Table of Contents

INSTALLATION MANUAL

Introduction...........................................................................................................................................................................1
Mounting Procedure: Flush Mount........................................................................................................................................1
Mounting Procedure: Surface Mount......................................................................................................................................2
Quick Start Guide..................................................................................................................................................................3
Main Display Screen.................................................................................................................................................................4
Configuring the CMS-1655.....................................................................................................................................................4
Specifying Network Address(es)..............................................................................................................................................5
Selecting Individual Parameters..............................................................................................................................................5
Adding Password Security.......................................................................................................................................................5
Changing Display Settings.......................................................................................................................................................6
Wiring the CMS-1655 to Nearest Triatek Controller.............................................................................................................7
Notes.........................................................................................................................................................................................8

PROGRAMMER’S GUIDE

Introduction..............................................................................................................................................................................9
Main Setup Menu......................................................................................................................................................................9
Unit Setup................................................................................................................................................................................10
Configuring Monitor Settings................................................................................................................................................10
Configuring Audible Alert Settings.....................................................................................................................................11
System Setup............................................................................................................................................................................12
Configuring Universal Alarm Settings................................................................................................................................12
Managing System Security Passwords................................................................................................................................13
Adding New Passwords............................................................................................................................................................13
Deleting an Existing Password...............................................................................................................................................14
Purging All Passwords.............................................................................................................................................................14
Display Setup............................................................................................................................................................................14
Configuring the Safety Halo™...............................................................................................................................................14
Selecting Display Mode............................................................................................................................................................14
Selecting Display Brightness...................................................................................................................................................14
Setting System Time and Date................................................................................................................................................15
Diagnostics................................................................................................................................................................................15
Re-setting the CMS-1655..........................................................................................................................................................15

USER MENU FLOW DIAGRAM................................................................................................................................................17
## Specifications

### CMS-1655 Central Monitoring Station

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring Capacity</td>
<td>Combination of any four FMS-1650/55 or HMS-1650/55</td>
</tr>
<tr>
<td>Interface Cable</td>
<td>Belden 3107A, 22 AWG minimum</td>
</tr>
<tr>
<td>Protocol</td>
<td>Protocol-independent (Triatek proprietary)</td>
</tr>
<tr>
<td>Power</td>
<td>18 to 32 Vdc</td>
</tr>
</tbody>
</table>

### Touchscreen User Interface

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD Size and Type</td>
<td>3.2” diagonal, transmissive</td>
</tr>
<tr>
<td>Resolution</td>
<td>240 pixels x 320 pixels, portrait mode</td>
</tr>
<tr>
<td>Viewing Area</td>
<td>50.60 mm x 66.80 mm</td>
</tr>
<tr>
<td>Color Depth</td>
<td>18-bit or 262K colors</td>
</tr>
<tr>
<td>Backlight Color</td>
<td>White</td>
</tr>
<tr>
<td>Luminous Intensity</td>
<td>min 2500 cd/m²</td>
</tr>
</tbody>
</table>

### Mechanical

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting Options</td>
<td>Surface (Plastic), Flush (Brushed Stainless)</td>
</tr>
<tr>
<td>Mounting Dimensions (surface-mount)</td>
<td>3”W x 5”H x 1.13”D</td>
</tr>
<tr>
<td>Mounting Dimensions (flush-mount)</td>
<td>5”W x 8”H x ¾”D</td>
</tr>
</tbody>
</table>

### Environmental

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>32° to 125° F</td>
</tr>
</tbody>
</table>

### Operating

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Humidity</td>
<td>10% - 95% RH, Non-condensing</td>
</tr>
</tbody>
</table>

### Ordering Codes

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Mount model</td>
<td>CMS1655-S</td>
</tr>
<tr>
<td>Flush Mount model</td>
<td>CMS1655-F</td>
</tr>
</tbody>
</table>
Introduction
The Triatek CMS-1655 Central Monitoring Station is used to monitor any combination of up to four FMS-1650/55 Room Pressure Controllers and HMS-1650/55 Fume Hood Controllers.

The CMS-1655 is capable of monitoring and displaying parameters in any critical environment space or fume hood including differential pressure, face velocity, isolation mode, operating mode, and alarm status. The CMS-1655 includes both visual and audible alarms independent of the alarms on the monitored controllers.

