DGE-100 and DM-DGE-200-C

Digital Graphics Engines

Product Manual

Crestron Electronics, Inc.

The original language version of this document is U.S. English.
All other languages are a translation of the original document.

Regulatory Model: DGE-100, DM-DGE-200-C

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Contents

Overview

The Crestron® DGE-100 and DM-DGE-200-C are high-performance digital graphics engines for the Crestron TSD-2220 and third-party touch screen displays. The DGE-100 and DM-DGE-200-C feature Smart Graphics® technology that may be used to create a custom graphical environment for controlling audio, video, lighting, shades, HVAC, security, and other amenities. The DGE-100 and DM-DGE-200-C can also be used for functions with dual-window video display, annotation, audio feedback, and web browsing.

> **NOTE:** The DGE-100 and DM-DGE-200-C are functionally similar. For simplicity within this document, the term "DGE" is used except where noted.

This section provides the following information:

Features

Refer to the following sections for more information on the features provided by the DGE-100 and DM-DGE-200-C.

DGE-100 Features

The Crestron® DGE-100 digital graphics engine transforms an HD touch screen display into an advanced Crestron controller. The DGE-100 features Smart Graphics® technology that may be used to create a custom graphical environment for controlling audio, video, lighting, shades, HVAC, security, and other amenities. The DGE-100 can also be used for functions with dual-window video display, annotation, audio feedback, and web browsing. Its low-profile, surface-mountable design allows for a discreet installation behind a flat-panel display, under a table, or inside a lectern or equipment rack.

The DGE-100 features an HDMI® output for connecting to a display device, and includes a USB HID port for touch, mouse, or keyboard input. Additional control ports are provided for controlling the display device and other equipment. The HDMI input allows an AirMedia® wireless presentation gateway or other high-definition video source to be connected and displayed on-screen. Additionally, H.264 streaming video signals can be received over a high-speed Ethernet connection, and Ethernet provides an interface to a Crestron control system.[1]

Key features include:

- Touch screen graphics engine for the Crestron® TSD-2220 or a third-party USB HID-compliant touch screen
- Supports OSM (on-screen menu) applications without a touch screen
- HDMI® output supports display resolutions up to Full HD 1080p60 and WUXGA
- Displays dual-window or full screen video from HDMI and H.264 streaming sources

- Supports video input resolutions up to 1080p60 via HDMI
- Receives H.264 streaming video signals up to 1080p60/25 Mpbs
- HDCP 1.4 compliant (HDMI only)
- Supports Smart Graphics® technology custom user projects
- Built-in annotation capabilities
- Built-in web browsing
- Onboard COM, HDMI, IR/serial, and high-speed Ethernet ports
- High-speed USB 2.0 port for USB HID-compliant peripheral devices
- Powered via PoE or included power pack
- Enterprise-grade security and authentication
- Web or cloud-based configuration
- Compact, surface-mountable form factor

Touch Screen Interface

The DGE-100 can be paired with the TSD-2220 HD touch screen display to deliver a high-definition 21.5 in. touch screen control panel that is ideal for home, corporate, and government applications. The DGE-100 is also compatible with third-party touch screen displays to support a range of control, collaboration, video display, and interactive kiosk solutions.

OSM Interface

On-screen menu (OSM) capability offers an alternative to touch screen control, providing a fully-customizable control menu on a television or video display. The control menu is easily navigated via a Crestron handheld remote or a USB mouse. The DGE-100 delivers high-resolution menu graphics that pop up unobtrusively at the edge of the screen alongside the video source. Control functions such as adjusting lighting or lowering shades can be easily performed without interrupting a television program or video stream. Detailed alert messages can be configured to display on-screen for events such as security alarms or a doorbell ring, and a live-streaming camera window can be accessed to check security cameras.

Smart Graphics Technology

Smart Graphics® technology enables programmers to integrate fluid gesture-driven controls, animated feedback, rich metadata, embedded apps and widgets, and full-motion video into their user interfaces. Smart Graphics provides dynamic features such as graphical buttons and sliders, lists and toolbars, drag-and-drop objects, dashboard widgets, screensavers, and customizable themes.[1]

HD Streaming Video

The DGE-100 supports high-definition streaming video, making it possible to view security cameras and other video sources over the network via the touch screen display. Native support for H.264 and MJPEG formats allows the DGE-100 to display live streaming video from an IP camera, a streaming encoder (DM-TXRX-100-STR or similar), or a DigitalMedia™ switcher.[1]

HDMI Input

An HDMI® input is provided for connecting and displaying an HD video source. Wireless presentation is also supported by connecting an AirMedia® gateway to the HDMI input, allowing for laptops and mobile devices to connect to the DGE-100 over Wi-Fi® communications.[2]

HDCP Support

Support for HDCP (High-bandwidth Digital Content Protection) ensures seamless compatibility with content-protected optical disc, television, and streaming sources.

Web Browsing

Using its built-in web browser, the DGE-100 provides access to online program guides and other web-based services, and it can be used to control DVRs and other devices without having to pick up a separate tablet or smartphone.[3]

Multitouch Support

When paired with the TSD-2220 or another multitouch compatible touch screen display, the DGE-100 affords enhanced capabilities for browsing web pages using multitouch control.

On-screen Keyboard

Typing in passwords, URLs, and text searches is facilitated using the on-screen multilanguage keyboard.

Built-in Annotation

Annotation helps to add another dimension to any presentation. Native to the DGE-100, annotation provides the ability to capture ideas in real time, letting you draw and write over a video source or sketch out thoughts on a whiteboard screen.

Remote annotation capability allows multiple participants, each with a separate touch screen, to annotate over the same video image or whiteboard for enhanced collaboration. Remote annotation is possible by using multiple digital graphics engines and touch screens. Adding a dedicated DGE-100 to the main display in a room allows the annotated session to be viewed by an entire audience.

Onboard Control Ports

The DGE-100 provides built-in RS-232 and IR ports for programmable control of the connected display and other devices via a control system. When connected to a control system via Ethernet, the DGE-100 offers a gateway for controlling the display device directly through its HDMI connection, which reduces the need for any dedicated serial cables or IR emitters. Additional control capabilities are available by using CEC (Consumer Electronics Control) that is embedded within the HDMI signal.

Low-Profile Installation

The DGE-100 mounts conveniently to a wall, ceiling, or other flat surface. Its compact, surface-mountable form factor fits easily behind a flat panel display, beneath a tabletop, or inside a lectern or other furniture. It can even be attached directly to a single rack rail in the back of an equipment cabinet. The DGE-100 can be powered using the included wall mount power pack or via PoE (Power over Ethernet) for a true single-wire solution.

Enterprise-Grade Security

The DGE-100 employs enterprise-grade networking with robust security features such as 802.1X authentication, TLS encryption, HTTPS connectivity, and Active Directory® service integration. These features help to protect your network and to ensure compliance with your organization's network policies. Cloud-based provisioning and management streamlines the process of configuring, monitoring, and updating each DGE-100 on the network. Additional support for SNMP allows the DGE-100 to be monitored by your IT administrator.

XiO Cloud Service

The DGE-100 is compatible with the XiO Cloud® service, which is an IoT (Internet of Things) based platform for remotely provisioning, monitoring, and managing Crestron devices across an enterprise or an entire client base. Built on the Microsoft® Azure® software platform and utilizing Microsoft's industry-leading Azure IoT Hub technology, XiO Cloud enables installers and IT managers to deploy and manage thousands of devices simultaneously. Unlike other virtual machine-based cloud solutions, Azure services provide unlimited scalability to suit the ever-growing needs of an enterprise. For more information, visit www.crestron.com/xiocloud.

Notes:

1. The DGE-100 supports up to two simultaneous streaming inputs with a maximum combined total bitrate of 25 Mbps.
2. The HDMI® input signal cannot be downscaled more than 4 times. For instance, a 1920x1080 source signal can be displayed no smaller than 480x270 pixels.
3. Web browsing, weather information, and certain other functions require an internet connection.
4. HDMI connections require an appropriate adapter or interface cable to accommodate a DVI or Dual-Mode DisplayPort™ signal. CBL-HD-DVI interface cables are available separately.
5. The output resolution is with or without reduced blanking.
6. The output resolution is with reduced blanking only.

DM-DGE-200-C Features

The Crestron® DM-DGE-200-C digital graphics engine transforms an HD or Ultra HD touch screen display into an advanced Crestron controller. The DM-DGE-200-C features Smart Graphics® technology that may be used to create a custom graphical environment for controlling audio, video, lighting, shades, HVAC, security, and other amenities. The DM-DGE-200-C can also be used for functions with dual-window video display, annotation, audio feedback, and web browsing. Its low-profile, surface-mountable design allows for a discreet installation behind a flat-panel display, under a table, or inside a lectern or equipment rack.

The DM-DGE-200-C features a 4K UHD capable HDMI® output for connecting to a display device, and includes a USB HID port for touch, mouse, or keyboard input. Additional control ports are provided for controlling the display device and other equipment.[1,2] The HDMI input allows an AirMedia® wireless presentation gateway or other high-definition video source to be connected and displayed on-screen. The DM 8G+® input supports 4K UHD and DCI 4K sources connected at a DM® transmitter or switcher.[3] Additionally, H.264 streaming video signals can be received over a high-speed Ethernet connection, and Ethernet provides an interface to a Crestron control system.[4]

> **NOTE:** An Ethernet connection is required for touch screen and OSM control applications.

Key features include:

- Touch screen graphics engine for the Crestron® TSD-2220 or a third-party USB HID-compliant touch screen
- Supports OSM (on-screen menu) applications without a touch screen
- HDMI® output supports display resolutions up to Full HD 1080p60 and 4K Ultra HD (3840x2160@30Hz)
- Displays dual-window or full screen video from HDMI, DM 8G+®, and H.264 streaming sources
- Supports video input resolutions up to 4K UHD and DCI 4K via DM 8G+ or 1080p60 via HDMI
- Receives H.264 streaming video signals up to 1080p60/25 Mpbs
- HDCP 2.2 and 1.4 compliant
- Supports Smart Graphics® technology custom user projects
- Built-in annotation capabilities
- Built-in web browsing
- Onboard COM, HDMI, IR/serial, DM 8G+, and high-speed Ethernet ports
- High-speed USB 2.0 port for USB HID-compliant peripheral devices
- Powered via included power pack
- Enterprise-grade security and authentication
- Web or cloud-based configuration
- Compact, surface-mountable form factor

Touch Screen Interface

The DM-DGE-200-C can be paired with the TSD-2220 HD touch screen display to deliver a high-definition 21.5 in. touch screen control panel that is ideal for home, corporate, and government applications. The DM-DGE-200-C is also compatible with third-party touch screen displays to support a range of control, collaboration, video display, and interactive kiosk solutions. The DM-DGE-200-C supports either Full HD 1080p60 (1920x1080@60Hz) or 4K UHD (3840x2160@30Hz) display resolutions.

OSM Interface

On-screen menu (OSM) capability offers an alternative to touch screen control, providing a fully-customizable control menu on a television or video display. The control menu is easily navigated via a Crestron handheld remote or a USB mouse. The DGE-100 delivers high-resolution menu graphics that pop up unobtrusively at the edge of the screen alongside the video source. Control functions such as adjusting lighting or lowering shades can be easily performed without interrupting a television program or video stream. Detailed alert messages can be configured to display on-screen for events such as security alarms or a doorbell ring, and a live-streaming camera window can be accessed to check security cameras.

Smart Graphics Technology

Smart Graphics® technology enables programmers to integrate fluid gesture-driven controls, animated feedback, rich metadata, embedded apps and widgets, and full-motion video into their user interfaces. Smart Graphics provides dynamic features such as graphical buttons and sliders, lists and toolbars, drag-and-drop objects, dashboard widgets, screensavers, and customizable themes.[1]

HD Streaming Video

The DM-DGE-200-C supports high-definition streaming video, making it possible to view security cameras and other video sources over the network via the touch screen display. Native support for H.264 and MJPEG formats allows the DM-DGE-200-C to display live streaming video from an IP camera, a streaming encoder (DM-TXRX-100-STR or similar), or a DigitalMedia™ switcher.[4]

4K DM 8G+ Input

Via its DM 8G+® input, the DM-DGE-200-C is able to display video sources with resolutions up to Ultra HD and DCI 4K. Connectivity for these video sources can be provided through a DM 8G+ transmitter or a DM® switcher.[3,5,8,9]

HDMI Input

An HDMI® input is provided for connecting and displaying an HD video source. Wireless presentation is also supported by connecting an AirMedia® gateway to the HDMI input, allowing for laptops and mobile devices to connect to the DM-DGE-200-C over Wi-Fi® communications.

