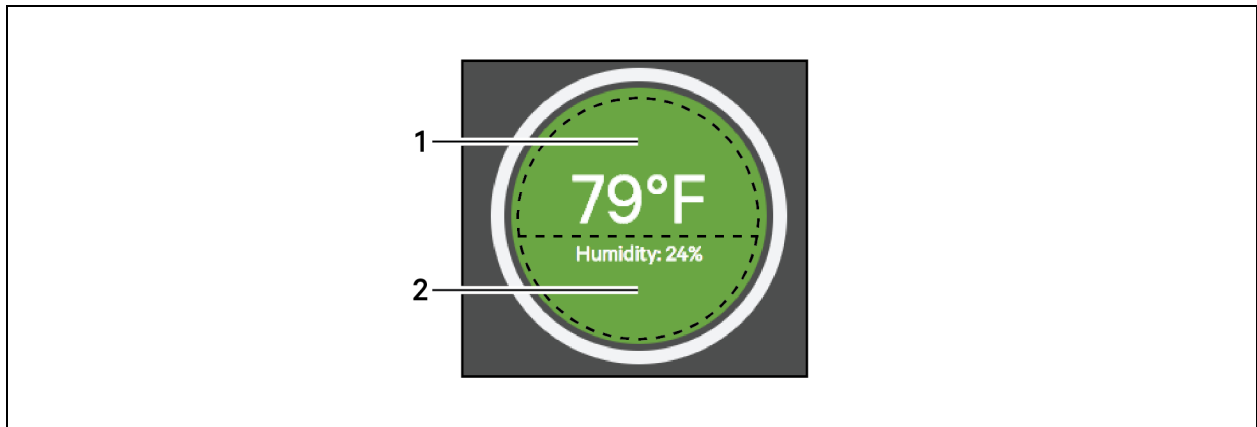
Item	Description
1	Menu icon. When unlocked, displays set-up, control options and menu depending on the password level used.
2	Status view. When you log on, the Liebert® iCOM™ CMS-controlled units and their status are listed on the main display. Clicking the status icon toggles between the status and alarm summary.
3	Settings view. When selected, the settings options are listed on the main display. Options are: <ul style="list-style-type: none"> • Display Preferences, see Setting general display properties on page 6 . • Date/Time Setup, see Setting the date and time on page 6 . • Liebert® iCOM™ CMS settings are listed when you are logged-in at the “advanced” level, see: <ul style="list-style-type: none"> • Setting the Vertiv™ Liebert® iCOM™ CMS Name on page 31 . • Setting the Managing Mode on page 31 . • Managing SSL Certificates on page 31
4	Service view. When selected, the last and next preventive maintenance (PM) are listed next to the connected units. See Maintenance scheduling and component run hours on page 20 . You must be logged-on at the “Service” or “Advanced” level to access the service icon. See Logging-on to Vertiv™ Liebert® iCOM™ CMS and Unlocking controls on page 5 .
5	Advanced view. When selected, advanced-level options are available on the menu. You must be logged-on at the “Advanced” level to access the advanced icon. See Logging-on to Vertiv™ Liebert® iCOM™ CMS and Unlocking controls on page 5 .
6	Search. Opens the “search” term-entry box. See Searching on page 7 .
7	Lock/Unlock. Indicates that the options/menus at the level at which you are logged-on (user, service or advanced) are accessible. See Logging-on to Vertiv™ Liebert® iCOM™ CMS and Unlocking controls on page 5 .

Item	Description
8	Secondary-content panel. When accessing settings/configuration via the menus, the settings display in the right, "secondary" panel.
9	Setpoint and Unit status summary. Summary display of setpoints and settings of the unit. See Unit Status below .
10	Sensor status summary. Summary display of environmental conditions of the unit. See Sensor status below .

1.3.1 Sensor status

The dial in the status panel displays environmental conditions for the unit at a glance.

Figure 1.2 Status dial



Item	Description
1	Temperature-sensor reading. Current temperature reading at the unit.
2	Humidity-sensor reading. Current humidity reading at the unit.

1.3.2 Unit Status

The unit status list in the main status panel displays unit-specific settings and parameters at a glance.

Unit-status list options

T Setpoint

Current temperature setpoint.

H Setpoint

Current humidity setpoint.

Fan

Current fan-speed setting.

Power

Indicates the on/off status of the unit.

T HI-LO

Highest and lowest temperature reading over the selected period.

See “Hi/Lo Period” in [Setting general display properties](#) on the next page .

H HI-LO

Highest and lowest humidity reading over the selected period.

See “Hi/Lo Period” in [Setting general display properties](#) on the next page .

1.4 Logging-on to Vertiv™ Liebert® iCOM™ CMS and Unlocking controls


The factory-default password for user, service and advanced login are provided. We recommend you change passwords as necessary to prevent unauthorized changes. See [Managing Access Permission and PINS](#) on page 29 .

- Default User password = 1490
- Default Service password = 5010
- Default Advanced password = 2210


To log-on and unlock Liebert® iCOM™ CMS:

1. Open the Liebert® iCOM™ CMS web interface in your browser.
The log-in screen opens.
2. Type the password, and click *Sign In*.
Depending on the user level selected, the user/service/advanced options are accessible. See [Accessing the User, Service and Advanced functions](#) on page 8 .

1.4.1 Powering-on the cooling unit

1. In the unit list on the status panel, click .
The POWER UNIT CONTROL dialog opens.
2. Click *On*.
The cooling unit starts.

1.4.2 Powering-off the cooling unit

1. In the unit list on the status panel, click .
The POWER UNIT CONTROL dialog opens.
2. Click *Off*.
The cooling unit powers-off.

1.4.3 Logging out

To log-out, click the lock icon.

The log-in screen displays.

1.5 Setting general display properties

1. On the menu bar, click *SETTINGS*, then *Display Preferences* in the settings list. The DISPLAY PREFERENCES panel displays.
2. Select the settings and click *Save*.
 - Click *Cancel* to discard the changes.

Display-preferences fields

Theme

Selects the color theme for the display.

Measurement System

Selects the units of measurement.

Inactivity Timer

Time to elapse before display logs-off.

Hi/Lo Period

Period over which the high and low temperature and humidity readings are taken. The readings are displayed on the main display, see [Unit Status](#) on page 4 .

Date Format

Display format for the date.

Time Format

Display format for the time.

1.6 Setting the date and time

The correct date and time is critical for warnings, alarms, and scheduling.

1. On the menu bar, click *SETTINGS*, then *Date/Time Setup* in the settings list. The DATE/TIME SETUP panel displays.
2. Select the settings.

NOTE: If NTP is enabled, the Set Date and Set Time fields are grayed out.