Key features of the CMS-1655 include:

- Display up to four parameters from any of Triatek’s isolation room controllers and/or fume hood controllers in real-time
- Expanded visibility of a monitored station, allowing all six of its analog inputs to be viewed in real-time (AI-1 through AI-4, TI-1 & TI-2)
- Full-color touchscreen display with programmable options and adjustable LED backlighting
- Intuitive graphical user interface which simplifies setup and configuration
- Display background and action icons change to indicate room or fume hood status
- Audible and visual alarms for each monitored parameter
- Password protection (up to 10 entries)

- Protocol-independent solution; works seamlessly with BACnet® and N2® networks
- Simple installation with 4-conductor cable attached to nearest Triatek controller
- No separate power supply required

The CMS-1655 is equipped with a 3.2” diagonal full-color touchscreen display in portrait orientation (240 x 320 resolution).

The display incorporates bright background color changes to indicate up to five different status indications of the monitored space or fume hood.

Green represents a normal status whereby the monitored parameter is within defined normal operating limits. Yellow indicates that the monitored parameter has drifted outside of the normal operating limits, and is approaching the alarm region. Red indicates that the monitored parameter has encroached the critical region and is currently in alarm. Blue indicates that the monitored parameter is either in neutral isolation mode (differential pressure for rooms), or in decommissioned mode (face velocity for fume hoods). Cyan indicates that the monitored FMS-1650/55 is currently in Auto Clean mode, and is being evacuated of all airborne contaminants.

See Figure 1 for a sample screenshot of a CMS-1655 monitoring the parameters of multiple FMS-1655s and HMS-1655s.

The user may set up multiple passwords to prevent unauthorized or casual access to the CMS-1655 configuration settings. Up to 10 passwords of up to eight digits may be stored.

The CMS-1655 is configured at the factory to monitor up to four controllers. The user may change the factory-default settings by following the procedures outlined in the Quick Start Guide (page 3) section of this manual.

The electrical connections to the CMS-1655 are made via convenient terminal block connectors as shown on page 7. All wiring should conform to local regulations and to the National Electrical Code (NEC). Precautions must be taken to avoid running communications wiring in the same conduit as line voltage or other conductors that supply highly inductive loads such as generators, motors, solenoids, contactors, and other sources of induced noise. Use 22 AWG or larger for all electrical wiring terminations.

Mounting Procedure: Flush Mount
The CMS-1655 flush mount model offers an attractive stainless steel faceplate with an ultra-thin enclosure (less than ¾” thick) that may be installed in any application where wall depth is either unknown or extremely

- 1 -

Triatek reserves the right to change product specifications without notice.
Due to continuous improvement, Triatek reserves the right to change product specifications without notice.

1. The CMS-1655 flush mount model should be mounted in a location that provides convenient access so the display may be viewed with minimal glare and the touch screen is easily accessible to facilitate silencing the unit in the event of an alarm condition.

2. If this is a new construction project and the wall box has been installed, you may skip the next two steps. If this is a retrofit application and existing drywall is in place, then proceed with the next step to prepare the opening for the CMS-1655 flush mount model.

3. Using the retrofit mounting plate (see Figure 2) as a template, trace the inner outline onto the drywall at the desired mounting location with a pencil or marker. Also mark the location of the two mounting holes on the drywall. Cut along the traced outline with a drywall knife or saw, taking care not to make the opening too large. Drill out the two holes to clear access to the mounting clip nuts. Remove the cut section of drywall and discard. Be sure to brush off any drywall dust or remnants from the inside surface of the opening to ensure proper adhesion of the retrofit mounting plate.

4. Remove the paper backing from the two adhesive strips on the retrofit mounting plate and insert it into the cut opening of the drywall. The retrofit plate should be oriented such that the corner notch is located at the lower left corner of the opening in the drywall, with the tabs bent towards you. Using the four tabs on the retrofit mounting plate as alignment guides, press the mounting plate onto the inside surface of the drywall opening firmly to ensure maximum adhesion.

5. The electrical connections must be terminated before installing the stainless steel faceplate of the CMS-1655. Run the 4-conductor, dual twisted pair, electrical connection from the nearest FMS-1650/55 or HMS-1650/55. Refer to the wiring diagram shown on page 7 for details.

6. Terminate the interface cable originating from the host controller at the 4-position and 3-position terminal blocks on the back side of the CMS-1655 display, ensuring proper electrical connections. Power connections should be terminated at +V and GND of the 4-position terminal block, and the subnet connections should be terminated at NETWK+ and NETWK- at the 3-position terminal block (see page 7). Do not apply power until the faceplate has been securely fastened to the wall.