> **NOTE:** The maximum resolution supported by the HDMI input is 1080p60 (1920x1080@60Hz).[9,10]

HDCP 2.2 Support

Support for HDCP 2.2 (High-bandwidth Digital Content Protection) ensures seamless compatibility with content-protected optical disc, television, and streaming sources.

> **NOTE:** HDCP 2.2 is supported through the DM 8G+ input and HDMI output, while the HDMI input supports HDCP 1.4 only.

Web Browsing

Using its built-in web browser, the DM-DGE-200-C provides access to online program guides and other web-based services, and it can be used to control DVRs and other devices without having to pick up a separate tablet or smartphone.[7]

Multitouch Support

When paired with the TSD-2220 or another multitouch compatible touch screen display, the DM-DGE-200-C affords enhanced capabilities for browsing web pages using multitouch control.

On-screen Keyboard

Typing in passwords, URLs, and text searches is facilitated using the on-screen multilanguage keyboard.

Built-in Annotation

Annotation helps to add another dimension to any presentation. Native to the DM-DGE-200-C, annotation provides the ability to capture ideas in real time, letting you draw and write over a video source or sketch out thoughts on a whiteboard screen.

Remote annotation capability allows multiple participants, each with a separate touch screen, to annotate over the same video image or whiteboard for enhanced collaboration. Remote annotation is possible by using multiple digital graphics engines and touch screens. Adding a dedicated DM-DGE-200-C to the main display in a room allows the annotated session to be viewed by an entire audience.

Onboard Control Ports

The DM-DGE-200-C provides built-in RS-232 and IR ports for programmable control of the connected display and other devices via a control system. When connected to a control system via Ethernet, the DM-DGE-200-C offers a gateway for controlling the display device directly through its HDMI connection, which reduces the need for any dedicated serial cables or IR emitters. Additional control capabilities are available by using CEC (Consumer Electronics Control) that is embedded within the HDMI signal.[1,2]

Low-Profile Installation

The DM-DGE-200-C mounts conveniently to a wall, ceiling, or other flat surface. Its compact, surface-mountable form factor fits easily behind a flat panel display, beneath a tabletop, or inside a lectern or other furniture. It can even be attached directly to a single rack rail in the back of an equipment cabinet.

Enterprise-Grade Security

The DM-DGE-200-C employs enterprise-grade networking with robust security features such as 802.1X authentication, TLS encryption, HTTPS connectivity, and Active Directory® service integration. These features help to protect your network and to ensure compliance with your organization's network policies. Cloud-based provisioning and management streamlines the process of configuring, monitoring, and updating each DM-DGE-200-C on the network. Additional support for SNMP allows the DM-DGE-200-C to be monitored by your IT administrator.

XiO Cloud Service

The DM-DGE-200-C is compatible with the XiO Cloud® service, which is an IoT (Internet of Things) based platform for remotely provisioning, monitoring, and managing Crestron devices across an enterprise or an entire client base. Built on the Microsoft® Azure® software platform and utilizing Microsoft's industry-leading Azure IoT Hub technology, XiO Cloud enables installers and IT managers to deploy and manage thousands of devices simultaneously. Unlike other virtual machine-based cloud solutions, Azure services provide unlimited scalability to suit the ever-growing needs of an enterprise. For more information, visit www.crestron.com/xiocloud.

Notes:

1. The COM and IR ports can be used for fully-customizable control applications via integration with a Crestron control system with custom programming.
2. CEC may be utilized through either HDMI port for fully-customizable control applications via integration with a Crestron control system with custom programming.
3. Manual switching and control port functionality on the transmitter require a control system with custom programming. Control port functionality is not supported on DM-TX-4K-100-C-1G transmitters.
4. The DM-DGE-200-C supports up to two simultaneous streaming inputs with a maximum combined total bitrate of 25 Mbps.
5. When connected to a DM® switcher via the DM 8G+® input, the DM-DGE-200-C can obtain its LAN connection through the switcher but does not receive an IP address on the switcher's private network. Therefore, the device IP address must be set on the customer LAN.
6. AirMedia® wireless presentation support requires a wireless LAN and the addition of an AirMedia gateway (sold separately).
7. Web browsing, weather information, and certain other functions require an internet connection.
8. The maximum cable length for DigitalMedia™ 8G+ (DM 8G+) is dependent upon the type of cable, resolution of the video signal, and capabilities of each connected device. Refer to the DM 8G+ Maximum Cable Lengths table in the Specifications section for a detailed overview. Shielded cable and connectors are recommended to safeguard against unpredictable environmental electrical noise which may impact performance at resolutions above 1080p. Refer to the Crestron DigitalMedia System Design Guide for DM system design guidelines. All wire, cables, transmitters, and other devices are sold separately.
9. The audio signal from any source connected to the HDMI® or DM input is passed through to the HDMI output without processing, downmixing, volume control, or mute control.
10. The HDMI input signal cannot be downscaled more than 4 times. For instance, a 1920x1080 source signal can be displayed no smaller than 480x270 pixels.
11. HDMI connections require an appropriate adapter or interface cable to accommodate a DVI or Dual-Mode DisplayPort™ signal. CBL-HD-DVI interface cables are available separately.

Specifications

Refer to the following sections for more information on specifications for the DGE-100 and DM-DGE-200-C.

DGE-100 Specifications

Product specifications for the DGE-100 are provided below.

Product Specifications

Graphics Engine

Smart Graphics® technology, landscape or portrait orientation, local and remote annotation, multilanguage web browser[3], multilanguage on-screen keyboard, screensaver, scalable dual streaming video windowing, displays any combination of HDMI® and streaming sources[1,2], setup and diagnostics via web browser, on-screen UI, or cloud

Languages

Smart Graphics Technology	Arabic, Chinese (Simplified), Chinese (Traditional), Czech, Danish, Dutch, English (UK), English (US), Finnish, French, German, Greek, Hebrew, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Portuguese (Brazilian), Romanian, Russian, Slovak, Spanish, Swedish, Thai
On-screen Keyboard	Arabic, Chinese (Simplified), Croatian, Czech, Danish, Dutch, English (UK), English (US), Finnish, French (Canada), French (Switzerland), German, Hebrew, Hungarian, Italian, Japanese, Norwegian Bokmal, Polish, Portuguese, Russian, Serbian, Spanish, Swedish, Turkish
Web Browser	Arabic, Bulgarian, Catalan, Chinese, Croatian, Czech, Danish, Dutch, English, Filipino, Finnish, French, German, Greek, Hebrew, Hindi, Hungarian, Indonesian, Italian, Japanese, Korean, Latvian, Lithuanian, Norwegian Bokmal, Pashto, Persian, Polish, Portuguese, Romanian, Romansh, Russian, Serbian, Slovak, Slovenian, Spanish, Swedish, Thai, Turkish, Ukrainian, Vietnamese

Memory

RAM	2 GB DDR3-SDRAM
Flash	4 GB
Maximum Project Size	1 GB

Communications

Ethernet	100 Mbps, autoswitching, autonegotiating, autodiscovery, full/half duplex, TCP/IP, UDP/IP, CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), SNMP, IPv4 or IPv6, Active Directory® authentication, HTTPS web browser setup, XiO Cloud® client, IEEE 802.1X, IEEE 802.3af and IEEE 802.3at Type 1 compliant, Crestron control system integration
USB Host	Supports TSD-2220 touch screen display and most third-party USB HID compliant peripherals
USB Device	For computer console (installer setup and firmware updates)
RS-232	2-way device control and monitoring up to 115.2k baud with hardware and software handshaking (via control system)

IR/Serial	1-way device control via infrared up to 1.1 MHz or serial TTL/RS-232 (0–5V) up to 19200 baud (via control system)
HDMI	HDCP 1.4, EDID, CEC

Pointing Device Support

Compatible with the TSD-2220 touch screen display and most third-party USB HID compliant touch screens, mice, and keyboards

Streaming Decoder

Video Formats	H.264 (MPEG-4 part 10 AVC), MJPEG
Audio Formats	AAC stereo
Bitrates	Up to 25 Mbps[1]
Resolutions	Up to 1080p60

Video

Input Signal Types	HDMI (DVI and dual-mode DisplayPort™ signal compatible[4])
Output Signal Types	HDMI (DVI compatible[4])
Input Resolutions	640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 848x480@60Hz, 852x480@60Hz, 854x480@60Hz, 1024x768@60Hz, 1024x852@60Hz, 1024x1024@60Hz, 1280x720@50Hz (720p50), 1280x720@60Hz (720p60), 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1365x1024@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@24Hz (1080p24), 1920x1080@25Hz (1080p25), 1920x1080@50Hz (1080p50), 1920x1080@60Hz (1080p60), plus any other resolution allowed by HDMI up to 148MHz pixel clock

> **NOTE:** Interlaced video is not supported

Output Resolutions	640x480@60Hz, 800x600@60Hz, 1024x768@60Hz[5], 1280x720@50Hz (720p50), 1280x720@60Hz (720p60), 1280x800@60Hz[5], 1366x768@60Hz[5], 1440x900@60Hz[5], 1600x900@60Hz[6], 1600x1200@60Hz, 1680x1050@60Hz[5], 1920x1080@50Hz (1080p50), 1920x1080@60Hz (1080p60), 1920x1200@60Hz

Audio

Input Signal Types	HDMI (dual-mode DisplayPort compatible[4])
Output Signal Types	HDMI
Input/Output Formats	2 channel LPCM
Audio Feedback Formats	MP3

Connectors

CONSOLE (USB)	(1) USB Micro A connector, female; USB computer console port; Type A to Micro A USB cable included

IR 1–2	(1) 4-pin 3.5 mm detachable terminal block; Comprises (2) IR/serial ports; IR output to 1.1 MHz; 1-way serial TTL/RS-232 (0–5V) up to 19200 baud
COM	(1) 5-pin 3.5 mm detachable terminal block; Bidirectional RS-232 port; Up to 115.2k baud, hardware and software handshaking support
HDMI INPUT	(1) HDMI Type A connector, female; HDMI digital video/audio input; DVI and dual-mode DisplayPort signal compatible[4]
HDMI OUTPUT	(1) HDMI Type A connector, female; HDMI digital video/audio output; DVI compatible[4]
USB	(1) USB Type A connector, female; USB 2.0 host port for connecting a USB HID compliant touch screen, mouse, or keyboard
LAN PoE	(1) 8-pin RJ-45 connector, female; 100BASE-TX Ethernet port; Power over Ethernet (PoE) compliant
24VDC 0.75A	(1) 2.1 x 5.5 mm DC power connector; 24VDC power input; PW-2407WU power pack included
G	(1) 6-32 screw; Chassis ground lug

Controls and Indicators

PWR	(1) Green LED, indicates operating power is present via the local power pack or PoE (Power over Ethernet); Flashes while the device is booting
RESET	(1) Recessed push button for hardware reset
SETUP	(1) Red LED and (1) recessed push button for Ethernet setup
ONLINE	(1) Green LED, indicates a connection is established to a control system via Ethernet
HDMI IN/OUT	(2) Green LEDs, indicate the presence of an HDMI signal at the HDMI input or output, respectively
LAN PoE	(1) Green LED and (1) amber LED; Green LED indicates the Ethernet link status; Amber LED indicates Ethernet activity

Power

PoE (Power over Ethernet)	IEEE 802.3at Type 1 (802.3af compatible) Class 0 (12.95 W) PoE Powered Device
Power Pack (Included)	Input: 100–240VAC, 50/60 Hz; Output: 0.75A @ 24VDC; Model: PW-2407WU

Power Consumption	8 W (typical)

Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	10% to 90% RH (noncondensing)
Heat Dissipation	27.3 BTU/hr

Enclosure

Chassis	Metal, black finish, (2) integral mounting flanges, vented sides
Mounting	Freestanding, surface mount, or attach to a single rack rail

Dimensions

Height	6.42 in. (163 mm)
Width	7.40 in. (188 mm)
Depth	1.35 in. (35 mm)

Weight

19.6 oz (554 g)