3. Click *Save*.
 - Click *Cancel* to discard the changes.

Date/Time set-up options

Time Zone

Selects the time zone.

Set Date

Selects the current date when NTP is disabled.

Set Time

Selects the current time when NTP is disabled.

NTP Enabled

Enables/Disables the network time protocol for clock synchronization.

NTP Server #X


When NTP is enabled, the address of the server(s) to which the unit refers for the time protocol, where X = designates a reference number for the server.

1.7 Searching

Use the display search to find the location of settings options.

1. On the menu bar, click *SEARCH*.
The term-entry box opens.
 - Click *Search* again to close the term-entry box.
2. Type the term and press **Enter**.
A list of locations that contain the searched term opens.
3. Click an item to open the panel for the selected location.


1.8 Using Context-sensitive Help

Clicking the Help icon,  , on the right-hand side of the display opens the Help drawer with information about the panel or dialog currently on the display. You can use search in the Help to find further information.

To close the Help drawer, click the close arrow,  again.

1.9 About Vertiv™ Liebert® iCOM™ CMS version

The version, build, and other firmware information may be helpful when servicing or troubleshooting.


1. Click  ,
The menu opens.
2. Click *About*.
The ABOUT panel opens.

1.10 Accessing the User, Service and Advanced functions

The Vertiv™ Liebert® iCOM™ CMS operating functions that monitor and control a cooling unit are accessed via the icons in the header and the menus.

NOTE: You must be logged-in with the appropriate level and password to access the menu options for user-, service- and advanced-specific functions. See [Logging-on to Vertiv™ Liebert® iCOM™ CMS and Unlocking controls](#) on page 5 .

To access menu functions:

Click the menu icon, .

Depending on the function level at which you are logged-in, the menu opens. The following lists describe the available options on each menu.

User-level menu options

Setpoints

Opens the SETPOINTS panel. See [Viewing setpoints for the cooling unit](#) on page 13 .

Event Log

Opens the EVENT LOG panel. See [Viewing the event log for a cooling unit](#) on page 13 .

About

Opens the ABOUT panel. See [About Vertiv™ Liebert® iCOM™ CMS version](#) on the previous page .

Support & Services

Opens the SUPPORT & SERVICES panel.

Service-level Menu Options

Setpoints

Opens the SETPOINTS panel. See [Editing setpoints for the cooling unit](#) on page 17 .

Set Alarms

Opens the SET ALARMS panel. See [Managing Alarm and Warning Notifications](#) on page 18 .

Event Log

Opens the EVENT LOG panel. See [Viewing the event log for a cooling unit](#) on page 13 .

Sensor Calibration

Opens the SENSOR CALIBRATION panel. See [Sensor Calibration](#) on page 20 .

BMS Setup

Opens the BMS SETUP options:

- BMS Passthrough—See [BMS Passthrough Set Up](#) on page 22 .
- Modbus—See [Modbus RTU Set Up](#) on page 22 .
- SNMP—See [SNMP Set Up](#) on page 24 .

Cloud Setup

Opens the CLOUD SETTINGS panel. See [Registering with the Administration Portal to Allow Mobile-app Users Access](#) on page 34 .

Connection Settings

Opens the DISPLAY CONNECTIONS panel. See [Connection Settings](#) on page 24 .

Settings Management

Opens the SETTINGS MANAGEMENT options:

- Backup & Restore—See [Backing-up and Restoring settings](#) on page 25 .
- Import & Export—See [Importing Liebert® iCOM™ CMS Settings](#) on page 26 , and [Exporting Liebert® iCOM™ CMS settings](#) on page 26 .
- Factory Reset—See [Resetting hardware to factory defaults](#) on page 27 .

Load Firmware

Opens the FIRMWARE UPGRADE PARAMETERS panel. See [Updating Vertiv™ Liebert® iCOM™ CMS firmware](#) on page 28 .

About

Opens the ABOUT panel. See [About Vertiv™ Liebert® iCOM™ CMS version](#) on page 7 .

Support & Services

Opens the SUPPORT & SERVICES panel.

Advanced-level Menu Options

Setpoints

Opens the SETPOINTS panel. See [Editing setpoints for the cooling unit](#) on page 17.

Set Alarms

Opens the SET ALARMS panel. See [Managing Alarm and Warning Notifications](#) on page 18.

Event Log

Opens the EVENT LOG panel. See [Viewing the event log for a cooling unit](#) on page 13.

Sensor Calibration

Opens the SENSOR CALIBRATION panel. See [Sensor Calibration](#) on page 20.

BMS Setup

Opens the BMS SETUP options:

- BMS Passthrough—See [BMS Passthrough Set Up](#) on page 22.
- Modbus—See [Modbus RTU Set Up](#) on page 22.
- SNMP—See [SNMP Set Up](#) on page 24.

Cloud Setup

Opens the CLOUD SETTINGS panel. See [Registering with the Administration Portal to Allow Mobile-app Users Access](#) on page 34.

Connection Settings

Opens the DISPLAY CONNECTIONS panel. See [Connection Settings](#) on page 24.

Settings Management

Opens the SETTINGS MANAGEMENT options:

- Backup & Restore—See [Backing-up and Restoring settings](#) on page 25.
- Import & Export—See [Importing Liebert® iCOM™ CMS Settings](#) on page 26, and [Exporting Liebert® iCOM™ CMS settings](#) on page 26.
- Factory Reset—See [Resetting hardware to factory defaults](#) on page 27.

Load Firmware

Opens the FIRMWARE UPGRADE PARAMETERS panel. See [Updating Vertiv™ Liebert® iCOM™ CMS firmware](#) on page 28.

Manage Passwords

Opens the MANAGE PASSWORDS panel. See [Managing Access Permission and PINS](#) on page 29 .

About

Opens the ABOUT panel. See [About Vertiv™ Liebert® iCOM™ CMS version](#) on page 7 .

Support & Services

Opens the SUPPORT & SERVICES panel. Includes the option to create a diagnostics report to help with technical-support calls. See [Generating a Diagnostics Report](#) on page 30 .


This page intentionally left blank.

2 User Operation

2.1 Viewing setpoints for the cooling unit

NOTE: User-level access allows only viewing of setpoints. To adjust setpoints, you must have service- or advanced-level access. See [Editing setpoints for the cooling unit](#) on page 17 .

To view the setpoints:

1. Click  > *Setpoints*.
The SETPOINTS panel opens.
2. Click the name of the unit for the setpoints you want to see.
The detail panel displays the setpoints for that unit.

Setpoints—user level

Temperature

Temperature that the unit maintains via cooling/reheat.

Temperature Sensitivity

Deviation from setpoint allowed before unit begins cooling/heating.

Humidity

Humidity level maintained by adding moisture to or removing moisture from the air.

