DIS1710 Local Controller Display Technical Bulletin

Johnson Controls

Contents

Document Introduction

This document describes how to operate and troubleshoot the DIS1710 Local Controller Display. The display module is a user interface to a Network Control Engine (NCE) 25, Field Equipment Controller (FEC) 16 and 26, or Advanced Application Field Equipment Controller (FAC) 26 that does not have an integral display. For some NCE and FEC models, the display is a built-in component. Use this document for both the stand-alone and the built-in display models.

ⓘ **Note:** The DIS1710 can be used on FAC family controllers; however, FAC schedules, real-time clock settings, trends, and intrinsic event logs are not accessible from the DIS1710 at Release 6.0.

This document does not describe how to commission the display with the Controller Configuration Tool (CCT). For details, refer to *CCT Help (LIT-12011147)*.

See Related Documentation for additional information related to applying the Local Controller Display to your *Metasys®* network.

Related Documentation

Table 1: DIS1710 Technical Bulletin Related Documentation

For Information On	See Document	LIT or Part Number
Features, Benefits, and Applications of the DIS1710	*DIS1710 Local Controller Display Product Bulletin*	*LIT-12011273*
Installation and Specifications of the DIS1710	*DIS1710 Local Controller Display Installation Instructions*	*Part No. 24-10240-9*
Commissioning, Uploading, and Downloading the DIS1710	*Controller Configuration Tool (CCT) Help*	*LIT-12011147*
Specification of the *Metasys®* System Field Equipment Controllers	*Metasys System Field Equipment Controllers, Network Sensors, and Related Products Product Bulletin*	*LIT-12011042*
Installation Instructions and Specifications for the FAC26 Series Models	*FAC2611 Advanced Application Field Equipment Controller Installation Instructions*	*Part No. 24-10143-187*
	FAC2612-1 Advanced Application Field Equipment Controller Installation Instructions	*Part No. 24-10143-195*
	FAC2612-2 Advanced Application Field Equipment Controller Installation Instructions	*Part No. 24-10143-233*
Installation Instructions and Specifications for the FEC16 and FEC26	*FEC16 Field Equipment Controller Installation Instructions*	*Part No. 24-10143-136*
	FEC26 Field Equipment Controller Installation Instructions	*Part No. 24-10143-144*
Installation Instructions and Specifications for the NCE25	*NCE25 Network Control Engine Installation Instructions*	*Part No. 24-10143-63*
Installing the ZFR1800 Series Wireless Field Bus System	*ZFR1800 Series Wireless Field Bus System Technical Bulletin*	*LIT-12011295*

Table 1: DIS1710 Technical Bulletin Related Documentation

For Information On	See Document	LIT or Part Number
Specifications of the Wireless Commissioning Converter and Setting up a Bluetooth Wireless Adapter	*Wireless Commissioning Converter Installation Instructions*	*Part No. 24-10108-2*
	Metasys CCT Bluetooth Technology Communication Commissioning Guide	*LIT-12011038*
Integrating the MS/TP Communication Bus into the *Metasys* System	*BACnet® MS/TP Integration with NAE Technical Bulletin*	*LIT-12011013*
CCT Software	*Controller Configuration Tool (CCT) Help*	*LIT-12011147*

ⓘ **Note:** LIT-12011147 represents a printer-friendly version of the Help.

Local Controller Display on the Sensor Actuator (SA) Bus

The Local Controller Display is an optional accessory to an NCE, FAC, or FEC that provides a user interface to the device. The display installs on the front door of the panel that houses the controller and is connected to the SA Bus. Figure 1 shows an example network of some controllers with Local Controller Displays.

Figure 1: FEC Controllers on the FC Bus

* Typically, a local display is mounted to the door of an enclosure that contains the controller.
Note: Do not connect the local display to an NCE or FEC that has an integral display.
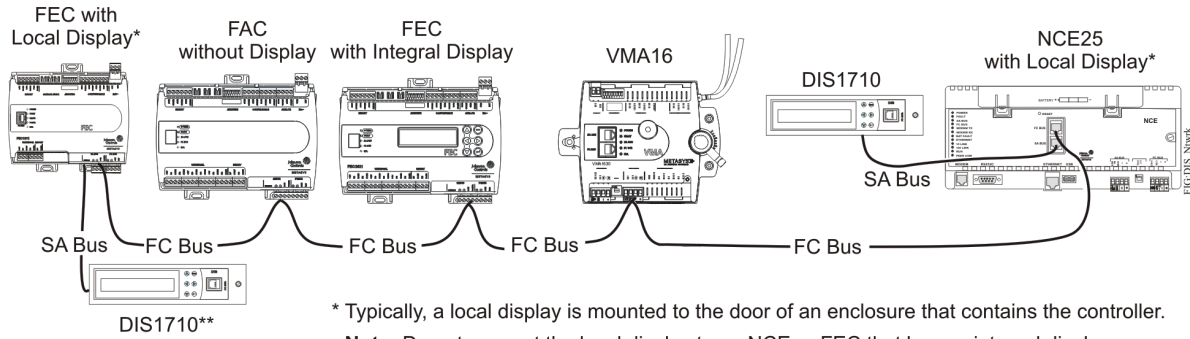
Figure 2 shows the dimensions and Figure 3 shows the physical features of the Local Controller Display. The same general design features also apply to NCEs and FECs models that have a built-in display.