7. With the electrical connections properly terminated, the stainless steel faceplate may be installed using the two flat head machine screws. For retrofit applications where the mounting plate has been affixed to the inside surface of the drywall, the two mounting screws thread into the clip nuts of the mounting plate. For those applications where the wall box has been installed, the two mounting screws fasten the faceplate directly.

8. With power applied, the CMS-1655 should display the offline status of four stations at the default subnet addresses.

Mounting Procedure: Surface Mount

The CMS-1655 surface mount model incorporates a low-profile display enclosure that may be mounted to any surface using wall anchors or the appropriate fastening hardware. For new construction applications, the CMS-1655 surface mount enclosure is designed to accommodate a standard single-gang (2x4) wall box. This allows the wall box to be installed during the rough-in phase, and the appropriate electrical conduits to be installed as necessary. The CMS-1655 is configured at the factory to monitor up to four controllers. The user may change the factory-default settings by following the procedures outlined in the Quick Start Guide (page 3) section of this manual.

The electrical connections to the CMS-1655 are made via convenient terminal block connectors as shown on page 7.

All wiring should conform to local regulations and to the National Electrical Code (NEC). Precautions must be taken to avoid running communications wiring in the same conduit as line voltage or other conductors that supply highly inductive loads such as generators,
motors, solenoids, contactors, and other sources of induced noise. Use 22 AWG or larger for all electrical wiring terminations.

1. The CMS-1655 surface mount model should be mounted in a location that provides convenient access so the display may be viewed with minimal glare and the touch screen is easily accessible to facilitate silencing the unit in the event of an alarm condition.

2. Begin the mounting procedure by removing the surface mount enclosure cover from the backplate. Turn the set screw at the bottom of the enclosure clockwise until it has cleared the hole in the cover, thereby allowing it to be removed from the backplate. To re-secure the cover, turn the set screw counter-clockwise until it is flush with the cover.

3. If this is a new construction project and a single-gang wall box has been installed, you may skip the next step. If this is a retrofit application and existing drywall is in place, then proceed with the next step to prepare for the mounting of the CMS-1655 surface mount model.

4. There are two primary options for installing the CMS-1655 surface mount model in retrofit applications. The first option is to use two drywall anchors to mount the surface mount Safety Halo™ backplate. Using the backplate as a template for marking and drilling a ¾" hole at the center, bring the low-voltage wiring required for the CMS-1655 through the center hole at the backplate. The second option is to use an “old-work” low-voltage box or bracket as shown in Figure 3.

5. Once the surface mount Safety Halo™ backplate has been properly mounted, the electrical connections should be terminated before installing the cover with the display. Run the 4-conductor, dual twisted pair, electrical connection from the nearest controller. Refer to the wiring diagram shown on page 7 for details.

6. Terminate the interface cable originating from the host controller at the 4-position and 3-position terminal blocks on the back side of the CMS-1655 display, ensuring proper electrical connections. Power connections should be terminated at +V and GND of the 4-position terminal block, and the subnet connections should be terminated at NETWK+ and NETWK- at the 3-position terminal block (see page 7). Do not apply power until the Safety Halo™ faceplate has been securely fastened to the wall.

7. With the electrical connections properly terminated, the surface mount enclosure cover may be installed by sliding the two tabs at the top of the inside edge into the two slots at the top of the backplate secured to the wall. Secure the CMS-1655 enclosure cover by turning the slotted set screw at the bottom of the backplate counter-clockwise, backing it out until it is flush with the cover.

8. With power applied, the CMS-1655 should display the offline status of four stations at the default subnet addresses.

Quick Start Guide
After the CMS-1655 unit has been properly installed, apply power to the unit. Upon power up, you will hear a quick beep at the CMS-1655 display which indicates that the initialization sequence has been initiated; the Safety Halo™ status indication bezel will cycle through seven colors (red, green, blue, yellow, magenta, cyan, and white); followed by the three action icons shown in Figure 4 that represent normal, caution, and alarm; and finally, the Triatek splash screen indicating the electronic serial number (ESN), firmware version numbers, and the number of controllers being monitored.

This splash screen remains displayed for several seconds and then disappears to reveal the main display screen in the currently configured monitor mode. The splash screen information may also be redisplayed at any time using the About This CMS option on the Diagnostics menu.