Humidity Sensitivity

Deviation from setpoint allowed before unit begins humidifying/dehumidifying.

Restart Delay

Length of delay, in 6-second intervals, before the unit restarts automatically after a loss of main power. See [Setting Restart Delay](#) on page 17.


Fan Speed

Indicates the selected fan speed.

2.2 Viewing the event log for a cooling unit

The event log is a list by date/time, unit, event type for all generated events and alarms and includes the PIN ID for user-generated events and comments. Selecting an event log displays details about the event.

To view the event log:

1. Click  > *Event Log*.
The EVENT LOG opens.
2. Click an event to display the detailed information.

Event-log fields

When

The date and time the event occurred.

Unit

The cooling unit to which the event is associated.

Description

Description of the event.

PIN ID

The name of the user that made a user-generated event or comment.

Event details

Date/Time

The date and time the event occurred.

Unit

The cooling unit to which the event is associated.

Description

Description of the event.

PIN ID

The name of the user that made a user-generated event or comment.

2.3 Viewing cooling-unit alarms

The ALARMS SUMMARY lists active alarm and warning events for the cooling unit.

To view the alarm summary:

1. On menu bar, click *STATUS*, to toggle between the status and alarm summaries.
The ALARMS SUMMARY displays in the primary panel, and the ALARMS list displays in the secondary panel.
2. Click an alarm to display the ALARM DETAILS panel, described in [Alarm/Warning detail fields](#) on the facing page

Alarm list fields

When

Time elapsed since the event was logged.

Description

Description of the event.

2.3.1 Clearing alerts for resolved conditions

Alarm notifications on the UI will remain active until cleared, even after the condition that triggered the alarm is resolved.

NOTE: Resetting/Clearing an alarm from the web-based UI does not clear it from the Vertiv™ Liebert® iCOM™ display.

To clear the alert(s):

On the ALL ALARMS panel, click *Reset*.

Alerts for resolved events are cleared. If the condition that triggered the alarm is not resolved, the alert is not cleared.

2.3.2 Acknowledging alarms

Once acknowledged, an event remains active until the situation that triggered the event is resolved.

NOTE: The High Water alarm event and the Smoke Detected alarm event (if smoke-detector option is included) automatically power-off the cooling unit.

To acknowledge an alarm:

1. On the ALARMS list, click an alarm/warning.
The alarm detail panel displays.
2. On the alarm-detail, click *Acknowledge*.

NOTE: Acknowledging alarm events does not clear them. To clear an issue, it must be corrected, reset automatically by the controller, or reset manually.

Alarm/Warning detail fields

Event Type

The type of event.

Status

Current status of the event.

Date/Time

Date and time the event was logged.

Duration

Length of time the event is active.

Threshold

Setting at which the event was triggered.

This page intentionally left blank.

3 Service and Advanced Operation


NOTE: With the exception of managing passwords, which is only available to the advanced-level user, the service and advance menu options are the same.

3.1 Editing setpoints for the cooling unit

Setpoints are the means by which cooling-unit operation is controlled.

NOTE: Setpoint adjustment is only available via the web-based UI (and the wall-mounted controller). You cannot modify setpoints using the mobile app.

To edit the setpoints:

1. Click  > *Setpoints*.
The SETPOINTS panel opens.
2. Adjust the setpoint options, then click *Save*.
The setpoint is updated.
 - Click *Cancel* to discard the changes.

Setpoint options

Temperature

Temperature that the unit maintains via cooling/reheat.

Temperature Sensitivity

Deviation from setpoint allowed before unit begins cooling/heating.

Humidity

Humidity level maintained by adding moisture to or removing moisture from the air.

Humidity Sensitivity

Deviation from setpoint allowed before unit begins humidifying/dehumidifying.

Restart Delay

Length of delay, in 6-second intervals, before the unit restarts automatically after a loss of main power. See [Setting Restart Delay](#) below.

Fan Speed


Selects the fan speed.

3.1.1 Setting Restart Delay

Restart delay prevents multiple units from starting at the same time after a loss of main power. In multi-unit systems, program each unit with a different delay for automatic restart.

Setting the delay to 0 (zero) disables automatic restart and requires manually restarting the unit using the on/off button.

To set a delay:

1. Click  > *Setpoints*.
The SETPOINTS panel opens.
2. Use the slider or -/+ buttons to select the Restart Delay, then click Save.

3.2 Managing Alarm and Warning Notifications

Events are notifications of operating status for the cooling unit, its components, and auxiliary devices. All events are recorded in the Event Log, and alarm and warning events are also displayed on the alarm summaries. See [Viewing the event log for a cooling unit](#) on page 13, and [Viewing cooling-unit alarms](#) on page 14 .

NOTE: The High Water alarm event and the Smoke Detected alarm event (if smoke-detector option is included) automatically power-off the cooling unit.


The EDIT ALARMS panel, lists the configurable notification events for the selected unit. You can modify these events and the criteria that trigger alarms including:

- Critical thresholds
- Time delays
- Enable/Disable alarm
- Enable/Disable trigger of common-alarm relay
- Adding custom alarms

NOTE: To adjust alarm settings, you must have service- or advanced-level access.

3.2.1 Enabling alarm/warning notifications and editing settings

To adjust alarm settings, you must have service- or advanced-level access.

1. Click  > *Set Alarms*.
The EDIT ALARMS list opens.
2. Click an alarm in the list.
The EDIT ALARM panel opens.
3. Adjust the settings and click Save.

Edit Alarm panel fields and options

Alarm/Warning switch

Logging and notification level of the event.

NOTE: Warning events do not trigger alert notifications (via e-mail, SMS, and Push) on the mobile application.

Enabled/Disabled switch

Enables/Disables notification at the cooling unit's Vertiv™ Liebert® iCOM™ display and on the web-based UI. Click the switch to set On or Off.

NOTE: When disabled, events are not logged or displayed and visual/audible alarm notifications are not made.

Relay On/Off

Defines whether or not the event triggers the Common Alarm Relay. Options are:

- Relay On = common-alarm relay is triggered.
- Relay Off = common-alarm relay is not triggered.

Threshold

Reading at which the alarm is triggered.

Alarm Delay


Time, in seconds, to delay notification after event trigger.

3.2.2 Setting-up custom-alarm events

Remote-alarm devices (RAD) are sensors and detectors outside the cooling unit that provide information about conditions and situations that may affect operation. RAD include smoke detectors, filter-condition, and valve status.

Two or three custom alarm events are included, depending on the tonnage of the cooling unit.