Figure 2: Local Controller Display Dimensions, mm/in.
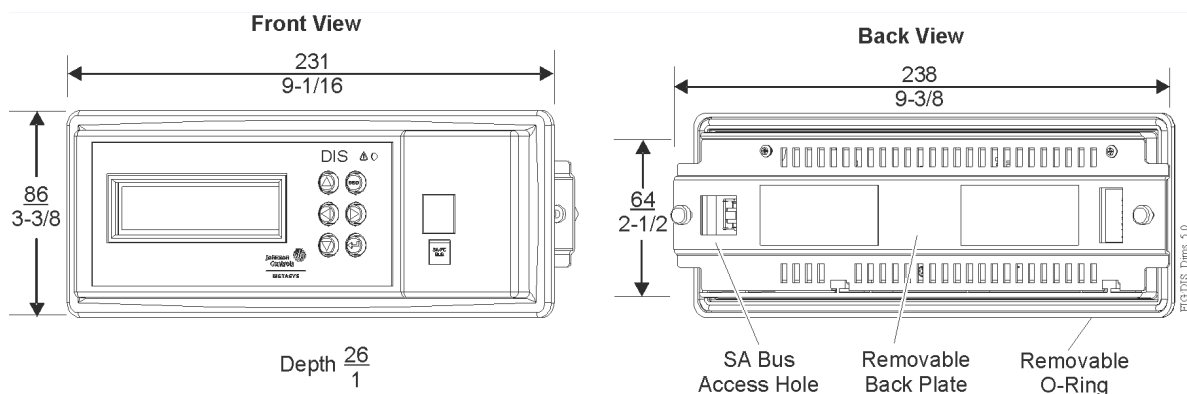
Figure 3: Local Controller Display Physical Features
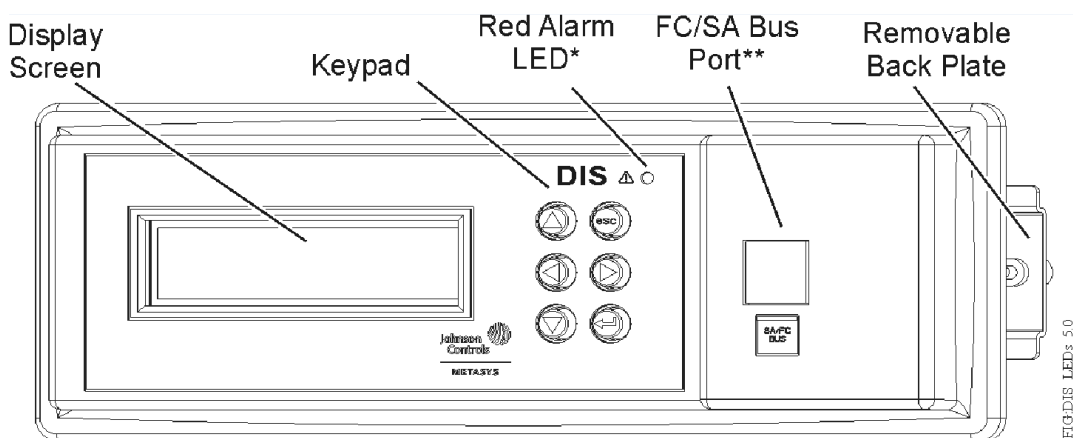
* Alarm Light Emitting Diode (LED) not currently in use.

** RJ-12 6-pin modular jack. To use port, remove cap plug. When done, replace cap plug.

The table below describes the purpose of each component on the Local Controller Display.

Table 2: Local Controller Display Components

Component	Description
Display Screen	Displays the controller's user interface.
FC/SA Bus Port	Allows for Bluetooth RJ-12 6-pin device connection for commissioning purposes.
Keypad	Used for interacting with the display.
Red Alarm LED	Not currently used.
Removable Back Plate	Used to hold the display onto the door of the enclosure.
Removable O-Ring	Fits inside gland around housing perimeter.
SA Bus Access Hole	Cutout section on the removable back plate through which the SA Bus connector cable can pass for connection to the display.

Local Controller Display Configuration

The Local Controller Display is configured with CCT. Configure the display after selecting the hardware (NCE with Display, or FEC with Display).

With CCT you can customize many items for the display, such as how points are viewed and whether access to the display is password protected. These options are available in CCT from the **Tools** > **Configure Display** selection while in Configuration mode. For details, refer to CCT *Help*.

Local Controller Display Operation Overview

The Local Controller Display uses a fixed set of display pages to organize the objects and data defined in the controller. Use the keys on the keypad to log on to the device and navigate between and within each page. You cannot change the order of the pages, but you can change the contents of the pages when you configure the display with CCT.

Local Controller Display Menu Structure

The figure below is a flowchart of the menu structure for the Local Controller Display. The menu selections are described in the sections that follow.

Figure 4: Local Controller Display Menu Structure
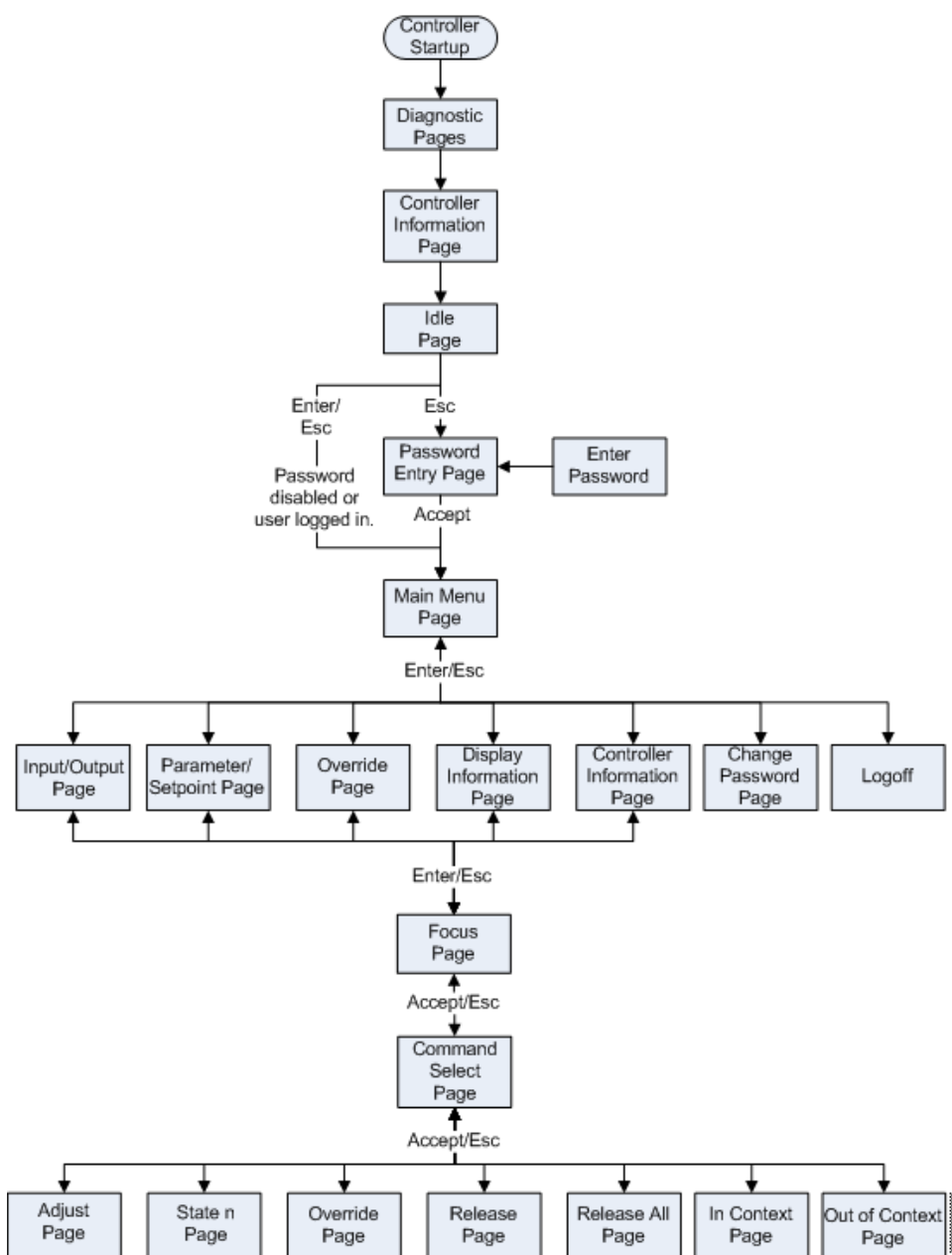
Description of Local Controller Display