Compliance

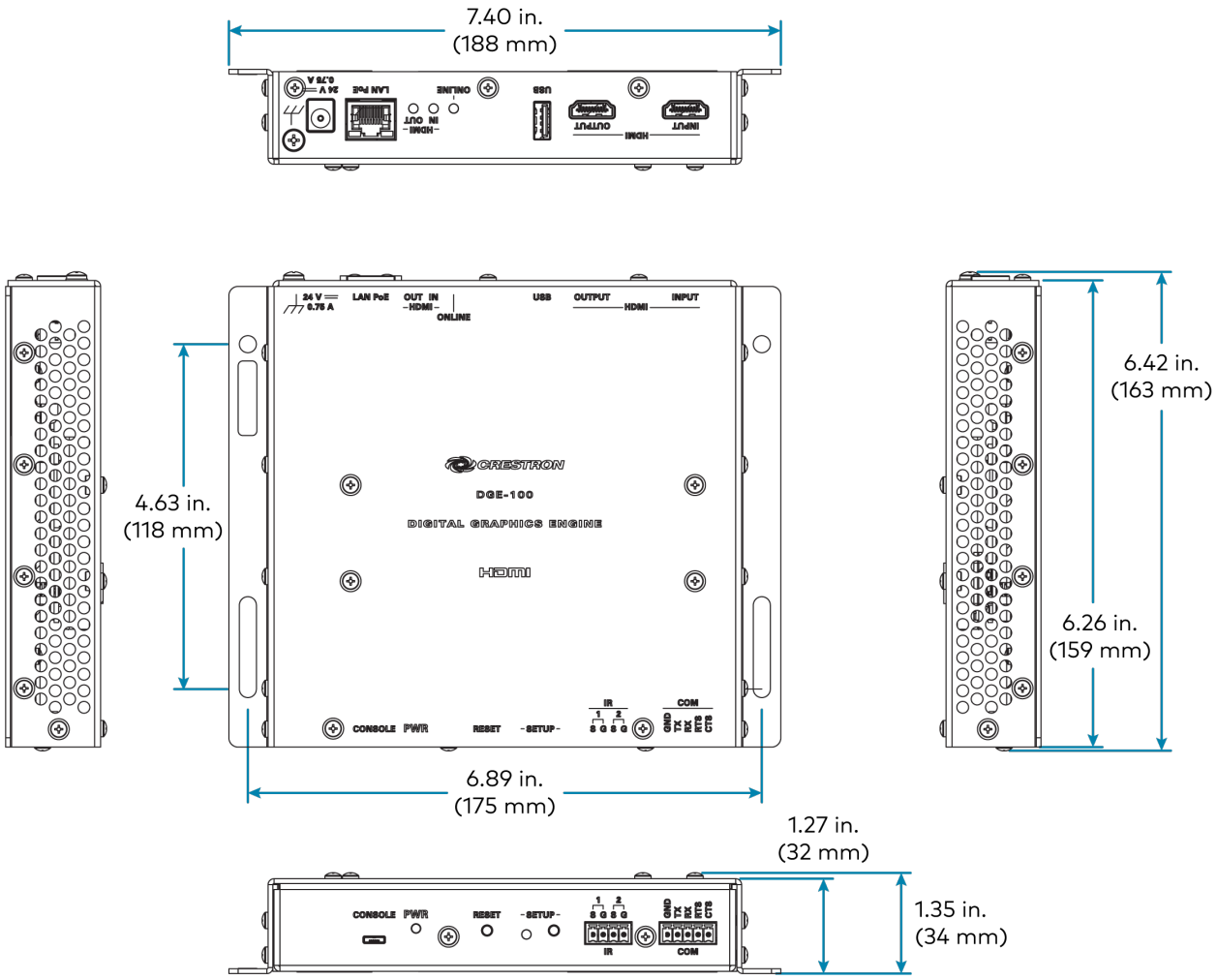
Regulatory Model: DGE-100;
IC, CE, FCC Part 15 Class B digital device

To search for product certificates, refer to support.crestron.com/app/certificates.

Notes:

1. The DGE-100 supports up to two simultaneous streaming inputs with a maximum combined total bitrate of 25 Mbps.
2. The HDMI® input signal cannot be downscaled more than 4 times. For instance, a 1920x1080 source signal can be displayed no smaller than 480x270 pixels.
3. Web browsing, weather information, and certain other functions require an internet connection.
4. HDMI connections require an appropriate adapter or interface cable to accommodate a DVI or Dual-Mode DisplayPort™ signal. CBL-HD-DVI interface cables are available separately.
5. The output resolution is with or without reduced blanking.
6. The output resolution is with reduced blanking only.

Dimension Drawings



DM-DGE-200-C Specifications

Product specifications for the DM-DGE-200-C are provided below.

Product Specifications

Graphics Engine

Smart Graphics® technology, local and remote annotation, multilanguage web browser[7], 10-point multitouch support, multilanguage on-screen keyboard, screensaver, scalable dual streaming video windowing, displays any combination of HDMI®, DM 8G+®, and streaming sources[1,3], setup and diagnostics via web browser, on-screen UI, or cloud

Languages

Smart Graphics Technology	Arabic, Chinese (Simplified), Chinese (Traditional), Czech, Danish, Dutch, English (UK), English (US), Finnish, French, German, Greek, Hebrew, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Portuguese (Brazilian), Romanian, Russian, Slovak, Spanish, Swedish, Thai
On-screen Keyboard	Arabic, Chinese (Simplified), Croatian, Czech, Danish, Dutch, English (UK), English (US), Finnish, French (Canada), French (Switzerland), German, Hebrew, Hungarian, Italian, Japanese, Norwegian Bokmal, Polish, Portuguese, Russian, Serbian, Spanish, Swedish, Turkish
Web Browser	Arabic, Bulgarian, Catalan, Chinese, Croatian, Czech, Danish, Dutch, English, Filipino, Finnish, French, German, Greek, Hebrew, Hindi, Hungarian, Indonesian, Italian, Japanese, Korean, Latvian, Lithuanian, Norwegian Bokmal, Pashto, Persian, Polish, Portuguese, Romanian, Romansh, Russian, Serbian, Slovak, Slovenian, Spanish, Swedish, Thai, Turkish, Ukrainian, Vietnamese
RAM	2 GB DDR3-SDRAM
Flash	4 GB
Maximum Project Size	1 GB

Communications

Ethernet	100 Mbps, autoswitching, autonegotiating, autodiscovery, full/half duplex, TCP/IP, UDP/IP, CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), SNMP, IPv4 or IPv6, Active Directory® authentication, HTTPS web browser setup, XiO Cloud® client, Crestron control system integration[5]
USB Host	Supports TSD-2220 touch screen display and most third-party USB HID compliant peripherals
USB Device	For computer console (installer setup and firmware updates)
RS-232	2-way device control and monitoring up to 115.2k baud with hardware and software handshaking[1]
IR/Serial	1-way device control via infrared up to 1.1 MHz or serial TTL/RS-232 (0–5V) up to 19200 baud[1]

DigitalMedia™ Technology	DM 8G+, HDCP 2.2, EDID, Ethernet, PoDM (Power over DM®) sourcing
HDMI, Input	HDCP 1.4, EDID, CEC[2]
HDMI, Output	HDCP 2.2, EDID, CEC[2]

Pointing Device Support

Compatible with the TSD-2220 touch screen display and most third-party USB HID compliant touch screens, mice, and keyboards

Streaming Decoder

Video Formats	H.264 (MPEG-4 part 10 AVC), MJPEG
Audio Formats	AAC stereo
Bitrates	Up to 25 Mbps[4]
Resolutions	Up to 1080p60

Video

Input Signal Types	DM 8G+, HDMI (DVI and dual-mode DisplayPort™ signal compatible[11])
Output Signal Types	HDMI (DVI compatible[11])

Maximum Input Resolutions

Input Type	Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
DM 8G+®	Progressive	4096x2160 DCI 4K or 3840x2160 Ultra HD	24 Hz	4:4:4	30 bit
			30 Hz	4:4:4	24 bit
			30 Hz	4:2:2	36 bit
			60 Hz	4:2:0	24 bit
		2560x1600 WQXGA	60 Hz	4:4:4	36 bit
		1920x1080 HD 1080p	60 Hz	4:4:4	36 bit
	Interlaced	1920x1080 HD 1080i	30 Hz	4:4:4	36 bit
HDMI®	Progressive	1920x1080 HD 1080p	60 Hz	4:4:4	36 bit

NOTE: Common input resolutions are provided in the table above. Other custom input resolutions are supported at pixel clock rates up to 300 MHz for the DM 8G+ input, or 148 MHz for the HDMI input. Interlaced video is not supported via the HDMI input.

Output Resolutions 1920x1080@60Hz (1080p60), 3840x2160@30Hz (4K UHD)

NOTE: All video inputs are scaled automatically to the operative output resolution when displayed full screen.

Audio

Input Signal Types	DM 8G+, HDMI (dual-mode DisplayPort compatible[11])[9]
Output Signal Types	HDMI
DM Input Formats	Up to 8 channel LPCM
HDMI Input Formats	2 channel LPCM
HDMI Output Formats	Up to 8 channel LPCM
Audio Feedback Formats	MP3

Connectors

CONSOLE (USB)	(1) USB Micro A connector, female; USB computer console port; Type A to Micro A USB cable included
IR 1–2	(1) 4-pin 3.5 mm detachable terminal block; Comprises (2) IR/serial ports[1]; IR output to 1.1 MHz; 1-way serial TTL/RS-232 (0–5V) up to 19200 baud
COM	(1) 5-pin 3.5 mm detachable terminal block; Bidirectional RS-232 port[1]; Up to 115.2k baud, hardware and software handshaking support
LAN	(1) 8-pin RJ-45 connector, female; 100BASE-TX Ethernet port
HDMI INPUT	(1) HDMI Type A connector, female; HDMI digital video/audio input[9]; DVI and dual-mode DisplayPort signal compatible[11]
HDMI OUTPUT	(1) HDMI Type A connector, female; HDMI digital video/audio output[9]; DVI compatible[11]
USB	(1) USB Type A connector, female; USB 2.0 host port for connecting a USB HID compliant touch screen, mouse, or keyboard
DM IN	(1) 8-pin RJ-45 connector, female; DM 8G+ input[3,5,8,9], PoDM PSE (Power over DM Power Sourcing Equipment) port
24VDC 0.75A	(1) 2.1 x 5.5 mm DC power connector; 24VDC power input; PW-2420RU power pack included
G	(1) 6-32 screw; Chassis ground lug

Controls and Indicators

PWR	(1) Green LED, indicates operating power is present via the local power pack; Flashes while the device is booting
RESET	(1) Recessed push button for hardware reset
SETUP	(1) Red LED and (1) recessed push button for Ethernet setup

LAN	(1) Green LED and (1) amber LED; Green LED indicates the Ethernet link status; Amber LED indicates Ethernet activity
ONLINE	(1) Green LED, indicates a connection is established to a control system via Ethernet
HDMI IN/OUT	(2) Green LEDs, indicate the presence of an HDMI signal at the HDMI input or output, respectively
DM IN	(1) Green LED and (1) amber LED; Green LED indicates the DM link status; Amber LED indicates video and HDCP signal presence

Power

Power Pack (Included)	Input: 1.5A (maximum) @ 100–240VAC, 50/60 Hz; Output: 2A @ 24VDC; Model: PW-2420RU
Power Consumption	24 W (typical, without a PoDM PD connected)
PoDM (Power over DM) Sourcing	IEEE 802.3at Type 1 compliant PoDM PSE (Power Sourcing Equipment), supplies up to 15.4 W (Class 0–3) to power one PoDM PD (Powered Device)

Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	10% to 90% RH (noncondensing)
Heat Dissipation	81.9 BTU/hr

Enclosure

Chassis	Metal, black finish, (2) integral mounting flanges, vented sides
Mounting	Freestanding, surface mount, or attach to a single rack rail

Dimensions

Height	7.93 in. (203 mm)
Width	9.29 in. (236 mm)
Depth	1.36 in. (35 mm)

Weight

25.6 oz (726 g)

Compliance

Regulatory Model: DM-DGE-200-C;
UL® Listed for US and Canada, IC, CE, FCC Part 15 Class B digital device

To search for product certificates, refer to support.crestron.com/app/certificates.