To set up a custom alarm event:

1. Click  > *Set Alarms*.
The EDIT ALARMS list opens.
2. Click a custom alarm in the list.
The EDIT ALARM panel opens.
3. Use the EDIT ALARM panel to
 - Adjust the settings, described in [Edit Alarm panel fields and options](#) on the previous page .
 - Select the custom-alarm type described in **Table 3.1** below .
4. Click Save.

NOTE: Depending on customization, some events listed in Table 3.1 below may not be available with your system.

Table 3.1 Custom input options


Description
Smoke Detected
Humidifier Problem
Loss of Airflow
Water Flow Loss
Filter Clog
Custom Text #1
Custom Text #2

3.3 Sensor Calibration

If you suspect that the temperature and/or humidity readings are not accurate, you can calibrate the sensors using a field-supplied, portable, calibrated test instrument.

NOTE: If the sensor measurements are subject to wide temperature or humidity swings, you may shorten cycling by increasing sensor time delay. Wide measurement swings will also occur if the sensors are too close to the unit's discharge air. If this is the case, you may be able to reduce compressor cycling by increasing the sensitivity settings for temperature and humidity.

To perform sensor calibration:

1. Place a calibrated test instrument as close as possible to the cooling-unit sensor to obtain an accuracy reading for comparison.
2. Wait at least 15 minutes after the unit maintains stable operating conditions.
3. On the Vertiv™ Liebert® iCOM™ CMS interface, click  > *Sensor Calibration*.
The SENSOR CALIBRATION panel and the sensor-calibration PROPERTIES panel display.
4. Referring to the test instrument, click and drag the slider to adjust the offset so that the corrected reading matches that of the test instrument, and click Save.

Sensor-calibration options

Temperature Sensor column

Actual reading of the temperature sensor.

Temperature Corrected column

Adjusted reading of the temperature sensor based on the selected offset.

Humidity Sensor column

Actual reading of the humidity sensor.

Humidity Corrected column

Adjusted reading of the humidity sensor based on the selected offset.

Offset

Slider selects the plus or minus offset of the corresponding sensor.

3.4 Maintenance scheduling and component run hours

You can view and configure maintenance dates for each unit by clicking the Service button. The left panel displays each unit, along with the date of its last performed maintenance and next schedule maintenance.

Clicking a unit displays its components, along with each component's run hours, in the right panel. You can perform several service functions on the components. See [Setting Maintenance Dates](#) on the facing page, and [Setting run hours to zero](#) on the facing page.

Service panel fields

Unit

Unit name.

Last PM

Last scheduled maintenance for the unit.

Next PM

Next scheduled maintenance for the unit.

3.4.1 Setting Maintenance Dates

1. On the menu bar, click *SERVICE*.
The *SERVICE* panel opens.
2. Click *Maintenance Setup*.
The maintenance-setup panel displays.
3. In the *COMPONENTS* panel, select a date for the last and/or next scheduled maintenance, then click *Save*.
4. Click *Close* to return to the run-hours list.

Maintenance-date fields

Last Maintenance

Date of the previous scheduled preventive maintenance for the unit.

Next Maintenance

Date of the next scheduled preventive maintenance for the unit.

3.4.2 Setting run hours to zero

You can view and reset the run hours on unit components.

1. On the menu bar, click *SERVICE*, and select a unit in the *SERVICE* panel.
2. In the *COMPONENTS* panel, click to check the components for which you want run hours reset to zero.
 - Click *Clear* to clear all check marks.
3. Click *Reset to Zero*, then *OK* in the warning dialog.
 - Click *Cancel* to cancel the reset and clear all check marks.

3.5 External Monitoring and Building-management systems

NOTE: Some Building Management Systems can be configured to send continuous updates for setpoints, which often results in setting the same value. To avoid a back-up with Vertiv™ Liebert® iCOM™ CMS and loss or write values, configure the BMS to write device configuration no more than once per minute.

3.5.1 BMS Passthrough Set Up

BMS support may be provided by an external IS-WEBADPT card.

NOTE: Only one type of serial communication may be used at a time. In the Web UI, enabling one of the serial communication methods, BMS pass-through or Modbus RTU, automatically disables the other. Enabling BMS pass-through will not affect Modbus TCP set up.

To set-up BMS passthrough:


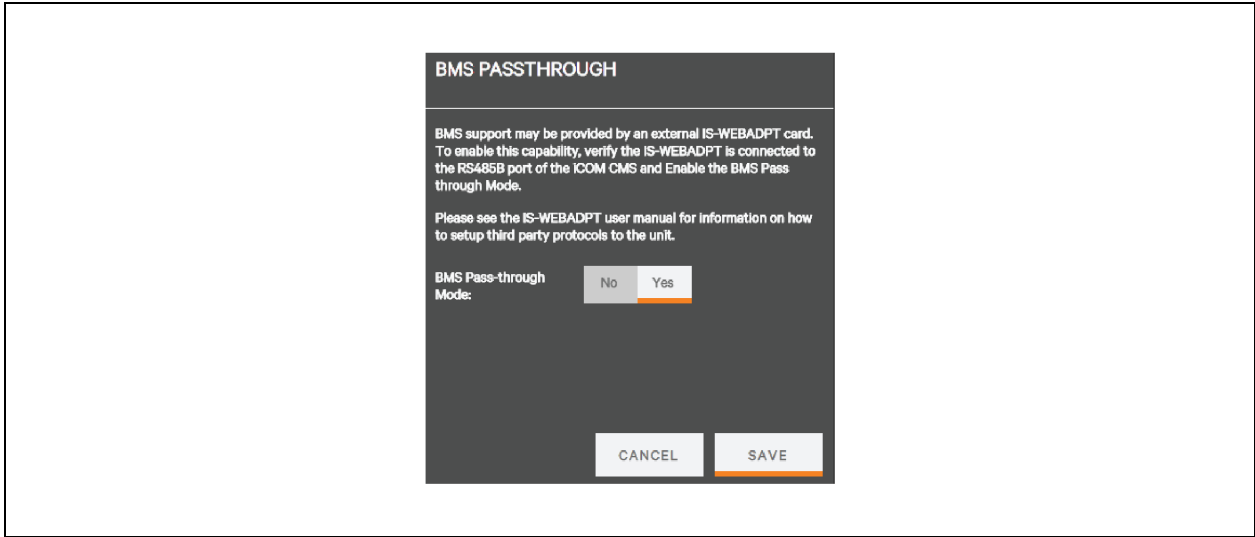
1. Make sure the IS-WEBADPT card is connected to the RS485 port of Vertiv™ Liebert® iCOM™ CMS. See [Setting Up BMS serial communication](#) on page 36 .
2. Click  > *BMS Setup*.
The BMS SETUP panel displays.
3. Select *BMS Passthrough*.
The BMS PASSTHROUGH panel displays, **Figure 3.1** below .
4. Click the *BMS Pass-through Mode* switch to select **Enabled**, then click *Save*.
5. Refer to the IS-WEBADPT user manual to set up third-party protocols.