The pages that you access from the display's Main Menu share a common layout and theme. For example, all pages have a page title and a scroll bar used to navigate up and down the list. The common areas of the screens are shown in the figure below.

Figure 5: Common Areas of the Local Controller Display

If a text field shown on the Local Controller Display exceeds the allocated width on the page, the text scrolls across the screen once and then remains left justified with trailing ellipses to indicate the entire text is not showing. For example, Floor1 Zone Temperature may be shortened as `Floor1 Zone Temper`.... Text characters not supported by any available character are displayed as asterisks.

Text is also shortened if the data field for the object exceeds the total allocated width. For example, if the value of an object is 12345.67, its name may be shortened to 12345 (depending on its initial length).

Pages on the Local Controller Display:

• share a common method of row selection

• use a common method of entering data within an editable field

• support scrolling of rows and data that span multiple screens

• show a scroll bar to indicate the scrolling feature is enabled

• share a common method of wrapping row selection when the endpoints of the rows in a list have been reached

• update their information every 5 seconds (Present Value and Reliability attributes) or 120 seconds (all other attributes)

You can select objects shown on the Local Controller Display when you configure the display with CCT. For details, refer to CCT *Help*.
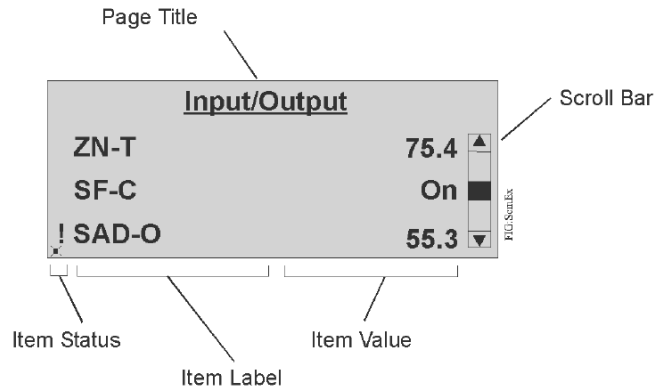
Local Controller Display Pages

When the controller is powered on, the screen displays a series of pages that sequence automatically to indicate the status of the controller. These pages include:

• Diagnostic Pages – provide status information during powerup. Presents four screens that feature the Johnson Controls logo (Figure 6).

• Controller Information Page – displays information about the controller (Figure 7).

• Idle/Favorites Page – displays important values and frequently referenced input and output points (Figure 8).

Diagnostic Pages

When the controller is turned on, the screen sequences through four pages, as shown in Figure 6. If a problem is detected during startup, the screen indicates the error condition. If the controller is missing an application, the Johnson Controls screen remains with the message `Application Download Required`. If an application is present, the startup sequence completes and the Controller Information page appears (Figure 7).

Figure 6: Diagnostic Pages That Appear During Startup
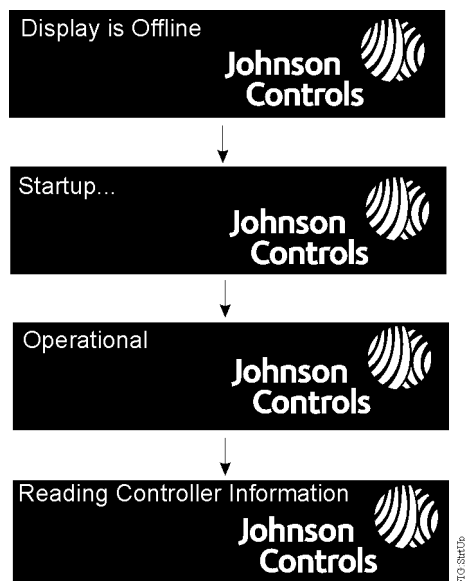
Controller Information Page

The Controller Information page displays general information about the controller, such as its device name and firmware version (Figure 7). This page appears for about 8 seconds, then the Idle/Favorites Page appears (Figure 8). If the controller has not yet been commissioned by CCT, the display remains on the Controller Information page.

Figure 7: Controller Information Page - FEC Example
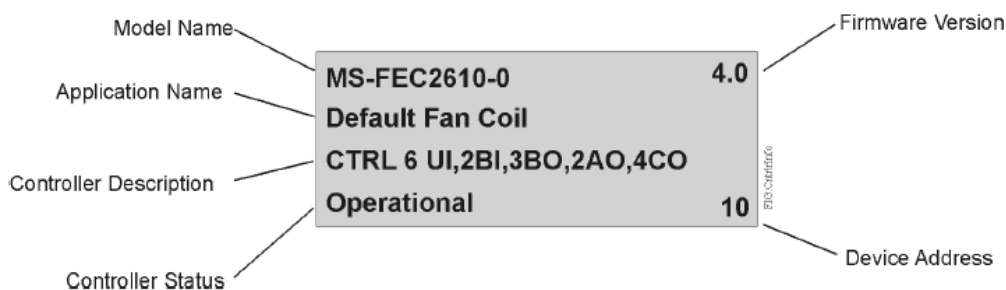
You can also access the information shown in Figure 7 in the attribute view format by selecting Controller Information from the Main Menu. The information shown on the Controller Information page cannot be customized.

Idle Favorites Page

The Idle/Favorites page is the default view for the controller. It shows a user-defined, ordered list of points selected from within the application running in the controller (Figure 8). Use CCT to specify which objects appear on this page.