Fig 3. Old work low-voltage box/bracket

Fig 4. Action icons

Triatek reserves the right to change product specifications without notice.
Main Display Screen

All CMS-1655 units come shipped from the factory in the Quad Station Monitor mode (Figure 5). Information displayed on the main screen includes the following for FMS units:

- Name of monitored room (up to 25 characters)
- Current mode (positive, negative, neutral, or auto clean)
- Current alarm status (normal, warning, or alarm)
- Current monitored parameter reading in selected engineering units
- Current local audible alarm status (enabled or disabled)

When monitoring parameters at HMS units, the following information may be displayed on the main screen:

- Name of monitored fume hood (up to 25 characters)
- Current operating mode (occupied, unoccupied, or decommissioned)
- Current alarm status (normal, warning, or alarm)
- Current monitored parameter reading in selected engineering units
- Current local audible alarm status (enabled or disabled)

If a monitored station is offline, the background color of the monitored parameter section on the screen will be blue with the “offline” or “disabled” action icon shown.

Once a monitored station comes online, the background color will update to represent the current alarm status of the monitored parameter. A green background with the green checkmark action icon indicates that the monitored parameter is within normal operating range.

A yellow background with the yellow exclamation point action icon indicates that the monitored parameter has drifted outside of the allowable limits of the desired setpoint, and is in the caution or warning range. The yellow background is also used to indicate that a door is open at a monitored FMS unit (if a door switch has been incorporated with the FMS).

A red background with the red exclamation point action icon indicates that the monitored parameter has reached a critical condition and is outside of the allowable limits of the target setpoint. This visual indication is supplemented by an audible alarm to indicate that attention is required for the current situation.

The CMS-1655 incorporates a full-color touch screen display and includes an intuitive menu system that allows the user to quickly set up the monitoring station for immediate use.

Also incorporated in the CMS-1655 display are hotspots that provide quick access to in-depth station details, as well as individual audible alarm enable/disable functions. While in single-station (standard viewing) mode, the main screen includes hot spots for quick access to set the time and date.

Touching the screen anywhere other than one of the reserved hotspots invokes the menu system, unless one or more security passwords have been entered. If the FMS or HMS stations that are monitored by the CMS-1655 reside on a network with a time server, then the time and date will automatically be synchronized by the CMS-1655 through one of the units.

Configuring CMS-1655

Configuring the CMS-1655 settings can be accomplished in three simple steps:

1. Select monitoring mode (single, dual, triple, or quad)
2. Specify subnetwork address of each monitored controller
3. Select individual parameter to be monitored at each controller
The CMS-1655 comes pre-configured for Quad Station Monitor mode. If your application requires monitoring less than four controllers or parameters, then the monitoring mode can be re-configured in the next step (see Figure 6).

**Specifying Network Address(es)**
Once the monitoring mode is selected, the user is prompted to specify the subnetwork address(es) of the monitored controllers. Use the address sliders to specify the address for each monitored controller, and tap Finish to save the new configuration settings (see Figure 7). If Dual or Triple Station Monitor mode is selected, then the screen below in Figure 7 will be replaced by one with two or three address sliders, respectively.

If Single Station Monitor mode is selected, in addition to specifying the subnetwork address of the controller to be monitored, the Viewing Mode must also be selected. There are two viewing mode options available for single station monitor mode: Standard View and Status-Only View. Standard view presents the normal single sensor viewing screen with the two simulated LCD windows at the top and bottom of the display. Status-only view presents the user with a view free of numeric values (see Figure 8).

**Selecting Individual Parameters**
The CMS-1655 is capable of monitoring up to four parameters of up to four independent Triatek controllers. Once the individual controllers have been specified, the parameters at each monitored controller may be selected. This is accomplished by tapping the orange button on the main display (see Figure 9). Tapping this button invokes a detailed screen which includes all six of the analog input parameters currently being monitored at the selected station. To change which parameter gets displayed at the main screen of the CMS-1655, select the individual parameter on the details screen and tap the OK button.

**Adding Password Security**
The CMS-1655 menu system may be protected by adding as many as ten user-specified passwords to the system. A password entry may be created by selecting System Setup >> Password Setup >> Add Password and the user is prompted to enter a minimum of four and up to eight digits (see Figure 10). All password entries are stored in non-volatile memory, and are preserved while the unit is powered down. In the event that a password has been forgotten, there is a factory-default override password that will provide access to the user menu system. Please consult with the factory for more information regarding this password.
Changing Display Settings
The CMS-1655 display screen may be customized using the options on the Display Setup menu. The settings for the Safety Halo™ feature may be enabled or disabled at the Safety Halo™ option on the Display Setup menu. Settings include normal intensity, and auto-dim intensity, and duration.