Figure 3.1 BMS Passthrough panel



3.5.2 Modbus RTU Set Up

NOTE: Only one type of serial communication may be used at a time. In the Web UI, enabling one of the serial communication methods, BMS pass-through or Modbus RTU, automatically disables the other. Enabling BMS pass-through or Modbus RTU will not affect Modbus TCP set up.

NOTE: The protocol will not work with the control board’s default IP address: 169.254.24.7. Make sure a Static or DHCP address is set. See [Connection Settings](#) on page 24 .

External monitoring can be performed via Modbus serial connection.

1. Click  > *BMS Setup*.
The BMS SETUP panel displays.

2. Select *Modbus*.
The MODBUS panel displays.
3. In the Interface field, select *Modbus RTU*.
4. Select the Modbus RTU settings, then click *Save*.

Modbus RTU communication settings

Interface

Selects type of Modbus communication.

Access Level

Selects read-only or read/write access.

Node ID

Modbus node number (1 to 247).

Data Rate

Selects rate of Modbus communication.

Parity

Selects type of communication parity check.


Stop Bits

Selects number of communication stop bits.

3.5.3 Modbus TCP Set Up

External monitoring can be performed via Modbus TCP connection.

NOTE: The protocol will not work with the control board's default IP address: 169.254.24.7. Make sure a Static or DHCP address is set. See [Connection Settings](#) on the next page .

1. Click  > *BMS Setup*.
The BMS SETUP panel displays.
2. Select *Modbus*.
The MODBUS panel displays.
3. In the Interface field, select *Modbus TCP*.
4. Select the Modbus TCP settings, then click *Save*.

Modbus TCP communication settings

Interface

Selects type of Modbus communication.

Access Level

Selects read-only or read/write access.

Port

Modbus port number.

Max Concurrent Clients

Maximum number of users that may access the cooling unit via the remote application at the same time.

Network Access


Selects the level of network access via Modbus.

- Open = no access limits.
- Same Subnet = only accessible by clients on the same subnet.
- Trusted IP list = only accessible by trusted IP addresses, set in Trusted IP field.

Trusted IP #1 – 5

IP addresses with “trusted” network access.

3.5.4 SNMP Set Up

1. Click  > *BMS Setup* > *SNMP*.
The SNMP panel displays.
2. In the Enabled field select *Yes.*, then click *Save*.
The following options appear in the left panel:
 - SNMPv1V2c Access Hosts
 - SNMPv1 Trap Targets
3. Click *SNMPv1V2c Access Hosts* to view, edit, or add access hosts.
4. Click *SNMPv1 Trap Targets* to view, edit, or add trap targets.
5. In *Authentication Trap*, select *Enabled*, then click *Save*.

SNMP communication settings

Enabled

Enables/Disables SNMP communication option.

SNMPv1/v2c Access

Enables/Disables SNMP access.

Authentication Trap


Enables/Disables SNMP authentication traps.

Device Name

Object name of the managed device.

3.6 Connection Settings

Configures the Ethernet connection between the unit and the Vertiv™ Liebert® iCOM™ CMS interface(s).

1. Click  > *Connection Settings*.
The DISPLAY CONNECTIONS list opens.
2. In the Connection Type list, select the connection to configure.

3. In the display-connection PROPERTIES panel, click to toggle *DHCP* or *Static* mode.
 - If you select DHCP, go to step 5.
 - If you select Static, continue with the next step.
4. For static mode, enter the address, netmask, gateway and DNS-server settings.
5. Click *Save*.

Display-connection options

Mode

IP assignment type.

MAC Address

Media access control. (Read-only.)

IP Address

Network address of the Vertiv™ Liebert® iCOM™ CMS display/app.

Netmask

Divides IP addresses in subnet.

Gateway

IP address to the gateway to other subnets.

DNS Servers

IP addresses of the DNS servers for the organization.


3.7 Backing-up and Restoring settings

Liebert® iCOM™ CMS settings may be saved to a local disk or USB drive, and the saved files may exported or imported to restore Liebert® iCOM™ CMS if it is replaced or if a problem occurs. You can import and export configuration settings to apply the configuration to other units, and you can also return Liebert® iCOM™ CMS to factory-default settings.

3.7.1 Backing-up Liebert® iCOM™ CMS settings

Save a copy of the settings in a descriptively named file. Use a back-up file to restore the unit settings in the event of a failure.

NOTE: Backing-up the Liebert® iCOM™ CMS settings does not save settings stored on the cooling unit's Liebert® iCOM™ display, including setpoints, alarm settings, and sensor calibration. The back-up file also does not save the cloud-registration status.


1. Click  > *Settings Management* > *Backup & Restore*.
The BACKUP & RESTORE panel opens.
2. Select the *Location* to which the backup will be saved.

NOTE: Only a single back-up file may be saved in one location/on one USB drive. Saving to the same location/drive overwrites the previous file.

3. Click *Backup* in the lower-right corner, then *OK* in the confirmation dialog.
The back-up file is saved and a notification indicates that back up is successful.
 - Remove the USB drive from the port if used.

3.7.2 Restoring Vertiv™ Liebert® iCOM™ CMS settings


Copy the settings from a back-up file to return Liebert® iCOM™ CMS function to what it was before the problem or failure. The settings may be restored from a file on the local disk or a USB drive.

1. Click  > *Settings Management* > *Backup & Restore*.
The BACKUP & RESTORE panel opens.
2. Click the *Location* from which the settings will be restored.
3. Click *Restore* in the lower-right corner, then *OK* in the confirmation dialog.
The settings are restored from the file, a notification indicates that restoration is successful, and the display restarts.
 - Remove the USB drive from the port if used.

3.7.3 Exporting Liebert® iCOM™ CMS settings

Export a copy of the settings to a descriptively named file. Use exported settings to import the configurations into other units.

NOTE: Exported settings do not include the settings stored on the cooling unit's Liebert® iCOM™ display, including setpoints, alarm settings, and sensor calibration.


1. Click  > *Settings Management* > *Import and Export*.
The IMPORT & EXPORT panel opens.
2. Select the *Location* to which the export will be saved.

NOTE: Only a single file may be saved in one location/on one USB drive. Saving to the same location/drive overwrites the previous file.

3. Click *Export* in the lower-right corner, then *OK* in the confirmation dialog.
The export file is saved.
 - Remove the USB drive from the port if used.

3.7.4 Importing Liebert® iCOM™ CMS Settings

Import the settings from another unit to simplify configuring multiple units. The settings may be imported from a file on the local disk or a USB drive.