Figure 8: Idle/Favorites Page

When more than four points are configured for the Idle page, the points list scrolls vertically down the page one line at a time. You can scroll the page one item at a time by using the Up and Down Arrow keys or scroll the page four items at a time by using the Left and Right Arrow keys. Each point appears in a single row and contains its name, value, and st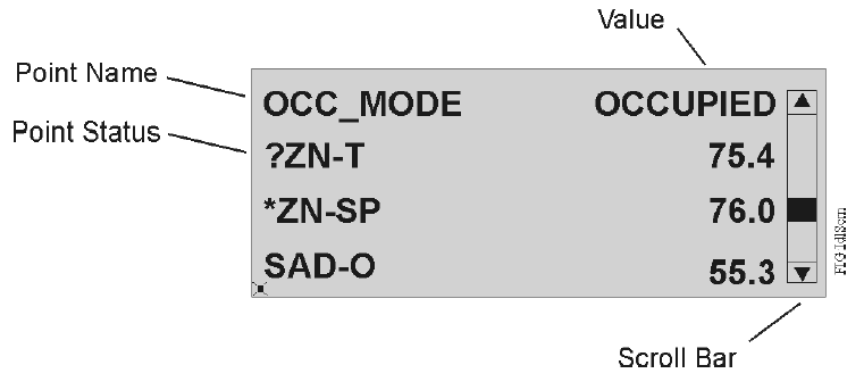atus. The point's status is indicated by a symbol to the left of its name (Table 3). The value of the point is updated within 5 seconds of its change.

Table 3: Icons Used for Displaying Point Status

Symbol	Description of Point Status
<none>	Point is in a normal state; no overrides.
?	Offline – Point is offline or unreliable. Actual value is unknown for offline.
*	Overridden – Point is in an overridden state.
¤	Out Of Service – Point is currently out of service.
!	Alarm - Point is currently in alarm ⓘ **Note:** This icon will only display for points configured with BACnet Intrinsic Alarming that are in Alarm. The icon will not display for points configured with a JCI alarm extension that are in Alarm. JCI alarm extensions are defined at the engine, and therefore will not display on the DIS17.

The Idle/Favorites page reappears whenever you log off the display or the idle timeout period expires. Pressing the Esc key when the Idle/Favorites page is displayed allows you to log on, or if already logged on, to access the Main Menu.

Password Page

A Password page is used when password access is enabled for the display. Passwords protect the display from unauthorized users. The display permits only one password for all users, and this password applies only to a single controller. For simplicity, you may want to use the same password for all controllers with displays.

The Password page is presented when you press the Esc key (Figure 9). From this page, individually select each character of your password. An asterisk masks each selected character. When you

select Accept, the password is authenticated, and the Main Menu page is displayed. If the password entered is not valid, the message `Authorization Failed` is displayed. Password access to the display is granted until you log off manually, or until no keypad activity occurs during the idle timeout period.

ⓘ   **Note:** Password support is enabled and defined with CCT under the Display Configuration option. CCT is also used to disable the password if the password requirement is no longer desired. Password access cannot be disabled from the Local Controller Display.

Figure 9: Password Page

Change Password Page

Once logged on, you can change your password by accessing the Change Password page. The process involves entering, confirming, then saving the new password. The password can be from one to 32 characters in length, all uppercase alphanumeric characters. If the new password is not accepted, the appropriate user message appears. If the new password is accepted, the Main Menu page appears.

Figure 10: Change Password Page
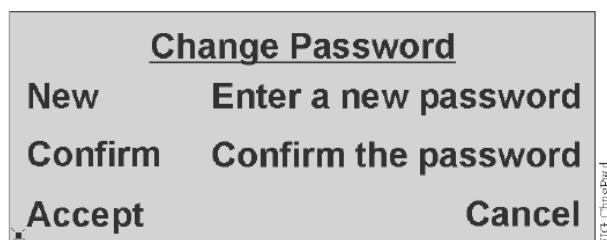
Data Refresh Rate

Data shown on the Local Controller Display is periodically refreshed. For monitored points, the refresh rate of the Present Value and Reliability attributes is once every 5 seconds. For all other attributes, the refresh rate is within 120 seconds. After 10 minutes with no keypad activity, the refresh rate of all attributes, including Present Value and Reliability, reverts to 120 seconds.

Detailed Procedures

Using the Local Controller Display Keypad

The Local Controller Display has six keys that are used to navigate its menu structure:

Figure 11: Local Controller Display Keypad
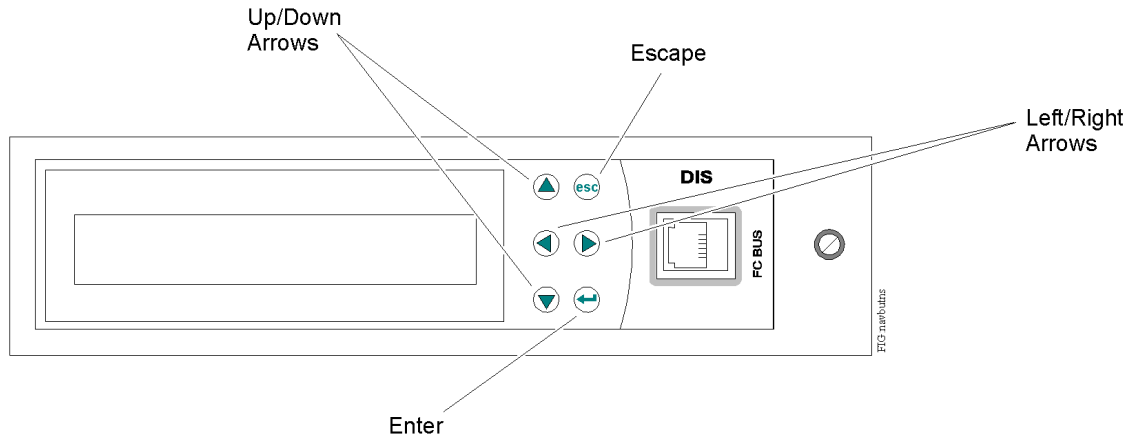
- **Up/Down Arrows** – Moves highlighted field up or down on the current display, or within a menu. Also allows for incrementing and decrementing a number or digit within a number, and transverses fields on pages that contain multiple fields.

- **Left/Right Arrows** – Moves highlighted field to the right or left on the current display. Also allows for selecting a digit within a number for modification purposes, and scrolls the Idle page four items at a time.