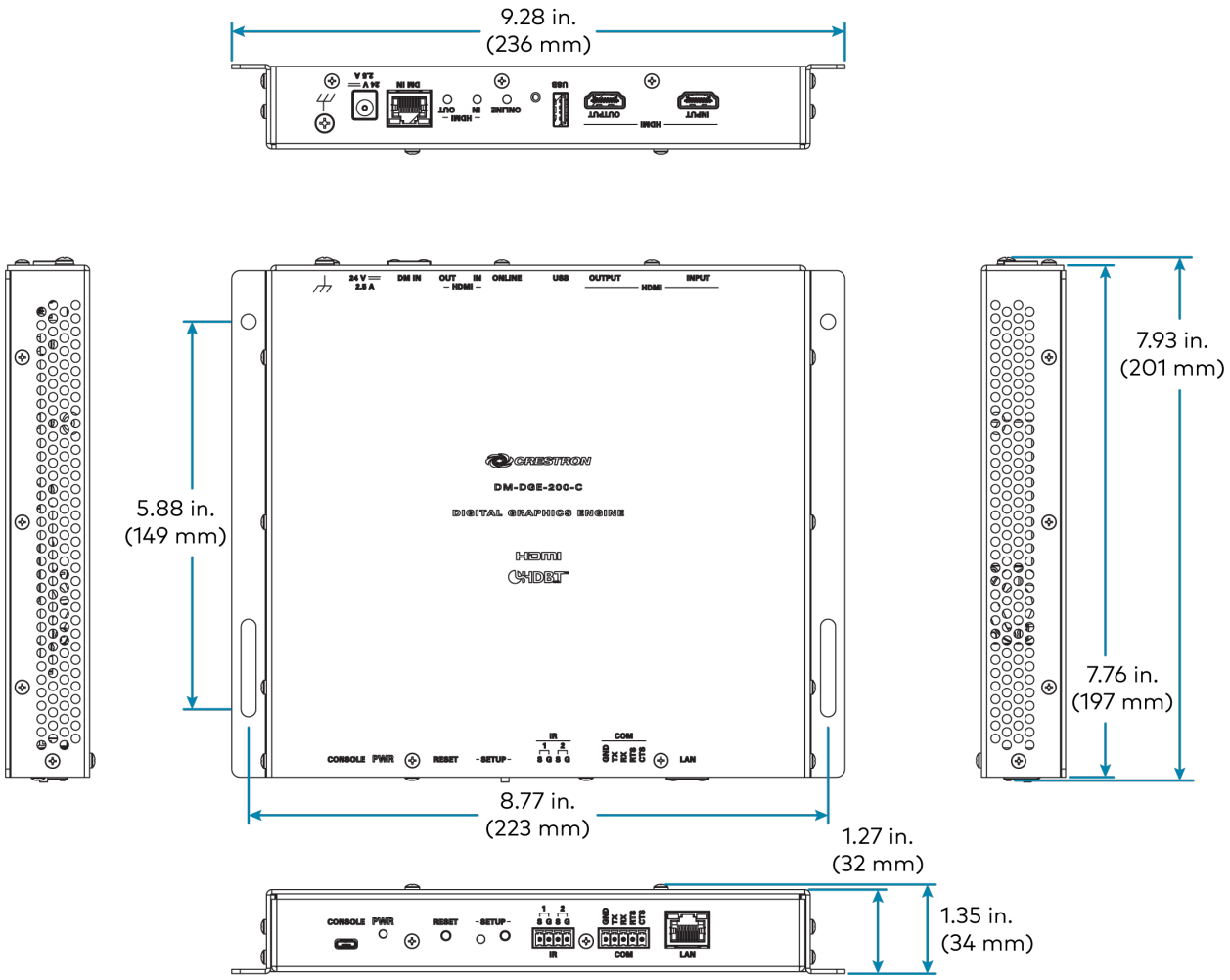
DM 8G+ Maximum Cable Lengths

Resolution	DM-CBL-ULTRA DM Ultra Cables	DM-CBL-8G DM 8G® Cables	CAT5e (or better)
1080p60 Full HD	330 ft (100 m)	330 ft (100 m)	330 ft (100 m)
1920x1200 WUXGA			
1600x1200 UXGA			
2048x1080 DCI 2K			
2560x1440 WQHD		230 ft (70 m)	165 ft (50 m)
2560x1600 WQXGA			
3840x2160 Ultra HD			
4096x2160 DCI 4K			

Notes:

1. The COM and IR ports can be used for fully-customizable control applications via integration with a Crestron control system with custom programming.
2. CEC may be utilized through either HDMI port for fully-customizable control applications via integration with a Crestron control system with custom programming.
3. Manual switching and control port functionality on the transmitter require a control system with custom programming. Control port functionality is not supported on DM-TX-4K-100-C-1G transmitters.
4. The DM-DGE-200-C supports up to two simultaneous streaming inputs with a maximum combined total bitrate of 25 Mbps.
5. When connected to a DM® switcher via the DM 8G+® input, the DM-DGE-200-C can obtain its LAN connection through the switcher but does not receive an IP address on the switcher's private network. Therefore, the device IP address must be set on the customer LAN.
6. AirMedia® wireless presentation support requires a wireless LAN and the addition of an AirMedia gateway (sold separately).
7. Web browsing, weather information, and certain other functions require an internet connection.
8. The maximum cable length for DigitalMedia™ 8G+ (DM 8G+) is dependent upon the type of cable, resolution of the video signal, and capabilities of each connected device. Refer to the DM 8G+ Maximum Cable Lengths table in the Specifications section for a detailed overview. Shielded cable and connectors are recommended to safeguard against unpredictable environmental electrical noise which may impact performance at resolutions above 1080p. Refer to the Crestron DigitalMedia System Design Guide for DM system design guidelines. All wire, cables, transmitters, and other devices are sold separately.
9. The audio signal from any source connected to the HDMI® or DM input is passed through to the HDMI output without processing, downmixing, volume control, or mute control.
10. The HDMI input signal cannot be downscaled more than 4 times. For instance, a 1920x1080 source signal can be displayed no smaller than 480x270 pixels.
11. HDMI connections require an appropriate adapter or interface cable to accommodate a DVI or Dual-Mode DisplayPort™ signal. CBL-HD-DVI interface cables are available separately.

Dimension Drawings



Installation

Refer to the following sections for instructions on how to install the DGE-100 and DM-DGE-200-C.

DGE-100 Installation

Use the following procedures to install the DGE-100.

In the Box

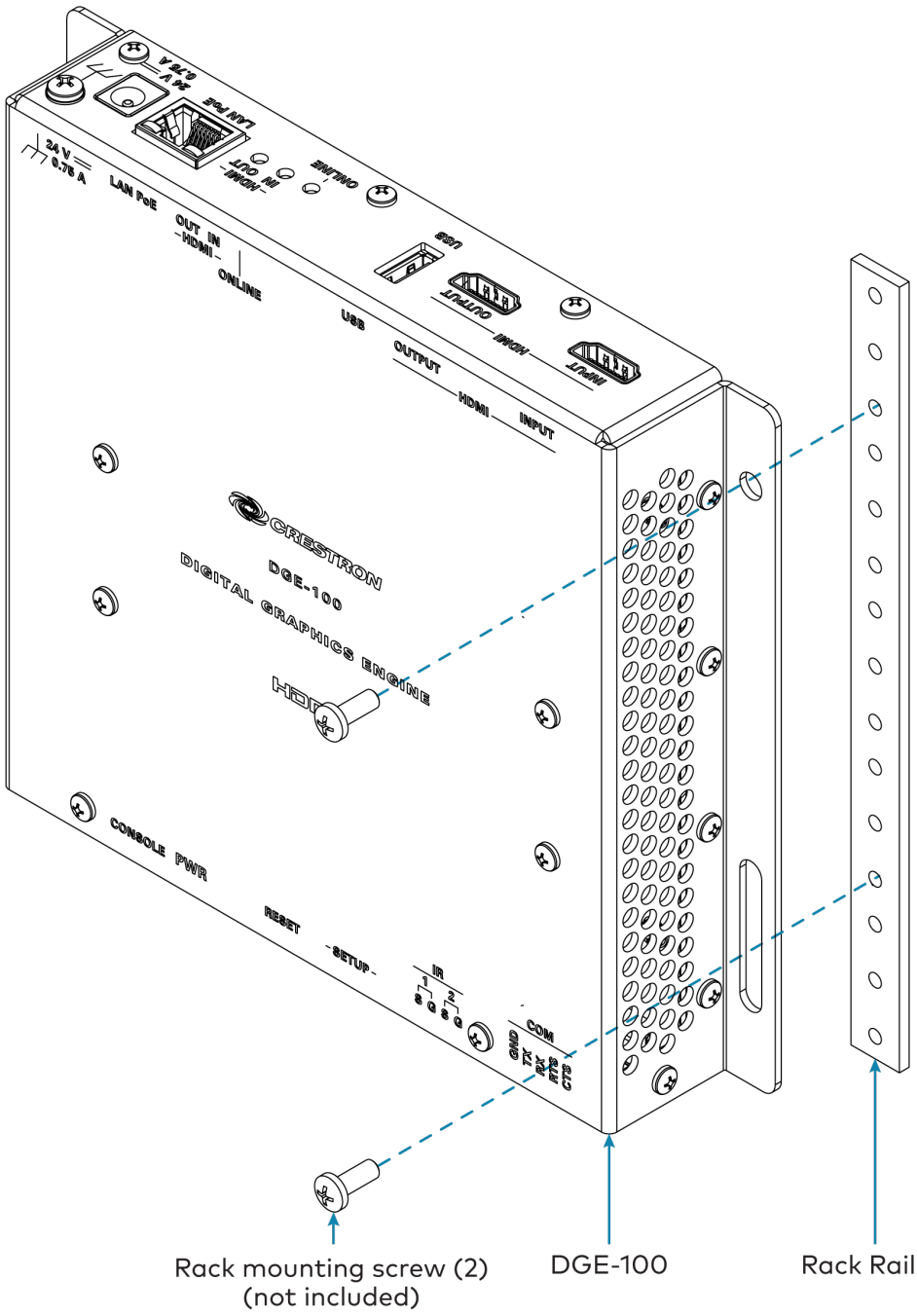
Qty.	Description
1	DGE-100, Digital Graphics Engine
	Additional Items
1	Connector, 4-Pin (2003576)
1	Connector, 5-Pin (2003577)
1	Power Pack, 24VDC @ 0.75A, 100–240VAC (2045865)
1	Cable, USB-A Male to Micro USB-B Male, 6 ft (1.8 m) (2038114)

Install the DGE-100

The DGE-100 can be mounted onto a rack rail or a flat surface.