The auto-dim feature of the Safety Halo™ function allows the CMS-1655 to go to a reduced intensity level (or even turn off completely) between specified hours each day. The display brightness may be adjusted by selecting Display Setup >> Set Brightness.

The specified brightness setting is stored in non-volatile memory and remains in effect through a power cycle.

The time and date, which are only displayed while Single Station Monitor mode (standard view) is selected, may be adjusted either by using the hotspots on the main display, or by selecting Display Setup >> Set Time & Date. The CMS-1655 is also designed to request time and date settings periodically from any of the monitored stations, assuming they are resident on a network that has a time server available. This ensures that the time and date are accurate on the CMS-1655 main display.

### Configuring Display Module Settings

#### Options Dipswitch (S1) – *internal use only*

<table>
<thead>
<tr>
<th>Selection</th>
<th>Status</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Amulet Chip Mode Selection:</td>
<td>OFF = Programming Mode</td>
<td>ON = Run Mode</td>
</tr>
<tr>
<td>2. Touchscreen Calibration Mode:</td>
<td>OFF = Force calibration</td>
<td>ON = Auto calibration</td>
</tr>
<tr>
<td>3. Reserved</td>
<td>Reserved</td>
<td>Reserved</td>
</tr>
<tr>
<td>4. Reserved</td>
<td>Reserved</td>
<td>Reserved</td>
</tr>
</tbody>
</table>

#### Options Dipswitch (S2) – *internal use only*

<table>
<thead>
<tr>
<th>Selection</th>
<th>Status</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mode Select:</td>
<td>OFF = FMS/HMS1650</td>
<td>ON = CMS1655</td>
</tr>
<tr>
<td>2. Test Mode:</td>
<td>OFF = Inactive</td>
<td>ON = Active</td>
</tr>
<tr>
<td>3. FMS/HMS Mode:</td>
<td>OFF = FMS1650</td>
<td>ON = HMS1650</td>
</tr>
<tr>
<td>4. Operational Mode</td>
<td>OFF = Demo Mode</td>
<td>ON = Run Mode</td>
</tr>
</tbody>
</table>

#### Pushbutton Switches
- SW1: Reset Button
- SW2: Reserved

Triatek reserves the right to change product specifications without notice.
Wiring CMS-1655 to Nearest Triatek Controller

Pluggable Terminal Blks
Located Inside User Interface
**Introduction**

This section details all of the available capabilities in the CMS-1655, and should be used to access more detailed information regarding the menu options in the product organized as follows:

- Overview
- Main Setup Menu
- Unit Setup
- System Setup
- Display Setup
- Diagnostics

The touchscreen user interface of the CMS-1655 Central Monitoring Station is designed to facilitate the initial setup and configuration, diagnosis, and troubleshooting during the installation process. Each menu screen is limited to four options, thereby simplifying navigation through the menu system. Context-sensitive help is available at most menu screens and is accessed simply by touching the menu title on any particular screen (see Figure 12).

To exit from any Help screen, simply touch the display anywhere. Multi-page menu screens have navigation buttons at the bottom of each screen that allow the user to move forward or backward, and include a convenient Exit button on the last screen to quickly exit the menu system and return to the main display.

To preserve the security of the configuration settings, up to 10 passwords may be programmed to prevent unauthorized access to the system configuration settings. To further prevent unauthorized access, the CMS-1655 user menu system incorporates automatic time-out periods based on the screen currently being displayed.

Menu screens time-out after 90 seconds of inactivity, while configuration screens automatically time-out after 60 seconds.

This prevents unauthorized access to the user menu system should a unit be inadvertently left unattended at one of the configuration screens.

**Main Setup Menu**

All of the configuration screens that allow the settings of the CMS-1655 to be configured for a specific application originate from the top level of the user interface menu system, the Main Setup Menu as shown in Figure 13.

The Main Setup Menu includes four options which provide support for 1) configuring the settings specific to the unit as a central monitoring station, 2) configuring the alarm facility settings and managing the system security passwords, 3) configuring the display-specific settings, and 4) using the diagnostics and troubleshooting resources.

The majority of the configuration settings are available through the Unit Setup option on the Main Setup Menu. Options available through the System Setup Menu option include support for configuring the comprehensive alarm facility and managing the security passwords. The Display Setup option provides support for configuring all of the display-specific settings integrated in the CMS-1655.