- **Esc** – Cancels the current data value or selection. Also returns to the previous page.

- **Enter** – Performs the action of the highlighted field on the display. Also accesses the next menu level.

- **Escape + Enter (simultaneously)** – logs off user. The display then returns to the Idle/Favorites page.

ⓘ **Note:** All keys on the Local Controller Display have a repeat function in which the key action is repeated when the key is held down for more than 1 second. For example, if you hold down the Up key, the highlighted field moves up one selection each second. The repeat rate is the same for all the keys.

Entering a Password

About this task:
To enter a password:

ⓘ **Note:** The password entry page is available only if a password was enabled when the Display Configuration was set with CCT. Otherwise, the display menus are accessible without a password entry.

1. Press the **Escape** or **Enter** key. The Password page appears.

Figure 12: Password Entry Page

Password   ***
ABCDEFGHI JKLMNOPQRS
TUVWXYZ   0123456789

Backspace   Accept   Cancel

Asterisks appear in place of typed characters.

2. Use the **Arrow** keys to select each character of your password, and press **Enter** to submit each character. Your entries appear in the upper right corner as asterisks. To correct an entry, use **Backspace** to erase one entry at a time, or press **Escape** to clear the entire password and start over.

3. When you have entered the entire password, select **Accept** and press **Enter**. The password is verified and the Main Menu appears.
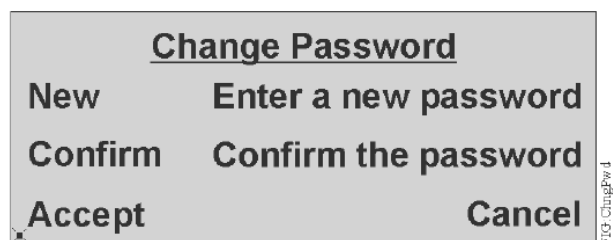
Changing the Password

About this task:
To change the password:

1. Go to the Main Menu.

2. Scroll down and select the **Change Password** option.

3. Press **Enter**. The Change Password page appears.

Figure 13: Change Password Page

Change Password
New   Enter a new password
Confirm   Confirm the password
Accept   Cancel

4. Select the **Enter a new password** option. The New password entry page appears.

Figure 14: New Password Page

New   ***
ABCDEFGHI JKLMNOPQRS
TUVWXYZ   0123456789

Backspace   Accept   Cancel

Asterisks appear in place of typed characters.
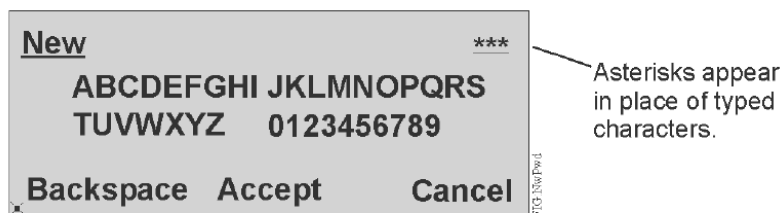
5. Use the Arrow keys to select each character of your new password, and press **Enter** to submit each character. Your entries appear in the upper right corner as asterisks. To correct an entry, use **Backspace** to erase one character at a time, or press **Escape** to clear the entire password and start over.

6. When you have entered the entire password, select **Accept** and press **Enter**. The Change Password confirmation page appears.
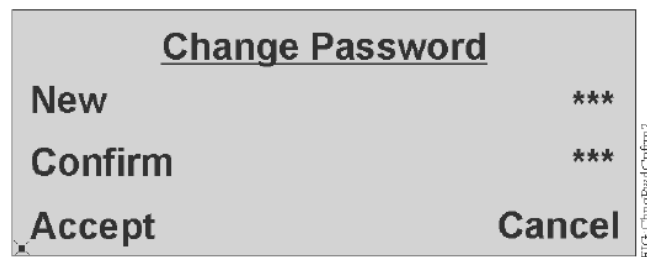
Figure 15: Change Password Page
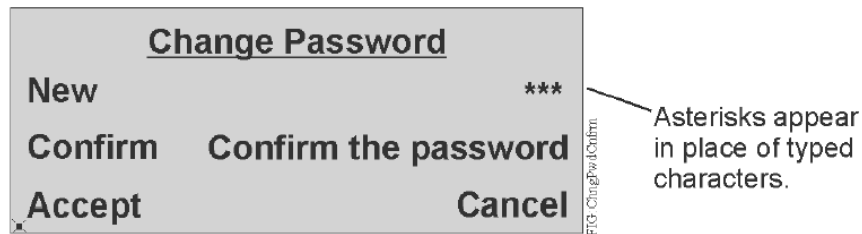
7. Press **Enter** to confirm the new password. The Confirm password page appears.

Figure 16: Confirm Password Page

8. Reenter your new password, select **Accept**, and press **Enter**. The Change Password confirmation page reappears.

Figure 17: Change Password Page

9. Select **Accept** and press **Enter**. The new password is confirmed and, if accepted, the Main Menu appears. If the new and confirmed password entries do not match, the message Passwords do not match displays.

ⓘ   **Note:** You can also change your password using CCT. The new password is effective after you re-download the application to the controller using CCT.
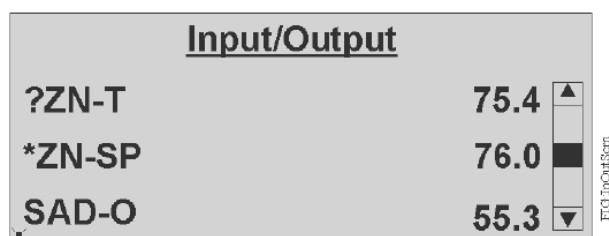
Displaying Configured Input and Output Points

About this task:
To display configured input and output points:

1. Go to the Main Menu.

2. Select the **Input/Output** option. A list of all configured input and output points appears.

Figure 18: Input/Output Page

3. Use the Up/Down Arrow keys to scroll through the list of points and their current values.

4. To get more information on a particular point, select the point and press **Enter**. The focus page for the point appears. Figure 19 is an example of a zone setpoint.