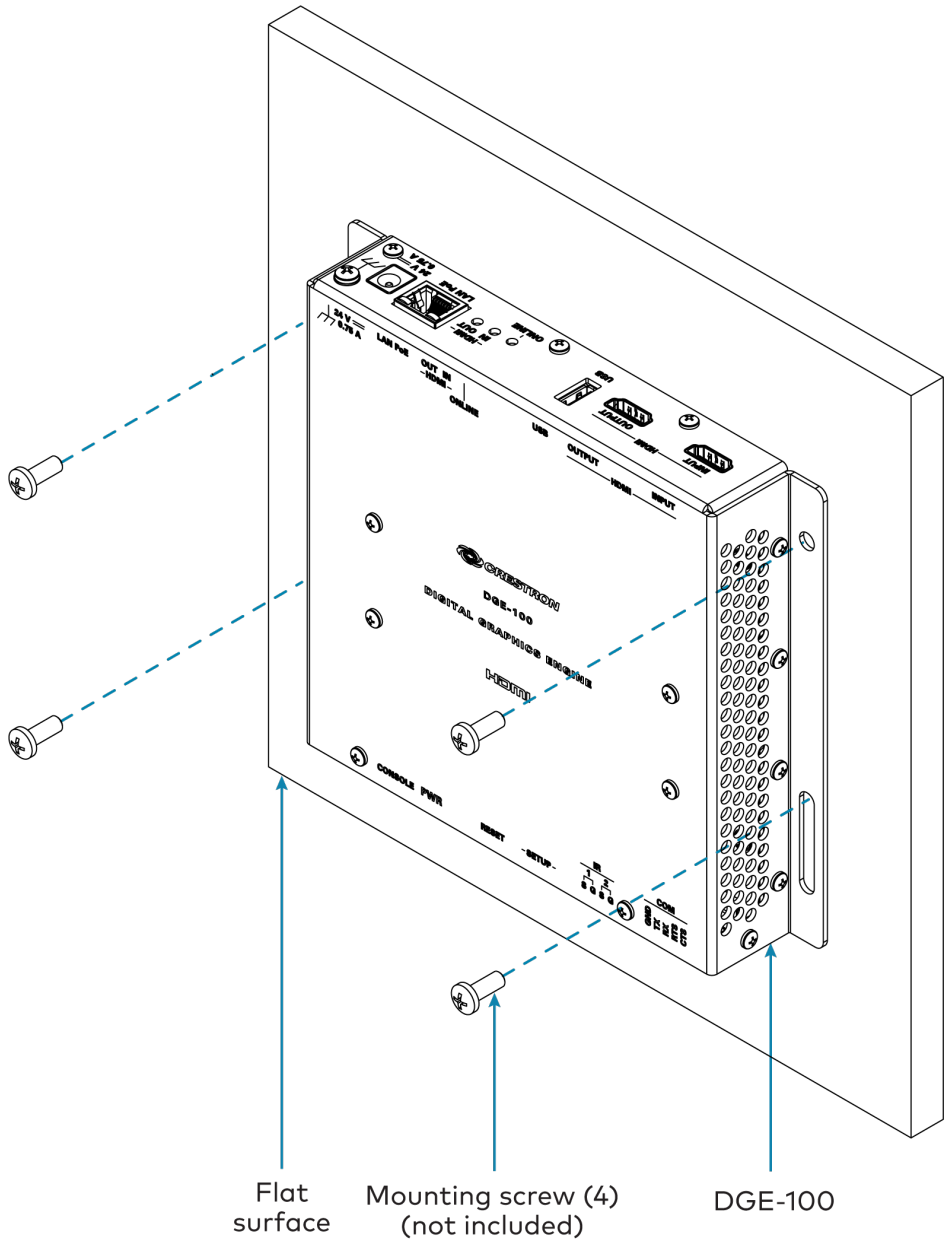
Rack Rail Mounting

Mount the left or right mounting flange of the DGE-100 onto the front or rear of a rack rail using two rack mounting screws (not included).



Surface Mounting

Mount the DGE-100 onto a flat surface using four mounting screws (not included).

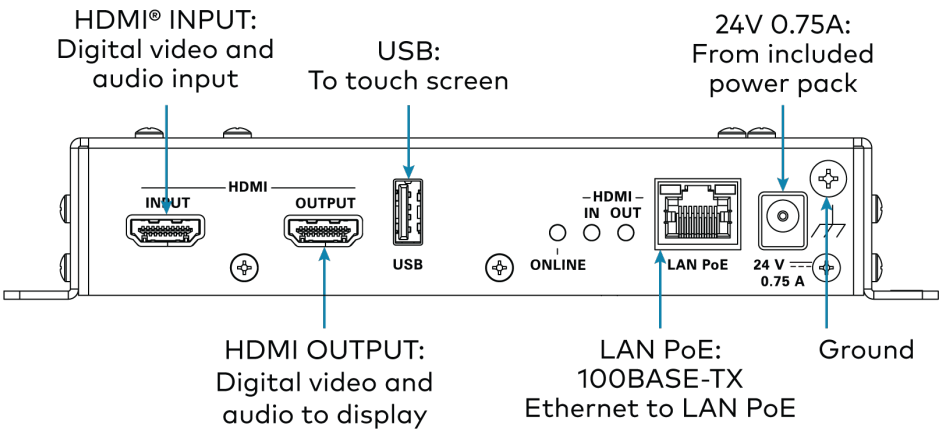


Connect the DGE-100

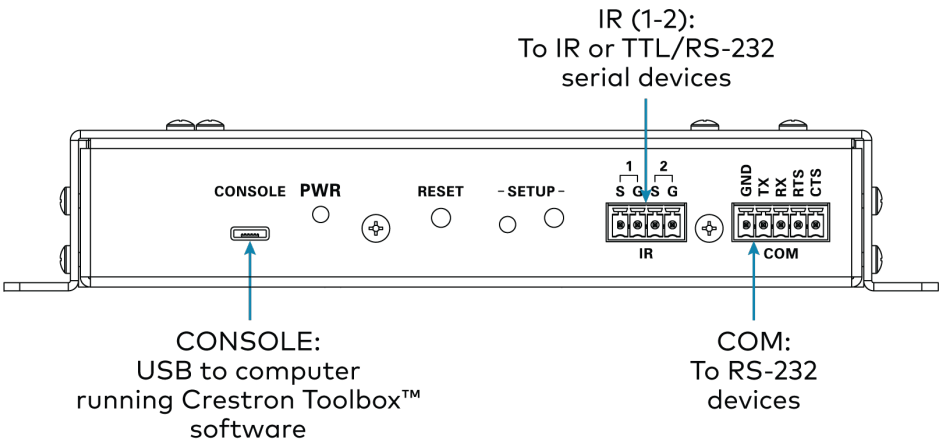
Make all necessary connections to the DGE-100 as shown in the following diagrams.

> **NOTE:** Do not connect the DGE-100 to the included power pack if powering the device over PoE (Power over Ethernet). Similarly, do not connect the DGE-100 to a PoE power source if powering the device with the included power pack.

Top Panel Connections



Bottom Panel Connections



Observe the following when connecting the DGE-100:

- Use Crestron power supplies for Crestron equipment.
- If powering the device over PoE, a Crestron PoE injector (PWE-4803RU) or a Crestron PoE switch (CEN-SW-POE-5 or CEN-SWPOE-16) is required. All PoE equipment is sold separately.
- Do not extend the included cable.
- Connect the chassis ground lug to a known earth ground circuit (such as building steel) to ensure that the device is grounded properly.
- Apply power after all connections have been made.

DM-DGE-200-C Installation

Use the following procedures to install the DM-DGE-200-C.

In the Box

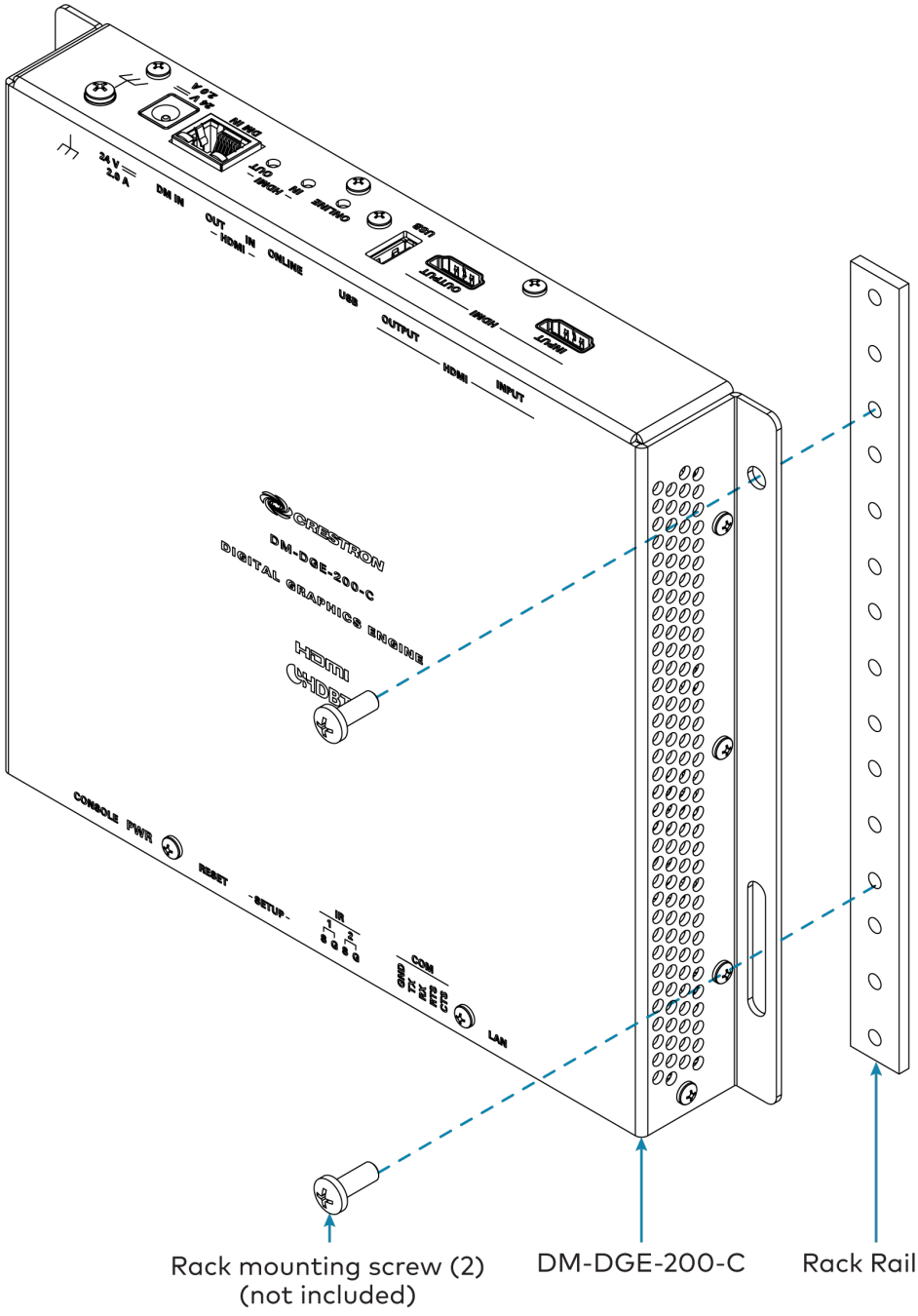
Qty.	Description
1	DM-DGE-200-C, Digital Graphics Engine
	Additional Items
1	Connector, 4-Pin (2003576)
1	Connector, 5-Pin (2003577)
1	Power Pack, 24VDC @ 2.5A, 100–240VAC (2045873)
1	Cable, USB-A Male to Micro USB-B Male, 6 ft (1.8 m) (2038114)

Install the DM-DGE-200-C

The DM-DGE-200-C can be mounted onto a rack rail or a flat surface.

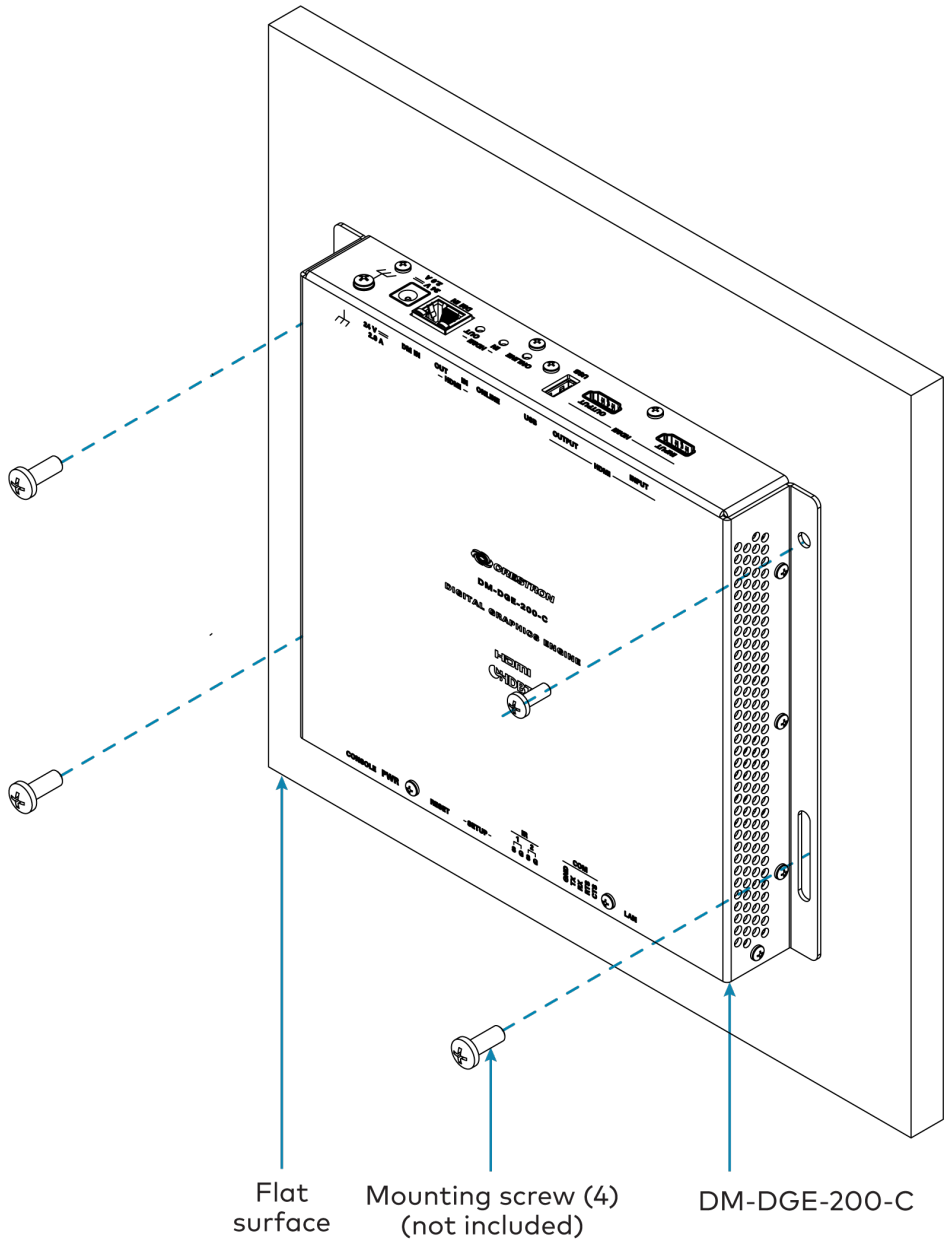
Rack Rail Mounting

Mount the left or right mounting flange of the DM-DGE-200-C onto the front or rear of a rack rail using two rack mounting screws (not included).