1. Click  > *Settings Management* > *Import and Export*.
The IMPORT & EXPORT panel opens.
2. Click the *Location* from which the settings will be imported.
3. Click *Import* in the lower-right corner, then *OK* in the confirmation dialog.
The settings are imported.
 - Remove the USB drive from the port if used.

3.7.5 Resetting hardware to factory defaults

There are two methods of performing a hardware factory reset, which returns the control board to the factory-default settings for panel customization, display network settings, BMS settings, and custom labels.

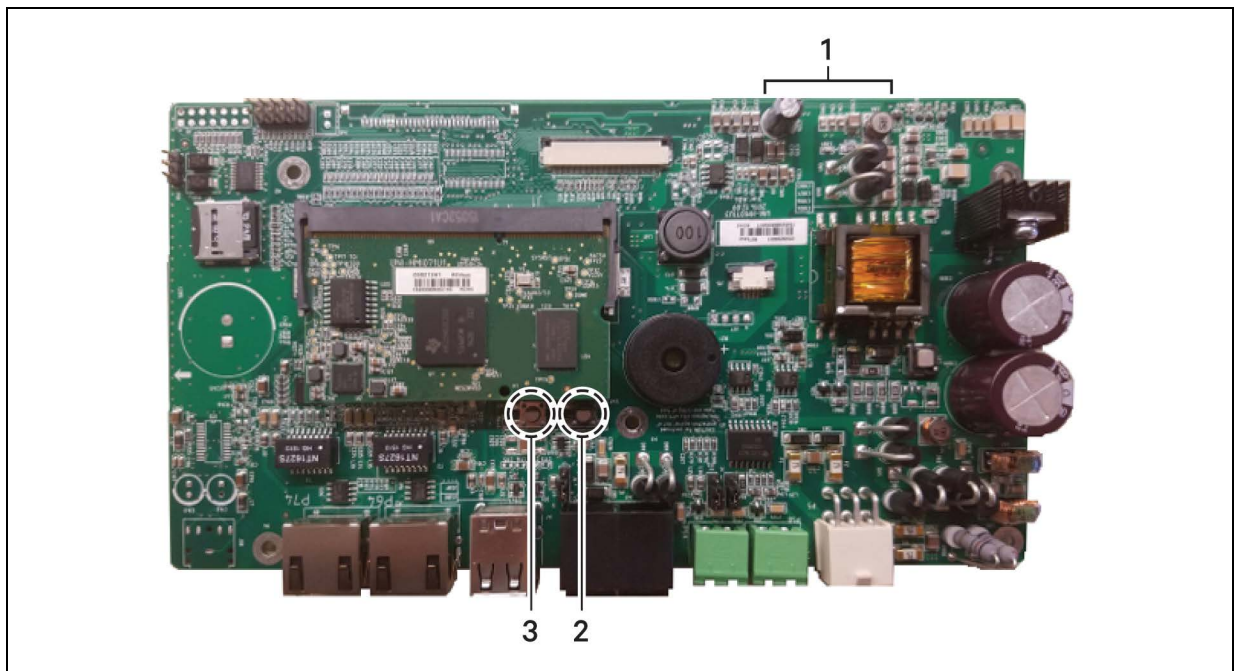
NOTE: The cloud registration status and connection settings are not reset when resetting to factory defaults.

- Hardware-button reset
- Factory reset via the web UI.

Hardware factory reset using the button on the control board


1. Locate the 2 buttons on the CMS control board, see **Figure 3.2** below .
2. Press the right button (item 2), then immediately press-and-hold the left button (item 3) for at least 5 seconds. The LED on the control board (item 1) turns blue and flashes 5 times to indicate the 5-second countdown. The factory-default settings are restored and the display restarts.

Figure 3.2 Hardware-reset buttons on the control board



Item	Description
1	LED
2	Button
3	Button

Hardware factory reset using the web UI

1. Click  > *Settings Management* > *Factory Reset*.
The FACTORY RESET panel opens.
2. Click OK in the lower-left corner.
The factory-default settings are restored and the display restarts.

3.8 Updating Vertiv™ Liebert® iCOM™ CMS firmware

The firmware may be updated by two methods:


- USB drive
- Drag-and-drop.

NOTE: If the update takes more than 1 minute, the interface may timeout before the firmware update completes.

3.8.1 Firmware update using USB drive

1. Download and extract the firmware file, .xbp, to a blank USB thumb drive.

NOTE: The USB thumb drive must be blank other than the .xbp firmware file.


2. Plug the USB drive directly into the USB port on the CMS control board.
3. On the Liebert® iCOM™ CMS interface, click  > *Load Firmware* > *USB*.
The USB panel displays. The control board reads the version information of the new firmware on the USB drive and displays it at the top of the screen, and the Start Upgrade field becomes accessible.

NOTE: Typically, the reading the new firmware version takes approximately 20 seconds, but may take longer.

4. Click *Start Upgrade*.
The firmware is updated, the control board reboots, and the display restarts.

NOTE: The update process may take a few minutes to complete.

3.8.2 Firmware update using drag-and-drop

1. Download the firmware file, .xbp, and save to computer/laptop that is directly-connected to the CMS control board with an Ethernet cable and is used to access the web UI.
2. On the laptop/computer, open the folder in which the firmware file is located.
3. On the Liebert® iCOM™ CMS web UI, click  > *Load Firmware* > *Upload Firmware*.
The UPLOAD FIRMWARE panel displays.

4. Drag and drop the firmware file to the space outlined on the web interface. The control board reads the version information of the new firmware and displays it at the top of the screen, and the Start Upgrade field becomes accessible.

NOTE: Reading the new firmware version may take a few minutes.

5. Click *Start Upgrade*.
The firmware is updated, the control board reboots, and the display restarts.

NOTE: The update process may take a few minutes to complete.

3.9 Managing Access Permission and PINS

NOTICE

Risk of loss-of-access to Vertiv™ Liebert® iCOM™ CMS. Can cause operational problems.

When a PIN is changed, make sure you record the new PIN and inform authorized users.


Three roles with passwords/personal identification numbers (PINs) provide access permission and are set with factory-default values. You can change the value of each PIN so that only the users that know the current PIN may access the functions that it unlocks.

The factory-default PINs are:

- Default User PIN = 1490
- Default Service PIN = 5010
- Default Advanced PIN = 2210


NOTE: To change PIN values, you must use the currently-assigned Advanced PIN to display the Manage Passwords option on the menu.

To change a PIN:

1. Click  > *Manage Passwords*.
The MANAGE PASSWORDS panel and secondary, properties panel open.
2. On MANAGE PASSWORDS, click the role to change.
3. On the secondary panel, type a new password then re-enter to confirm it, and click *Save*.
The updated PIN is saved.
 - Click *Cancel* to discard the change.