Figure 19: Example of Zone Setpoint Page

5. Use the Up and Down Arrow keys to navigate through the information.

Commanding Configured Input and Output Points

About this task:
To command configured input and output points:

1. Go to the Main Menu.

2. Select the **Input/Output** option. A list of all configured input and output points appears.
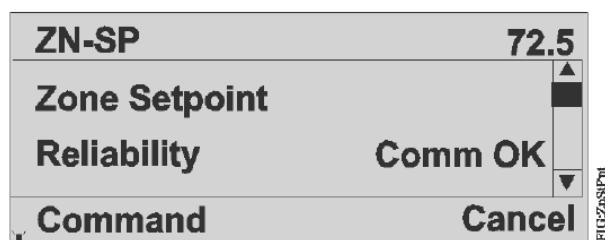
3. Highlight the point that you want to command. Press **Enter**. The Command option for the point is highlighted.

4. Press **Enter** to display the commands available to this point. Figure 20 shows an example for an analog point.

Figure 20: Command Page
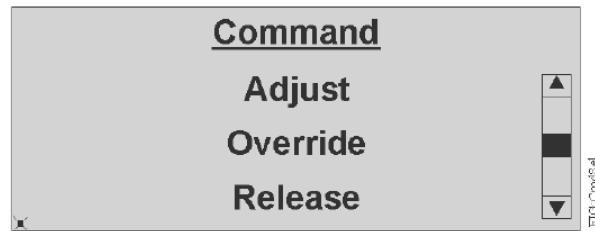
5. Select a Command and press **Enter**. An Adjust page is displayed. For analog points, use the Left and Right Arrow keys to position the cursor to a desired digit location; then use the Up and Down Arrow keys to increment and decrement a value. For binary points, use the Up and Down Arrow keys to scroll through the available selections. Figure 21 shows an example for adjusting an analog setpoint.

Figure 21: Adjust Page

6. Press **Enter** to highlight Accept. Press **Enter** again to verify and send the command.

Displaying Configured Parameters and Setpoints

About this task:
To display configured parameters and setpoints:

1. Go to the Main Menu.

2. Select the **Parameter/Setpoints** option. A list of all configured parameters and setpoints appears.

Figure 22: Parameter/Setpoint Page
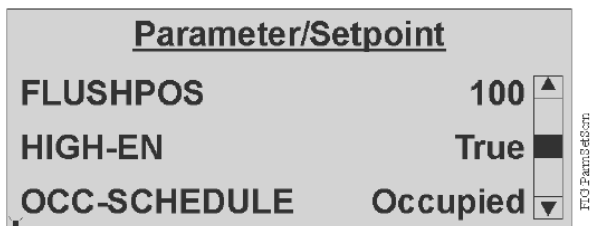
3. Use the Up/Down Arrow keys to scroll through the list with the current values.

4. To get more information on a particular item, select the item and press **Enter**. The focus page for the item appears. Figure 23 is an example for the Occupancy Schedule.

Figure 23: Occupancy Schedule Page

5. Use the Up and Down Arrow keys to navigate through the information.
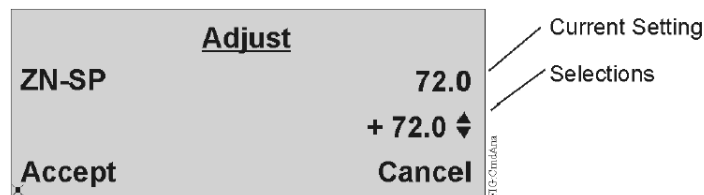
Commanding Configured Parameters and Setpoints

About this task:
To command configured parameters and setpoints:

1. Go to the Main Menu.

2. Select the **Parameter/Setpoints** option. A list of all configured parameters and setpoints appears.

3. Use the Up/Down Arrow keys to highlight the parameter or setpoint that you want to command. Press **Enter**. The focus page for the item appears with the Command option highlighted.

4. Press **Enter** to display the commands available to this parameter or setpoint. Figure 24 shows an example for the Command Pages.

Figure 24: Command Page

5. Select a Command and press **Enter**. An Adjust page appears. For analog points, use the Left and Right Arrow keys to position the cursor to a desired digit location; then use the Up and Down Arrow keys to increment and decrement a value. For binary points, use the Up and Down Arrow keys to scroll through the available selections. Figure 25 shows an example for the Adjust Pages.

Figure 25: Adjust Page
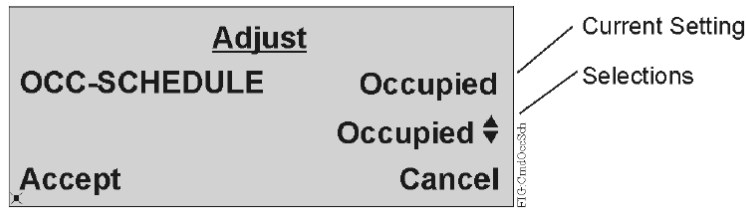
6. Press **Enter** to highlight Accept. Press **Enter** again to verify and send the command.

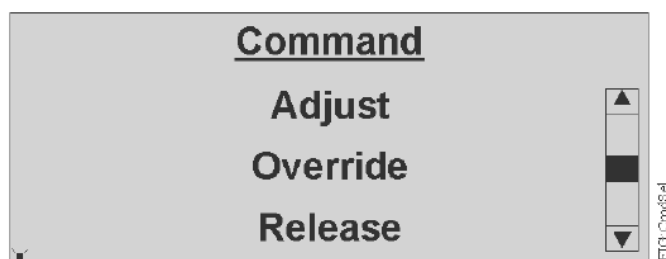## Displaying Overridden Points

About this task:
To display overridden points:

1. Go to the Main Menu.

2. Select the **Overrides** option. A list of all points that are currently in override appears (Figure 26). If no points are in override, the user message Status: No objects are overridden appears.

Figure 26: Overrides Page
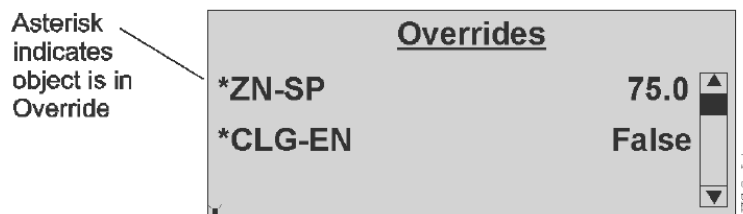
3. Use the Up/Down Arrow keys to scroll through the list of points and their current values.

4. To display the focus page for a particular point, select the point and press **Enter**. The focus page for the point appears, which also allows you to command the point (for example, Release the override). Figure 27 is an example for a zone setpoint in override.

Figure 27: Zone Setpoint Page

5. Use the Up and Down Arrow keys to navigate through the information.

Viewing and Setting Display Information Preferences

The Display Information option indicates how the Local Controller Display is configured. The table below summarizes these settings, including those that you can customize.