Surface Mounting

Mount the DM-DGE-200-C onto a flat surface using four mounting screws (not included).

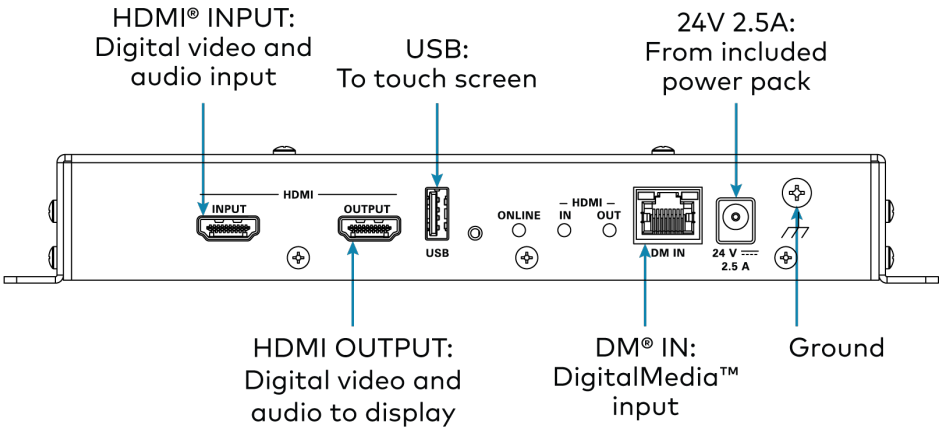


Connect the DM-DGE-200-C

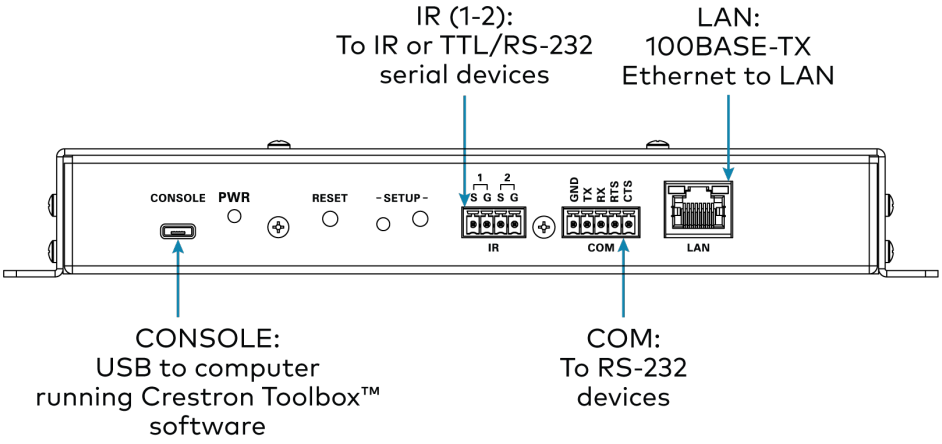
Make all necessary connections to the DM-DGE-200-C as shown in the following diagrams.

> **NOTE:** The DM-DGE-200-C does not support PoE (Power over Ethernet) or PoDM (Power over DM® input) and must be powered by the included power pack.

Top Panel Connections



Bottom Panel Connections



Observe the following when connecting the DM-DGE-200-C:

- Use Crestron power supplies for Crestron equipment.
- Do not extend the included cable.
- Connect the chassis ground lug to a known earth ground circuit (such as building steel) to ensure that the device is grounded properly.
- Apply power after all connections have been made.

Configuration

Prior to configuration, ensure the device is running the latest firmware. To update the firmware, refer to Firmware on page 71**.**

> **NOTE:** The PinPoint™ UX software functionality has been removed from the DM-DGE-200-C as of firmware version 1.3781.000*xxx*. Prior to upgrading the firmware to this version or later, the device must be taken out of PinPoint UX mode. If the firmware is upgraded while the device is in PinPoint UX mode, the device must be restored or the firmware must be downgraded to turn off PinPoint UX mode.

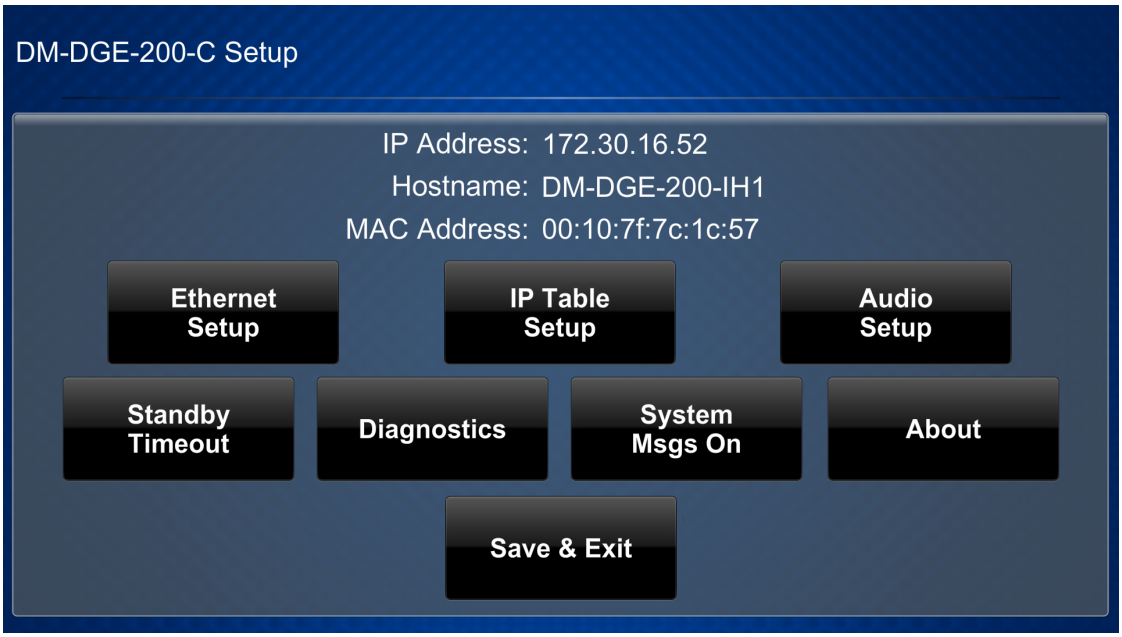
This section provides the following information:

Initial Setup

Use the following procedures to set up the DGE following installation.

Access the Setup Screens

When power is applied for the first time, a splash screen is shown on a connected touch screen display. Tap this screen to access the DGE local setup screens for device configuration (**DM-DGE-200-C Setup** screen shown).



NOTES:

- The DGE must be connected to a touch screen display to use its local setup screens.
- The DGE may take up to two minutes to boot.

For more information on configuring the DGE using its local setup screens, refer to Local Configuration on page 40.

Access the Web Configuration Interface

The DGE may be monitored and configured using its web configuration interface. The interface can be accessed via the DGE IP address or the XiO Cloud® service as described in the following sections.

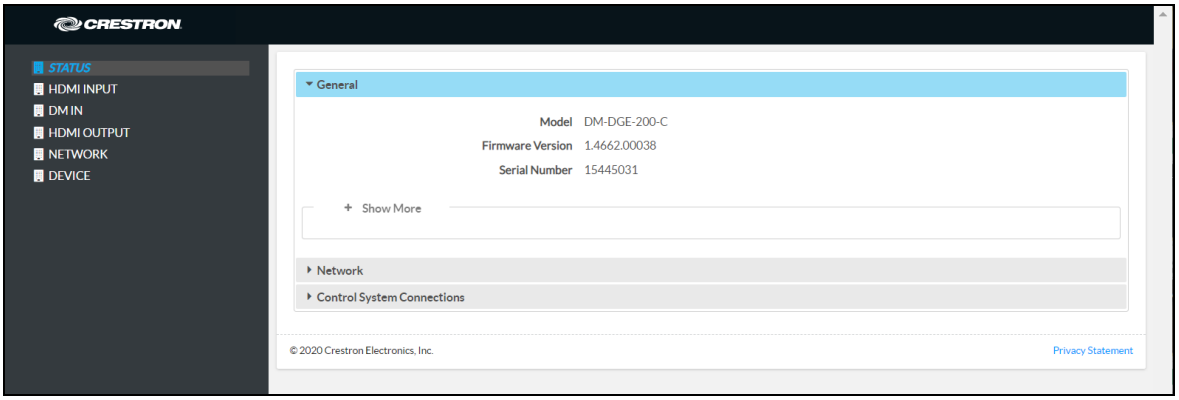
For more information on configuring the DGE using its web configuration interface, refer to Web Configuration on page 56.

IP Address

To access the web configuration interface using the DGE IP address:

> **NOTE:** The DGE ships with DHCP turned on. A DHCP server is required to access the web configuration interface via the DGE IP address.

1. Connect the DGE to the Ethernet network.
2. Locate the DGE and its IP address on the network. The **Device Discovery** tool in Crestron Toolbox™ software can be used to discover the DGE IP address.
3. Enter the DGE IP address into a web browser. The **STATUS** page is displayed with the **General** accordion expanded (DM-DGE-200-C shown).



XiO Cloud Service

The XiO Cloud® service allows supported devices across an enterprise to be managed and configured from one central, secure location in the cloud. The DGE is configured to connect to the service by default.

> **NOTE:** An XiO Cloud account is required to use the service. To register for an XiO Cloud account, refer to https://www.crestron.com/Support/Tools/Licensing-Registration/XiO-Account-Registration.

To connect the DGE to the XiO Cloud service:

1. Record the MAC address and serial number that are labeled on the shipping box or the DGE. The MAC address and serial number are required to add the DGE to the XiO Cloud service.
2. Log in to your XiO Cloud account at portal.crestron.io.
3. Claim the DGE to the XiO Cloud service as described in the XiO Cloud User Guide.

Once the DGE is claimed, select it from the cloud interface to view its status and settings. The DGE may now also be managed and assigned to a group or room. For more information, refer to the XiO Cloud User Guide.

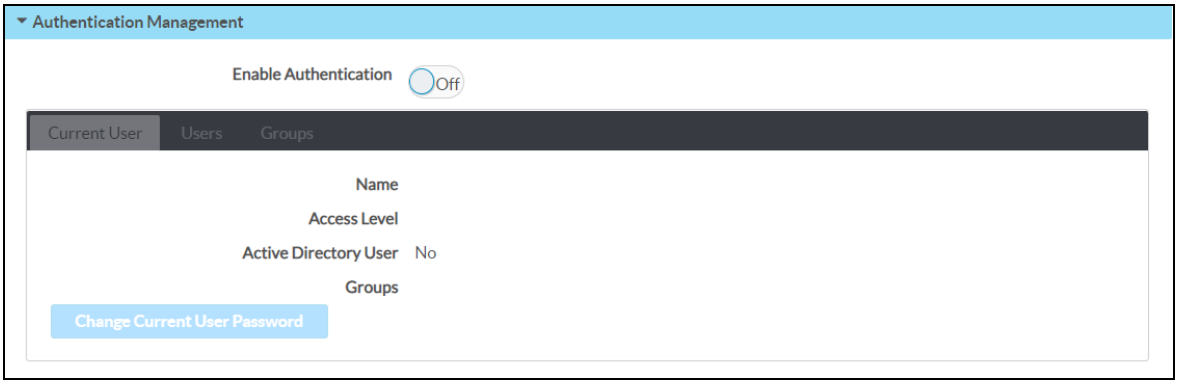
NOTE: For XiO Cloud accounts with room-based licenses, the DGE must be added to a licensed room before its status and settings can be viewed.