3.10 Generating a Diagnostics Report

When logged-in as an advanced user, you can generate a diagnostics report that is helpful for troubleshooting when sent to technical support.

1. Click  > *Support & Services*.
The SUPPORT & SERVICES panel opens.
2. Click *Generate Diagnostics* in the lower-right corner.
The report is generated with a “.dump” extension and saved to the Download folder of the computer/laptop you are using to access the web UI.
 - The diagnostics file may be large and take several seconds to download.
3. When the diagnostic dump is complete, click *OK*.
The Diagnostic Generation dialog closes.
4. Browse to the “Downloads” folder of the computer to open the generated .dump file in any text editor.

3.11 Setting unit name, location and serial number

When logged-in as an Advanced user, you can see a list of managed units and their enabled/disabled status. You can also set the unit’s name (displayed in the web UI), location, and serial number.

1. On the menu bar, click *ADVANCED*, and select a unit in the ADVANCED SETTINGS panel.
2. Enter the unit information in the secondary, properties panel, and click *Save*.

Advanced property fields

Unit Name

Descriptive name of the cooling unit displayed in mobile application and on the Admin Portal.

Unit Location

Descriptive location information for the cooling unit displayed in the web-based UI.

Unit Type

The Liebert model of the cooling unit. See [Setting the Managing Mode](#) on the facing page, to change the unit type monitored by Vertiv™ Liebert® iCOM™ CMS.

Serial number

Serial number of the cooling unit.

Port

Communication port of the cooling unit.

3.12 Setting the Vertiv™ Liebert® iCOM™ CMS Name

When logged-in as an Advanced user, you can update the name of the Liebert® iCOM™ CMS displayed at the top of the web-based interface and passed to the cloud for display as the tab heading on the mobile application.

1. On the menu bar, click *SETTINGS*, then *iCOM-CMS Name* in the settings list.
The iCOM-CMS panel displays.
2. Enter a name and click *Save*.
 - Click *Cancel* to discard the changes.

3.13 Setting the Managing Mode

When logged-in as an Advanced user, you can select the type of Liebert unit that is being monitored by Liebert® iCOM™ CMS: Liebert® Mini-Mate2/DataMate or Liebert® SRC.

1. On the menu bar, click *SETTINGS*, then *iCOM-CMS* in the settings list.
The iCOM-CMS panel displays.
2. Click *Switch Mode*.
The SWITCH MANAGING MODE dialog opens.
3. Click *OK*, then *OK* again.
The mode switches and the Liebert® iCOM™ user-interface restarts. It may take a few minutes before you can log-in again while the mode is switching.

3.14 Managing SSL Certificates

When logged-in as an Advanced user, you can generate or install and use an SSL certificate.

To install a certificate:

1. On the menu bar, click *SETTINGS*, then *SSL Certificate* in the settings list.
The SSL CERTIFICATE panel displays.
2. Next to Certificate, click *Choose File*, browse and load the certificate.
3. Next to Key, click *Choose File*, browse and load the key.
4. Click *UPLOAD CERT*.

SSL Certificate settings

Issuer

Issuing entity of the certificate

Start Date

Starting date of the certificate.

End Date

Ending date of the certificate.

Certificate

Selects a certificate for upload.

Key

Selects a certificate key for upload.

3.14.1 Generating a Certificate Signing Request

1. On the menu bar, click *SETTINGS*, then *SSL Certificate* in the settings list.
2. In the SSL CERTIFICATE panel, click *NEW CSR*.
3. Enter the information in the request, and click *GENERATE*.
A certificate is generated and downloaded to the computer for retrieval/upload.

3.14.2 Generating a Self-signed Certificate

1. On the menu bar, click *SETTINGS*, then *SSL Certificate* in the settings list.
2. In the SSL CERTIFICATE panel, click *NEW CERT*.
3. Enter the *Common Name* and *End Date*, then click *GENERATE* and follow the prompts..

4 Installing and Connecting Vertiv™ Liebert® iCOM™ CMS

Before you begin:

- Make sure that Ethernet cables are run to the device for network connection.
- Obtain the e-mail address needed to register the device from the Liebert® iCOM™ CMS administrator.
- If using a static IP address for network communication, obtain the following settings from the IT administrator:
 - IP address
 - Subnet mask
 - Gateway
 - DNS servers

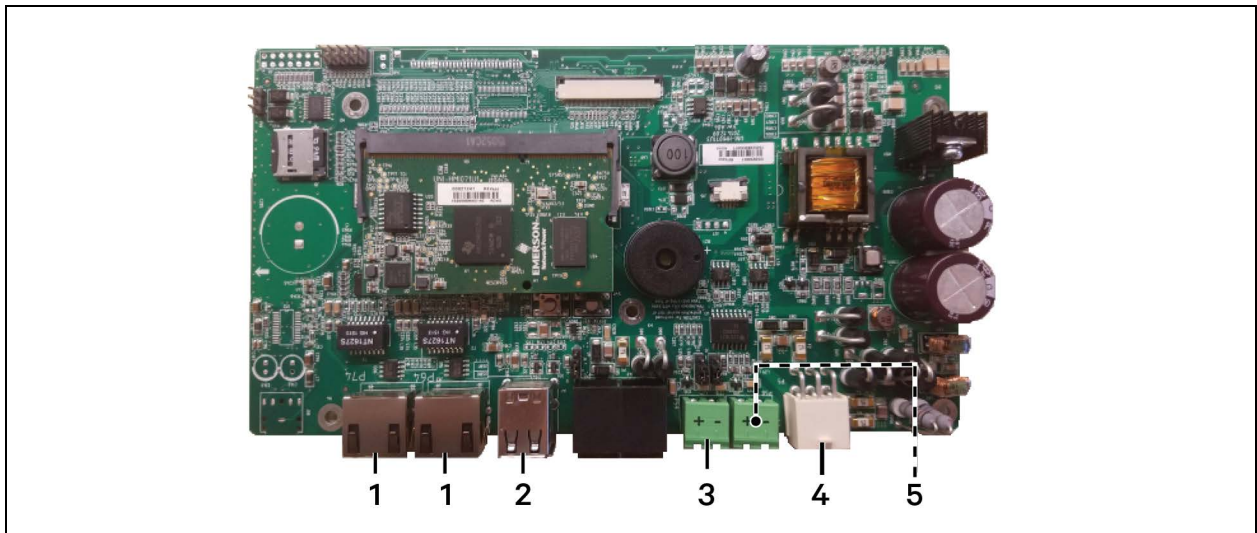
4.1 Mounting Liebert® iCOM™ CMS on Thermal-management Unit

To retro-fit a unit, refer to the installation instructions included with your Liebert® iCOM™ CMS kit for the detailed steps to mount the enclosure on the unit.