Table 4: Display Information Preferences

Parameter	Description	Selections
Backlight Intensity	Controls the brightness of the Local Controller Display.	Bright, Medium, Dim, Off (no backlighting)
Backlight Timeout	Controls how long the display remains backlit when there is no user activity before going dim.	1 minute, 5 minutes, 1 hour, 8 hours
Date Format Preference	Sets how dates are presented on the display.	MM DD YY (01 15 07) MM DD YYYY (01 15 2007) DD JAN YYYY (15 January 2007) DD JAN YY (15 January 07) DD MM YY (15 01 07) DD MM YYYY (15 01 2007)
Display Precision Style	Sets which style is used to segment a number.	Dot (72.8)Comma (72,8)
Display Contrast	Sets the amount of contrast the screen uses.	10%, 25%, 50%, 75%, 90% (10% for high contrast; 90% for low contrast)
Firmware Version	Displays the firmware version of the display.	(Not configurable) Example: 4.0.0.0102
Idle Page Timeout	Defines how long the display waits between keyboard interactions before logging off the user.	1 minute, 5 minutes, 15 minutes, 30 minutes, 1 hour, Never
Language	Displays the configured language.	(Not configurable - scrolls across once) Example: United States
MAC Address	Displays the controller's configured Media Access Control (MAC) address.	(Not configurable) Example: 22
MS/TP Baud Rate	Displays the controller's configured MS/TP baud rate.	(Not configurable) Example: 38,400

Table 4: Display Information Preferences

Parameter	Description	Selections
Time Format Preference	Sets how the time of day is presented on the display.	12 MM (4:30) 12 MM SS (4:30:30) 12 MM AMPM (4:30 PM) 12 MM SS AMPM (4:30:30 PM) 24 MM (16:30) 24 MM SS (16:30:30)

ⓘ **Note:**

- Backlight intensity and display contrast both affect the readability of the display. Best visibility is backlight intensity = bright and display contrast = 10%. Worst visibility is backlight intensity = off and display contrast = 90%.

Setting the Backlight Intensity

About this task:
To set the backlight intensity:

1. Go to the Main Menu.

2. Scroll down and select the **Display Information** option.

3. Scroll down and select the **Backlight Intensity** parameter.

4. On the Modify page, use the Up/Down Arrow keys to select a backlight intensity. The screen changes as you select an intensity level.

Figure 28: Modify Backlight Intensity Page

5. Press **Enter** to highlight **Accept**. Press **Enter** again to save the setting.
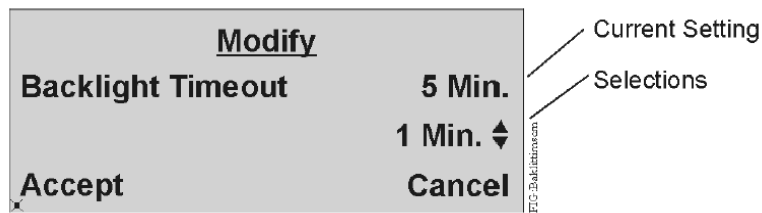
Setting the Backlight Timeout

About this task:
To set the backlight timeout:

1. Go to the Main Menu.

2. Scroll down and select the **Display Information** option.

3. Scroll down and select the **Backlight Timeout** parameter.

4. On the Modify page, use the Up/Down Arrow keys to select a backlight timeout.

Figure 29: Modify Backlight Timeout Page

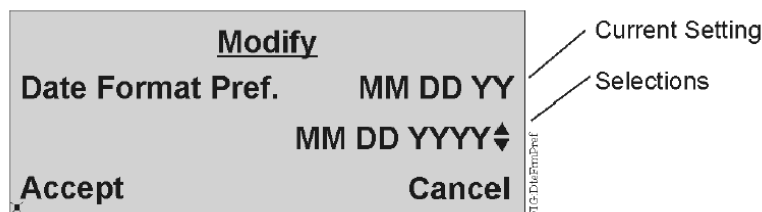5. Press **Enter** to highlight **Accept**. Press **Enter** again to save the setting.

Selecting a Date Format Preference

About this task:
To select a date format preference:

1. Go to the Main Menu.

2. Scroll down and select the **Display Information** option.

3. Scroll down and select the **Date Format Pref.** parameter.

4. On the Modify page, use the Up/Down Arrow keys to find the format you want to use for displaying dates.

Figure 30: Modify Date Format Preferences Page

5. Press **Enter** to highlight **Accept**. Press **Enter** again to save the setting.
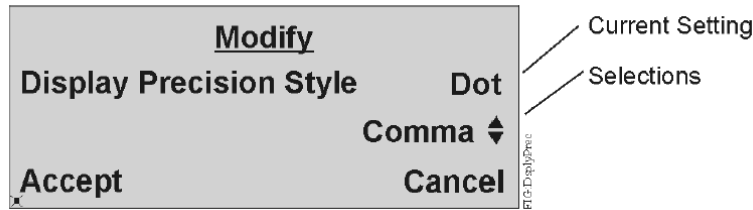
Selecting the Display Precision Style

About this task:
To select the display precision style:

1. Go to the Main Menu.

2. Scroll down and select the **Display Information** option.

3. Scroll down and select the **Disp (Display) Precision Style** parameter.

4. On the Modify page, use the Up/Down Arrow keys to select the style to use as the separator in a number.

Figure 31: Modify Display Precision Style Page

5.   Press **Enter** to highlight **Accept**. Press **Enter** again to save the setting.
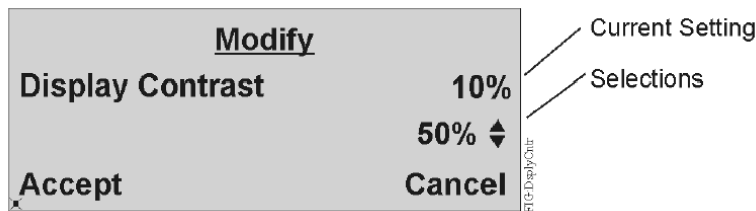
Setting the Display Contrast

About this task:
To set the display contrast:

1.   Go to the Main Menu.

2.   Scroll down and select the **Controller Information** option.

3.   Scroll down and select the **Display Contrast** parameter.

4.   On the Modify page, use the Up/Down Arrow keys to select a percentage for the display contrast. The screen changes as you select a percentage.