Turn on Authentication

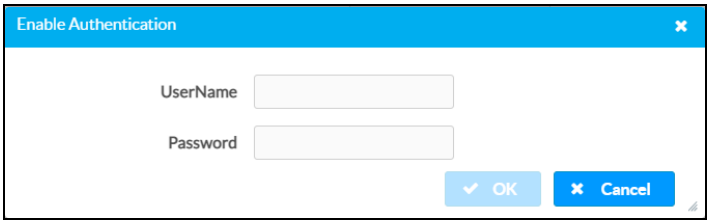
The DGE ships with authentication turned off by default. Crestron recommends turning on authentication as part of a secure deployment. Once authentication has been turned on, the DGE will prompt you to create an admin account username and password.

To turn on authentication:

1. Access the web configuration interface as described in Access the Web Configuration Interface on page 35.
2. Navigate to **DEVICE** > **Authentication Management**.

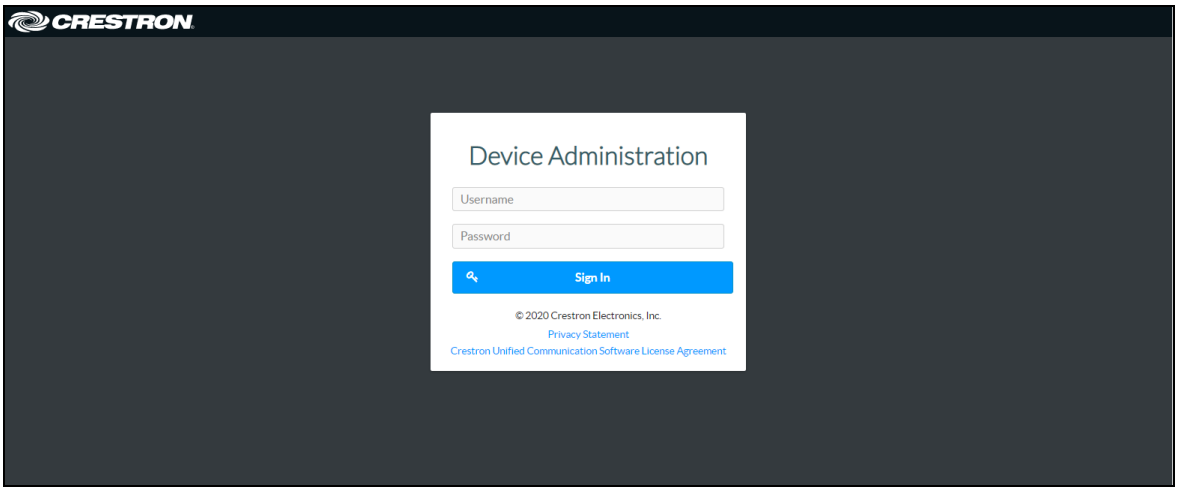


3. Turn on the **Enable Authentication** toggle. An **Enable Authentication** dialog box is displayed.
4. Enter a username and password for the admin account in the appropriate text fields.



CAUTION: Do not lose the username and password for the admin account, as the DGE must be reset to factory settings to regain access.

5. Select **OK**. The web configuration interface ends the current session and displays the **Device Administration** login page.



6. Enter the admin account username and password created in step 4, and then select **Sign In**. The web configuration interface is displayed upon successful authentication.

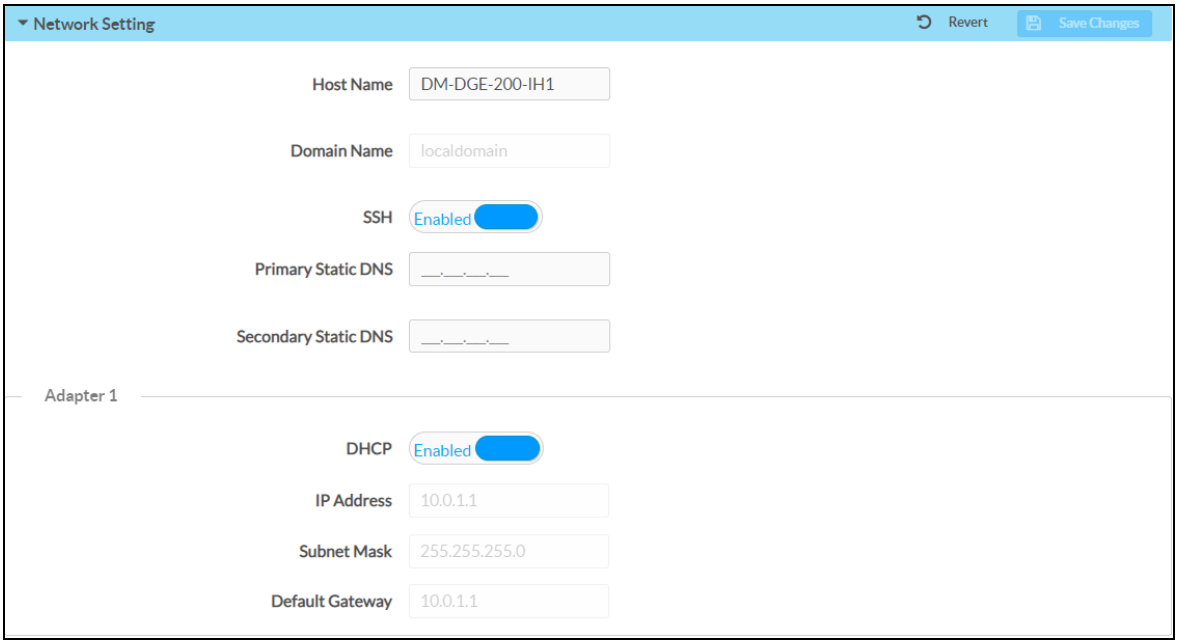
Once an admin user has been created, additional users and groups with varying access levels can be added to the DGE. For more information, refer to Authentication Management on page 75.

Configure a Static IP Address

The DGE ships with DHCP turned on by default.

To set a static IP address for the DGE:

1. Access the web configuration interface as described in Access the Web Configuration Interface on page 35.
2. Navigate to **NETWORK** > **Network Setting**.



3. Turn off the **DHCP** toggle.
4. Enter the static IP information in the appropriate text fields. For more information, refer to Network Setting on page 66.
5. Select **Save Changes** on the top right of the accordion.

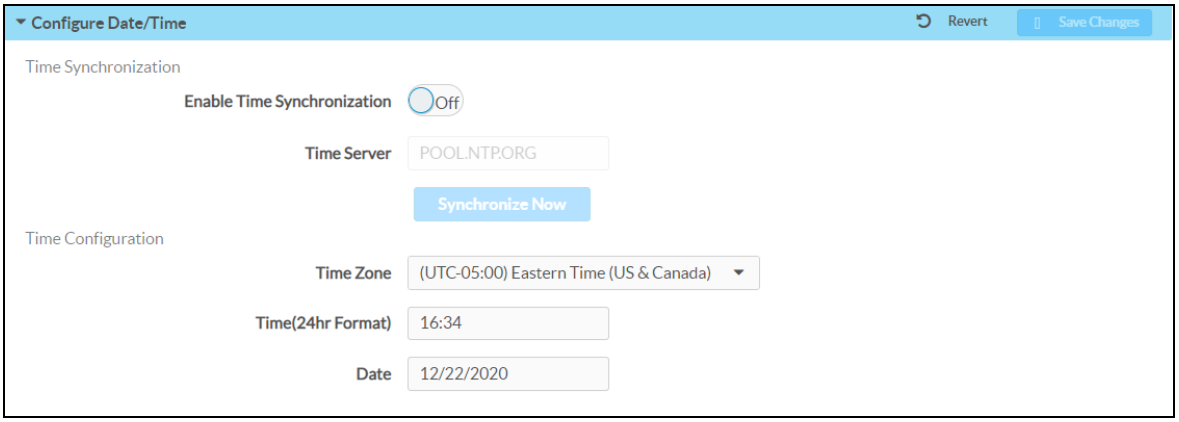
NOTE: A static IP address can also be set using the Ethernet Setup on page 41 local setup screen.

Set the Time Zone

The time zone must be set on the DGE if it will not be paired with a control system IP table.

To set the time zone:

1. Access the web configuration interface as described in Access the Web Configuration Interface on page 35.
2. Navigate to **DEVICE** > **Configure Date/Time**.



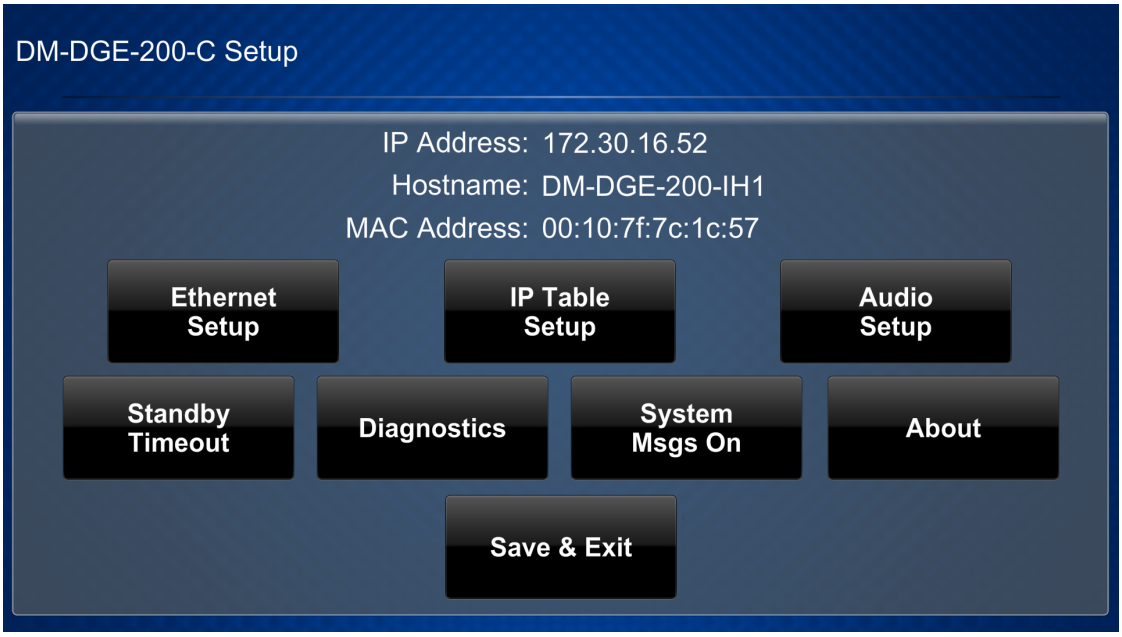
3. Select the time zone where the DGE will be used from the **Time Zone** drop-down menu.
4. Select **Save Changes** on the top right of the accordion.

Local Configuration

The DGE may be monitored and configured using its local setup screens. To access the setup screens during regular operations:

- Place five fingers on a connected TSD-2220 touch screen display and hold for 15 seconds.
- Press the **SETUP** button on the bottom panel of the DGE.

The main setup screen is displayed (**DM-DGE-200-C Setup** screen shown).