When instructed to connect the wiring harness to the control board inside the Liebert® iCOM™ CMS enclosure, refer to **Figure 4.1** below, and:

- Connect the communication cable to the 485 port for unit communication on the control board.
- Connect the power cable to the 24-VAC port on the control board.

Figure 4.1 CMS Control-board connectors



Item	Description
1	Ethernet port
2	USB ports
3	485 port for unit communication
4	24-VAC power input
5	485 port for BMS serial communication

4.2 Setting up Communication with the Web-based User Interface

To register the thermal-management unit and configure communication settings, set-up access to the control board.

NOTE: Only use the Google Chrome web browser to access the web UI.

1. Use a CAT5 Ethernet cable to connect a computer/laptop to an Ethernet port on the control board (see **Figure 4.1** on the previous page).
2. Configure the computer to communicate with the control board by changing its network settings as follows:
 - Set the computer’s static IP address to: 169.254.24.10
 - Set the computer’s subnet mask to: 255.255.0.0
3. On the computer, open the Google Chrome web browser and enter the IP address of the control board in the address bar: 169.254.24.7
The web UI opens.

NOTE: Before setting-up BMS protocols, you’ll need to change the IP address of the board from this default address. See Connection Settings on page 24 .

4. Log-in to the web UI using the advanced password: 2210.
You are ready to register the unit. See [Registering with the Administration Portal to Allow Mobile-app Users Access](#) below .

4.3 Registering with the Administration Portal to Allow Mobile-app Users Access


Thermal-management units must be registered to provide data to the cloud so that mobile-app users will receive the notifications from the cooling unit.

Units are registered based on domain portion of the organization’s e-mail address. The domain is the part after the “@” symbol and is typically the name of the organization, for example: @company.com.

NOTE: When registering the cooling unit, be sure to use an e-mail address with the correct domain of the organization. If you register using an e-mail address with an incorrect domain, un-register and contact the administrator for the correct address.

NOTE: The mobile app is available for download from the Apple Store or Google Play Store depending on your mobile device. Look for “Vertiv™ Liebert® iCOM™ CMS.”

To register with the administration portal:

1. Obtain an e-mail address with valid domain from the Liebert® iCOM™ CMS administrator who manages mobile-app access for the organization.
2. On the web UI, click  > *Cloud Setup*.
The CLOUD SETTINGS and REGISTER DEVICE FOR MOBILE APP ACCESS panels display.
3. In the register-device panel, type the provided e-mail address, then re-enter the e-mail address and click *Register*.
The device is registered with the Liebert® iCOM™ CMS Administration Portal, and the organization information displays in the register-device panel.

Device-registration fields

Admin Email

E-mail of the Liebert® iCOM™ CMS device administrator.

Re-enter Email

E-mail of the Liebert® iCOM™ CMS device administrator.

Serial Number

Serial number of the Liebert® iCOM™ CMS device.

Registration Code

Code used to register the device with the Admin Portal.

4.4 Setting Up Network Communication

1. Use an Ethernet cable to an Ethernet port on the control board to the network (See **Figure 4.1** on page 33).

2. On the web UI, click  > *Connection Settings*.

NOTE: For descriptions of the connection-settings panel, see [Connection Settings](#) on page 24 .

3. Based on the information provided by the IT administrator, select the Mode used for IP-address assignment:
 - DHCP—automatically assigns the settings from the organization's network.
 - Static—requires that you enter a dedicated IP address, subnet mask, default gateway, and DNS servers.
4. If Static mode is selected, enter the settings obtained from the IT administrator:
 - IP address
 - Subnet mask
 - Gateway
 - DNS servers
5. Click *Save*.


4.5 Setting Up BMS serial communication

NOTE: Only one type of serial communication may be used at a time. In the Web UI, enabling one of the serial communication methods, BMS pass-through or Modbus RTU, automatically disables the other. Enabling BMS pass-through will not affect Modbus TCP set up.

NOTE: The protocol will not work with the control board's default IP address: 169.254.24.7. Make sure a Static or DHCP address is set. See [Connection Settings](#) on page 24 .

NOTE: For external monitoring via Ethernet connection, see [Modbus TCP Set Up](#) on page 23 .

To set up the BMS connection:

1. Depending on the type of BMS serial connection:
 - For BMS pass-through: Make sure that an IS-WEBADPT card is connected to the correct 485 port (see [Figure 4.1](#) on page 33) on the control board.
 - For Modbus RTU, connect a serial cable to the correct 485 port on the control board (see [Figure 4.1](#) on page 33).
2. On the web UI, click  > *BMS Setup*, select the serial option to use, and configure the communication settings:
 - For BMS Passthrough, see [BMS Passthrough Set Up](#) on page 22 ,
 - For Modbus serial communication, see [Modbus RTU Set Up](#) on page 22 .

Appendices

Appendix A: Technical Support and Contacts

A.1 Technical Support/Service in the United States

Vertiv Corporation

24x7 dispatch of technicians for all products.

1-800-543-2378

Liebert® Thermal Management Products

1-800-543-2778

Liebert® Channel Products

1-800-222-5877

Liebert® AC and DC Power Products

1-800-543-2378

A.2 Locations

United States

Vertiv Headquarters

1050 Dearborn Drive

Columbus, OH, 43085, USA

Europe

Via Leonardo Da Vinci 8 Zona Industriale Tognana

35028 Piove Di Sacco (PD) Italy

Asia

7/F, Dah Sing Financial Centre

3108 Gloucester Road, Wanchai

A.3 How are we doing?

If you have comments or suggestions about Vertiv™ Liebert® iCOM™ CMS, please let us know. Send an email to feedback.icomcms@vertiv.com. We look forward to hearing from you.

This page intentionally left blank.

Connect with Vertiv on Social Media



<https://www.facebook.com/vertiv/>



<https://www.instagram.com/vertiv/>



<https://www.linkedin.com/company/vertiv/>



<https://www.twitter.com/Vertiv/>



Vertiv.com | Vertiv Headquarters, 1050 Dearborn Drive, Columbus, OH, 43085, USA

© 2021 Vertiv Group Corp. All rights reserved. Vertiv™ and the Vertiv logo are trademarks or registered trademarks of Vertiv Group Corp. All other names and logos referred to are trade names, trademarks or registered trademarks of their respective owners. While every precaution has been taken to ensure accuracy and completeness here, Vertiv Group Corp. assumes no responsibility, and disclaims all liability, for damages resulting from use of this information or for any errors or omissions. Specifications, rebates and other promotional offers are subject to change at Vertiv's sole discretion upon notice.

SL-18847_REV5_08-21