The CMS-1655 can simultaneously display in real-time up to four monitored parameters, their operating modes (if applicable), alarm status, and their associated names. The Diagnostics menu option provides information specific to this particular CMS-1655 unit.
Unit Setup
The CMS-1655 is capable of monitoring and displaying up to four parameters total, from up to four individual Triatek controllers. These four parameters may all be from one controller or from multiple controllers. The Unit Setup menu shown in Figure 14 provides support for 1) selecting the individual controllers to be monitored, 2) configuring the subnetwork address of the central monitoring station, and 3) configuring the audible alarm settings.

Configuring Monitor Settings
The Monitor Setup option on the Unit Setup menu invokes the configuration screen shown in Figure 15, which allows the user to specify the monitoring mode of the CMS-1655. Single Station Monitor should be selected if a single controller is being monitored. If multiple parameters at a single station need to be monitored, then the monitor mode should be specified for the number of parameters being monitored. For example, if monitoring differential pressure, temperature and humidity at an FMS-1650/55 controller, then Triple Station Monitor mode should be selected.

Tapping the Next button at the Select Monitor Mode configuration screen invokes the next screen based on the monitor mode selected. Selecting Single Station Monitor mode would invoke a configuration screen that allows the subnetwork address for the single controller to be specified.

In the example shown in Figure 15, selecting Quad Station Monitor mode invokes the Quad Monitor Setup configuration screen shown in Figure 16 being displayed. At this configuration screen, the subnetwork address(es) for the station(s) being monitored may be specified using the address slider(s). If all four parameters are on the same station, then the same subnetwork address would be specified for all four stations.
If Single Station Monitor mode is chosen, then the user is prompted to select the Viewing Mode option: Standard View or Status-only View. Standard View presents the usual single sensor main display that is shown on an FMS-1655 configured for single sensor mode (or dual sensor, primary/secondary view). Status-only View presents the view shown below in Figure 17, with no numeric values, and only background color to indicate the units current status.

Tapping Finish at the Monitor Setup configuration screen stores that subnetwork addresses of the controller to be monitored and begins to poll each one individually.

### Configuring Audible Alert Settings

The Audible Alert option on the Unit Setup menu provides support for configuring the settings associated with the audible alarming capabilities of the CMS-1655, and invokes the configuration screen shown in Figure 18 when selected.

![Alarm Buzzer Settings](image)

**Fig. 18 Alarm Buzzer Settings**

Selecting Audible Mode on the Alarm Buzzer Settings configuration screen also allows an Alarm Quiet Period to be defined, during which the audible alarm will be muted whenever an alarm condition occurs at one of the monitored stations or controllers.

Tapping the Next button invokes the Alarm Quiet Period configuration screen as shown in Figure 20. At this screen, the starting and ending hour may be specified which defines the alarm buzzer muted period.

![Alarm Quiet Period Configuration](image)

**Fig. 20 Alarm Quiet Period Configuration**

After selecting the specific stations which should activate the audible alarm when the alarm status occurs, pressing the Next button invokes the next configuration screen as shown in Figure 19 where the user may specify the operating mode for the alarm buzzer, Audible Mode or Silent Mode.

### Specifying operating modes for the Alarm Buzzer Settings

![Select Time Base](image)

**Fig. 19 Specifying operating modes for the Alarm Buzzer Settings**

Selecting Audible Mode allows the user to specify a Delay Time in seconds or minutes, which defines the period of time the audible alarm activation will be delayed when alarm status occurs.
System Setup
The CMS-1655 integrates an alarm facility that may be easily customized to suit the requirements of a specific application. This includes the ability to enable and disable individual alarms for both audible and visual modes. An Alarm Quiet Period feature has been integrated in the CMS-1655 which allows the audible alarms to be suppressed while still allowing the visual alarms to continue.

To preserve the integrity of the configuration settings stored in the non-volatile memory of the CMS-1655, a system security password management facility has been incorporated with a capacity of ten unique passwords. The System Setup menu shown in Figure 21 provides support for both configuring the alarm settings and managing system security passwords.

Configuring Universal Alarm Settings
All of the configuration settings associated with the CMS-1655 alarm facility may be accessed at the Alarms Setup menu shown in Figure 22. Options on this menu allow individual alarms to be enabled for each of the monitored parameters at up to four individual stations or controllers.

Selecting the Enable Alarms option invokes the Alarm Enable Settings, where individual parameters or stations may be enabled for alarm status monitoring.

A controller that has been enabled for alarm status reporting at the Alarm Enable Settings screen will report its status visually, independent of its audible alarm settings.