Figure 32: Modify Display Contrast Page

5.   Press **Enter** to highlight **Accept**. Press **Enter** again to save the setting.

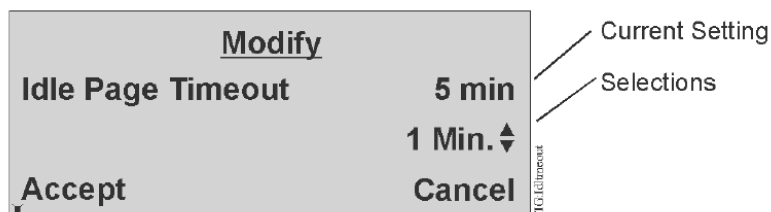## Setting the Idle Timeout Value

About this task:
To set the auto-logoff timeout value:

1.   Go to the Main Menu.

2.   Scroll down and select the **Display Information** option.

3.   Scroll down and select the **Idle Page Timeout** parameter.

4.   On the Modify page, use the Up/Down Arrow keys to select a new idle timeout.

Figure 33: Modify Idle Page Timeout Page

5. Press **Enter** to highlight **Accept**. Press **Enter** again to save the setting.

Selecting the Time Format Preference

About this task:
To select a time format preference:

1. Go to the Main Menu.

2. Scroll down and select the **Display Information** option.

3. Scroll down and select the **Time Format Preference** parameter.

4. On the Modify page, use the Up/Down Arrow keys to find the format you want to use for displaying times.

Figure 34: Modify Time Format Preference Page

5. Press **Enter** to highlight **Accept**. Press **Enter** again to save the setting.

Displaying Controller Information

To display controller information:

1. Go to the Main Menu.

2. Scroll down and select the **Controller Information** option.

3. Scroll down to view each line of controller information. Table 5 lists the type of information available. None of these attributes can be modified from the display, but some are defined when the application is configured using CCT.

Table 5: Controller Display Attributes

Attribute	Description	Example
Status	Current status of the controller	Operational
CTRL	List of the controller's point capacities	6 UI, 2 BI, 3 BO, 2 AO, 4 CO

Table 5: Controller Display Attributes

Attribute	Description	Example
Model Name	Model name of the controller	MS-FEC2611-0
Object Name	Object name of the controller	FC-22
System Name	Name of the system application in the controller	FCapp
Local Site Director	Name of the site director for this field controller	NAE00108d00c903
Firmware Version	Version of the firmware stored in the controller	5.1
CPU Usage	Number representing the current Central Processing Unit (CPU) usage in percent	6
FCB Mac Address	Number representing the MAC address assigned to the controller	10
FCB Baud Rate	Baud rate configured for communication on the MS/TP Bus	Auto

ⓘ **Note:**

- No attribute label called Status is shown; only the current status of the controller is indicated.

- The Object Name and System Name are defined when the application is configured using CCT.

- When a site director is not defined or is not online, this field contains four asterisks (****)

Logging Off the Display

About this task:
To log off the display:

1. Go to the Main Menu.

2. Scroll down and select the **Log Off** option.

3. Press **Enter**. You are logged off and the Idle/Favorites page appears.

ⓘ **Note:** You may also log off by pressing the **Esc** and **Enter** keys at the same time.

Configuring the Local Controller Display with CCT

NCE and FEC controllers with a display, or controllers with the remote stand-alone display, are configured with CCT. The CCT provides a Configure Display menu option that allows you to:

- define which points appear on the display pages (Input/Output View, Parameter/Setpoint View, and Idle View) and in which order

- define which points are read only (cannot be commanded using the display)

- specify point names and descriptions

- set display attributes including contrast and backlight intensity

- select timeout settings

- select authorization including password definition

After configuring the display, you can download the application to the controller with CCT. The changes then become effective. For details, refer to CCT *Help*.

Technical Specifications

Table 6: DIS1710 Local Controller Display

Product Code Number	MS-DIS1710-0 Local Controller Display for Field Equipment Controllers
Power Requirement	Nominal 15 V provided by controller over SA Bus
Power Consumption	2 VA maximum
Ambient Operating Temperature	0°C to 50°C (32°F to 122°F)
Ambient Operating Conditions	10 to 90% RH, 30°C (86°F) maximum dew point
Ambient Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Ambient Storage Conditions	5 to 95% RH, 30°C (86°F) maximum dew point
Terminations	RJ-12 6-pin jack at Service Port (covered by removable cap-plug) SA Bus connection on back of unit
Processor	Renesas® H8S-2398 16-bit microprocessor
Memory	256 KB Flash Memory8 KB Random Access Memory (RAM)
Operating System	RTOS-H8S
Network and Serial Interfaces	Communication to controller over SA Bus
Graphic Display Resolution	240 x 64 pixels with white LED backlighting (adjustable)
Dimensions (Height x Width x Depth)	85.9 mm x 238 mm x 25.8 mm (3.4 in. x 9.37 in. x 1.0 in.)
Housing	Plastic housing material: ABS + polycarbonate Protection: IP20 (IEC60529)
Mounting (Height x Width)	Mount to the outside of the enclosure 70.5 mm x 216.5 mm (2.78 in. x 8.525 in.)

Table 6: DIS1710 Local Controller Display

Compliance CE	United States: UL Listed, File E107041, CCN PAZX, UL 916, Energy Management Equipment FCC Compliant to CFR47, Part 15, Subpart B, Class A
	Canada: UL Listed, File E107041, CCN PAZX7, CAN/CSA C22.2 No. 205, Signal Equipment; Industry Canada Compliant, ICES-003
	Europe: CE Mark – Johnson Controls, Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC.
	Australia and New Zealand: C-Tick Mark, Australia/NZ Emissions Compliant
Shipping Weight	0.14 kg (0.3 lb)

The performance specifications are nominal and conform to acceptable industry standard. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

Product warranty

This product is covered by a limited warranty, details of which can be found at www.johnsoncontrols.com/buildingswarranty.

Single point of contact

APAC	Europe	NA/SA
JOHNSON CONTROLS C/O CONTROLS PRODUCT MANAGEMENT NO. 32 CHANGJIJANG RD NEW DISTRICT WUXI JIANGSU PROVINCE 214028 CHINA	JOHNSON CONTROLS WESTENDHOF 3 45143 ESSEN GERMANY	JOHNSON CONTROLS 507 E MICHIGAN ST MILWAUKEE WI 53202 USA

For more contact information, refer to www.johnsoncontrols.com/locations.