There are three alarm status conditions, each represented by a distinct background color and action icon on the display as shown in Figure 23.
There are also two additional action icons that represent Decommissioned mode at a monitored HMS-1650/55, and Neutral and Auto Clean mode at a monitored FMS-1650/5 controller. More information on these additional mode indications is provided in sections below.

Normal status indicates that the monitored parameter is within its normal operating range and is indicated by a green background and a green checkmark action icon. The Safety Halo™ status indicator, if enabled, will illuminate in green to indicate the normal status.

Warning status indicates that the monitored parameter has drifted outside of its normal operating range, but has not yet exceeded the alarm setpoints. This condition is indicated by a yellow background and a yellow exclamation point action icon. The Safety Halo™ status indicator, if enabled, will flash slowly in yellow to indicate the warning or caution status. This warning status is also used to indicate that a monitored door associated with the differential pressure input at an FMS-1650/55 is open.

Alarm status indication that the monitored parameter has exceeded the defined alarm limits and is in need of attention. This critical condition is indicated by a red background and a red exclamation point action icon. The Safety Halo™ status indicator, if enabled, will flash quickly in red to indicate the alarm status.

A blue background indicates either Neutral isolation mode is selected at a monitored FMS-1650/55, or Decommissioned mode is selected at a monitored HMS-1650/55. These modes are indicated by an action icon represented as a red circle with a line through its center. The Safety Halo™ status indicator, if enabled, will illuminate in blue to indicate the neutral or decommissioned mode.

When Auto Clean mode at a monitored FMS-1655 is enabled, the CMS-1655 indicates the status by a cyan background and a simulated fan as the action icon. The Safety Halo™ status indicator, if enabled, will flash slowly in cyan to indicate the Auto Clean mode.

The Audible Alert option on the Alarms Setup menu invokes the same configuration screens as described above in Configuring Audible Alert Settings section of this document.

Managing System Security Passwords
The CMS-1655 incorporates a system security password facility to prevent unauthorized access to the system menus and configuration settings, and may store up to 10 unique password entries. The Password Setup option on the System Setup menu allows the user to manage the system passwords, including options for adding and deleting entries (see Figure 24). The following sections discuss the use of these three options.

Adding New Passwords
To add a new password entry, select the Add Password option from the Password Setup menu. At the Add Password entry screen shown in Figure 25, enter at least four and up to eight digits. If the entry is unique, tapping the Finish button stores the password to non-volatile memory. If the entry is invalid or not unique, the warning buzzer will sound briefly, and the password entry screen will reset to accept a new entry.
Deleting an Existing Password
To delete an existing password entry, the password to be deleted must be used to enter the user menu system. Select the Delete Password option from the Password Setup menu, and tap OK to confirm that you want to delete the existing password entry.

Purging All Passwords
In the event a previously entered password is forgotten, the user may purge all password entries at any time using the Purge All option.

Display Setup
The Display Setup menu provides support for configuring all of the display settings on the CMS-1655. This includes configuring the Safety Halo™ settings, selecting the display mode based on the number of parameters or controllers being monitored, adjusting the display brightness, and setting the system time and date. Each of these Display Setup menu options is discussed in more detail in the following sections.

Configuring the Safety Halo™
The Safety Halo™ option on the Display Setup menus allows the configuration of the settings for the Safety Halo™ status indicating bezel, including the Nightly Auto-Dim feature. This feature allows the Safety Halo™ indicator to automatically reduce its brightness to the specified percentage at the specified Starting Hour, and return to normal brightness at the specified Ending Hour.

To configure the Safety Halo™ settings, select the Safety Halo™ option from the Display Setup menu, which invokes the Safety Halo™ Settings configuration screen. The Safety Halo™ feature may be enabled or disabled by selecting the corresponding radio button. If enabled, the normal intensity level may be varied between one percent and 100 percent. This is the intensity of the Safety Halo™ illuminated bezel during normal operating hours if Nightly Auto-Dim is enabled, or continuously otherwise.

To configure the Safety Halo™ feature to reduce in brightness intensity during evening hours or otherwise, select the Nightly Auto-Dim radio button and adjust the Dimmed Level between zero percent and 100 percent. To turn off the Safety Halo™ during the Nightly Auto-Dim period, set the dimmed level to zero percent. Tap the Next button to proceed to the next Safety Halo™ Settings screen where the starting and ending hours of the Dimmed Period may be specified.

For example, to configure the Safety Halo™ feature to reduce in brightness intensity to the dimmed level between 7:00 pm and 6:00 am every day, set the Starting Hour to 19 and the Ending Hour to 6. In this example, the Safety Halo™ status indicating bezel will reduce in intensity at 7:00 pm every night, and return to normal intensity at 6:00 am every morning.

Selecting Display Mode
The Display Mode option on the Display Setup menu allows the units main display to be configured based on the number of parameters or stations being monitored by the CMS-1655. Selecting this option invokes the Select Display Mode configuration screen as shown below in Figure 26.

Selecting Display Brightness
Selecting the Set Brightness option on the Display Setup menu invokes the Set Backlighting Level configuration screen as shown below in Figure 27. To increase the brightness of the display, move the slider to the right. Moving the slider to the left reduces the brightness down to a minimum level that remains visible. Tapping the OK button stores the new brightness setting to non-volatile memory, which allows the display to return to this brightness level even if a power loss is experienced.
Setting System Time and Date

The CMS-1655 is designed to synchronize its local time and date with the network-resident controllers it is monitoring, thereby allowing the time-based features to operate accurately. These include the Alarm Buzzer Quiet Period, and the Safety Halo™ Auto-Dim Period.

The time and date may also be configured manually using the Set Time & Date option on the Display Setup menu. Selecting this option invokes the time configuration screen as shown in Figure 28. The colon between the hours and minutes automatically appears while entering the time. Similarly, the forward slash appears between the month, day, and year automatically while entering the date.

After entering the digits for the current time, tap the A/P button to specify am or pm, and then tap the Next button to enter the date. The date entry should be in the U.S. format as shown in Figure 29. Note that the year should be entered as a two-digit entry.

For convenience, the time and date may also be entered directly from the main screen (Single Station Monitor mode only) by tapping the time and date fields, respectively. Tapping each invokes the appropriate configuration screen without requiring the user to enter the menu system.

Diagnostics

The Diagnostics menu provides support for displaying information specific to this particular CMS-1655 unit, as well as convenient method of executing a soft reboot.

Selecting the About This CMS option from the Diagnostics menu invokes the information splash screen shown in Figure 30, including the electronic serial number, firmware version numbers, and number of controllers being monitored.

If you have general questions regarding the CMS-1655 or need technical assistance during installation, this screen lists the phone number to Triatek’s Tech Support line. You will need the information included on the About This CMS screen to identify the specific details pertaining to your unit.
Resetting the CMS-1655

The Reset Monitor option on the Diagnostics menu allows the user to perform a soft reboot of the central monitoring station.

This option may be useful during the installation process when changes have been made to the network parameters (subnetwork address). Selecting this option invokes the warning message as shown in Figure 31, informing the user that the CMS-1655 will be reset when the OK button is tapped to confirm the request.
User Menu Flow Diagram

Unit Setup

- Monitor Setup
  - Select Monitor Mode
  - Monitor Setup

- Audible Alert
  - Individual Alarm Enables
  - Audible / Silent Delay Time
  - Alarm Quiet Period

System Setup

- Alarms Setup
  - Back
  - Alarm Enables
    - Enable Alarms for each station
  - Audible Alert
    - Individual Alarm Enables
    - Audible / Silent Delay Time
    - Alarm Quiet Period

- Passwords Setup
  - Back
  - Add Password
    - Enter Password
  - Delete Password
    - Confirm Deletion
  - Purge All
    - Confirm Purge All

Display Setup

- Safety Halo
  - Disable/Enable
  - Nightly Auto Dim
  - Nightly Auto Dim Period

- Display Modes
  - Select Display Mode

- Set Brightness
  - Set Backlight Level

- Set Time & Date
  - Enter Time
  - Enter Date

Diagnostics

- About This CMS
  - Displays model no., serial nos., firmware versions, & if Stations monitored

- Reset Monitor
  - Soft reset of display module
Headquartered in Norcross, Georgia, Triatek has been on the forefront of designing and manufacturing innovative airflow solutions for critical environments since 1985. Triatek provides complete end-to-end solutions for healthcare facilities and laboratories including Venturi valves, room pressure controllers, fume hood controllers, monitors, sensors, actuators, and more all designed to seamlessly integrate into a facility’s building automation system.

Triatek’s customer service is unparalleled. Our product support system includes on-site installations, phone support, repairs, calibrations, and in-depth training sessions.

From our knowledgeable engineers and sales team to our talented field technicians, Triatek goes above and beyond to ensure our products are installed correctly and our customers’ critical environments are working properly.