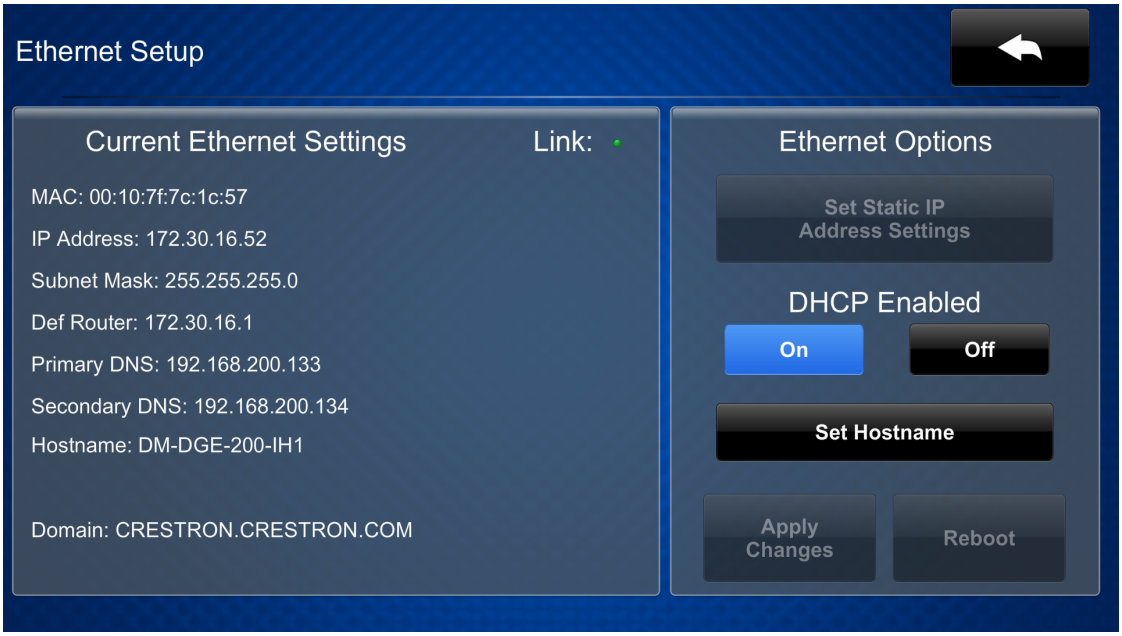
The main setup screen shows the IP address, host name, and MAC address for the DGE and provides the following configuration selections:

- Buttons for Ethernet setup, IP table setup, audio setup, standby timeouts, and diagnostics.
- A button to toggle system messages on or off.
- An **About** button that provides information about the DGE.
- A **Save & Exit** button that is used to save any changes made to settings, exit the setup screens, and return to the user project.

The functions of each button are detailed in the following sections.

Ethernet Setup

Tap **Ethernet Setup** on the main setup screen to display the **Ethernet Setup** screen.



Use the **Ethernet Setup** screen to view the DGE MAC and IP addresses, subnet mask address, default router address, primary and secondary DNS addresses, host name, and domain. A **Link** indicator is provided to indicate the status of the Ethernet connection. (Green indicates that the Ethernet connection is active.)

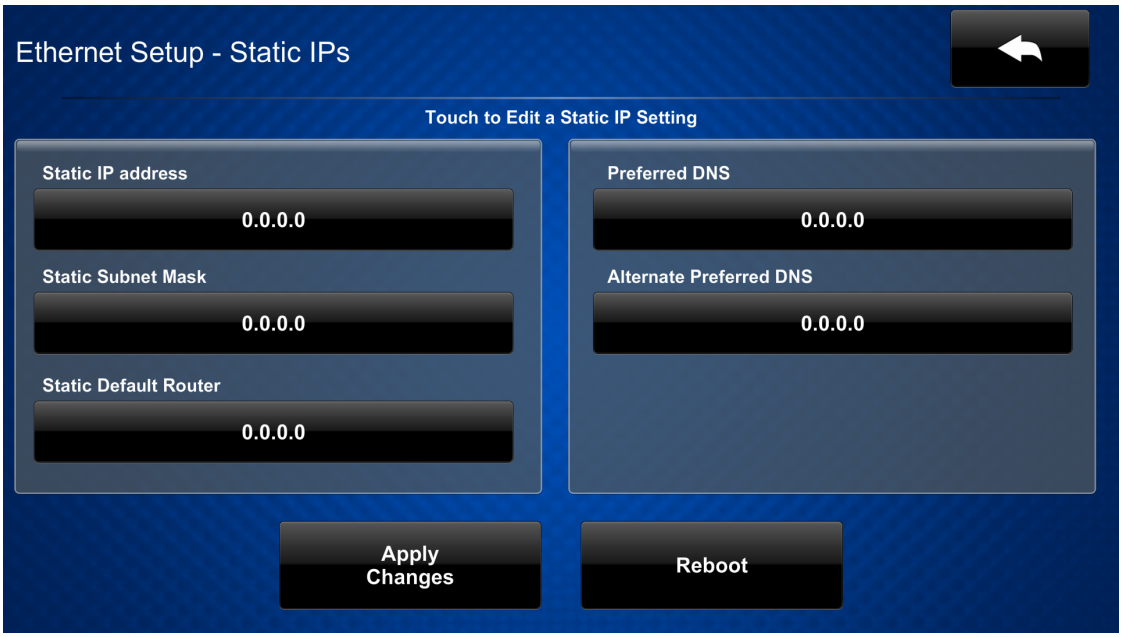
The following buttons are provided for configuring Ethernet settings:

- Tap **On** or **Off** under **DHCP Enabled** to turn DHCP (Dynamic Host Configuration Protocol) on or off.

  > **NOTE:** DHCP is turned on for the DGE by default.

- If DHCP is turned off, tap **Set Static IP Address Settings** to enter static IP addresses manually.
- Tap **Set Hostname** to enter a new DGE host name using an on-screen keyboard.
- Tap **Apply Changes** to apply any new Ethernet settings to the DGE and to stay in setup mode.
- Tap **Reboot** to exit setup mode and restart the DGE.

To change a static IP address, tap **Off** under **DHCP Enabled**. Then, tap **Set Static IP Address Settings** to display the **Ethernet Setup - Static IPs** screen.



To edit the static IP address, the static subnet mask, the static default router, the preferred DNS, or the alternate preferred DNS, tap the text field underneath the setting name.

The on-screen numeric keypad opens for the chosen setting.

- Use the keypad to make a new entry.
- Tap the **x** button in the text field to clear any previous entry.
- Tap the delete button to delete the last character.
- Tap **Save** to save a new entry or tap the back button to discard any changes. The display returns to the **Ethernet Setup - Static IPs** screen.

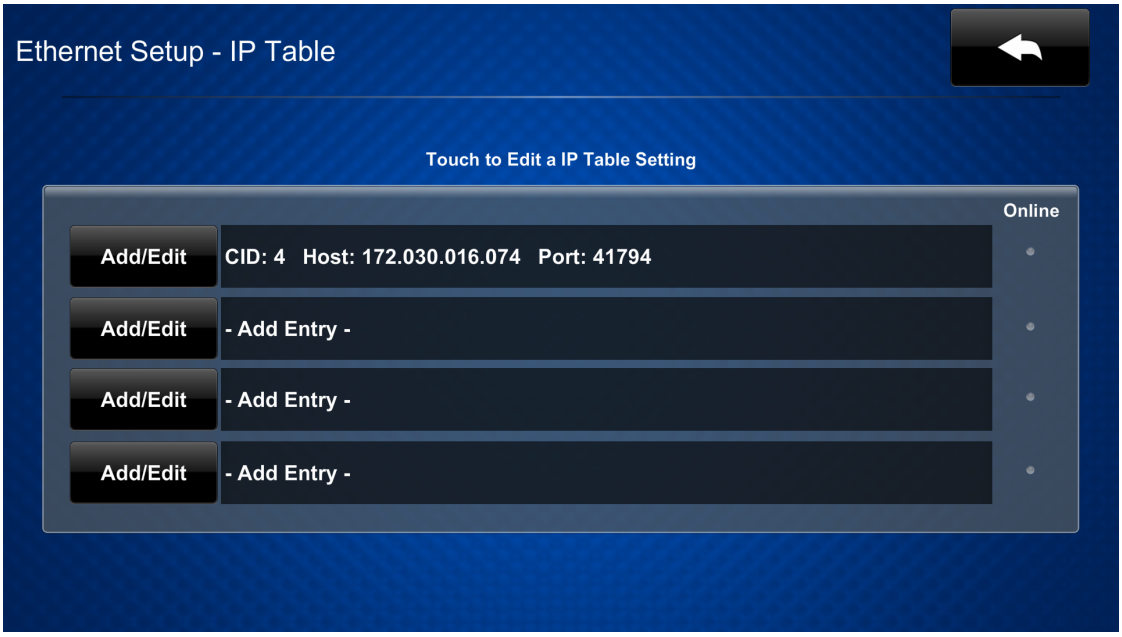
On the **Ethernet Setup - Static IPs** screen, tap **Apply Changes** to apply the new settings and stay in setup mode. Tap **Reboot** to exit setup mode and restart the DGE.

Tap the back button  to return to the **Ethernet Setup** screen.

Tap the back button  again to return to the main setup screen.

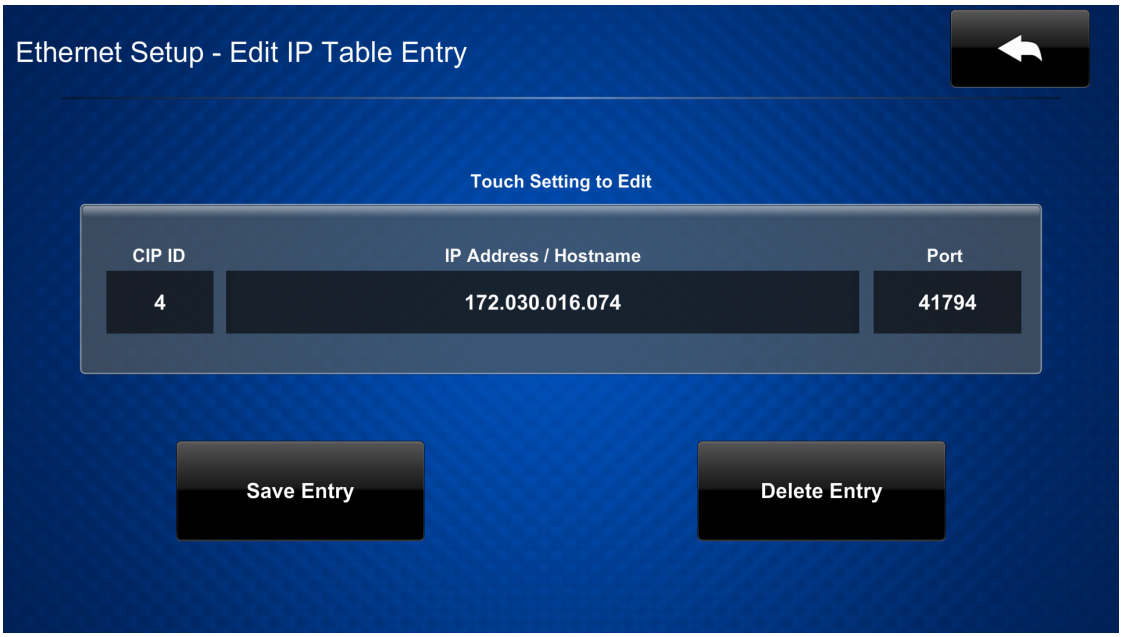
IP Table Setup

Tap **IP Table Setup** on the main setup screen to display the **Ethernet Setup - IP Table** screen.



Use the **Ethernet Setup - IP Table** screen to view and edit the IP table settings for connecting the DGE to a control system. The **Ethernet Setup - IP Table** screen also provides an **Online** indicator for each IP table entry. (Green indicates that the control system is online.)

To add or edit an entry, tap **Add/Edit** next to the corresponding entry. The **Ethernet Setup - Edit IP Table Entry** screen is displayed.



Tap the **CIP ID** text field to display the on-screen hex keypad for entering the IP ID used for the control system connection.

- Use the keypad to make a new entry.
- Tap the **x** button in the text field to clear any previous entry.
- Tap the delete button to delete the last character.
- Tap **Save** to save a new entry or tap the back button to discard any changes. The display returns to the **Ethernet Setup - Edit IP Table Entry** screen.

On the **Ethernet Setup - Edit IP Table Entry** screen, tap the **IP Address / Hostname** text field to display an on-screen keyboard for entering the IP address of the control system.

- Use the keyboard to make a new entry.
- Tap the **x** button in the text field to clear any previous entry.
- Tap the delete button to delete the last character.
- Tap **Save** to save a new entry or tap **Cancel** to discard any changes. The display returns to the **Ethernet Setup - Edit IP Table Entry** screen.

Tap the back button to return to the **Ethernet Setup - IP Table** screen.

Tap the back button again to return to the main setup screen.

Audio Setup

Tap **Audio Setup** on the main setup screen to display the **Audio Setup** screen.

Use the **Audio Setup** screen to control the main volume, media volume, and beep volume settings for the DGE.

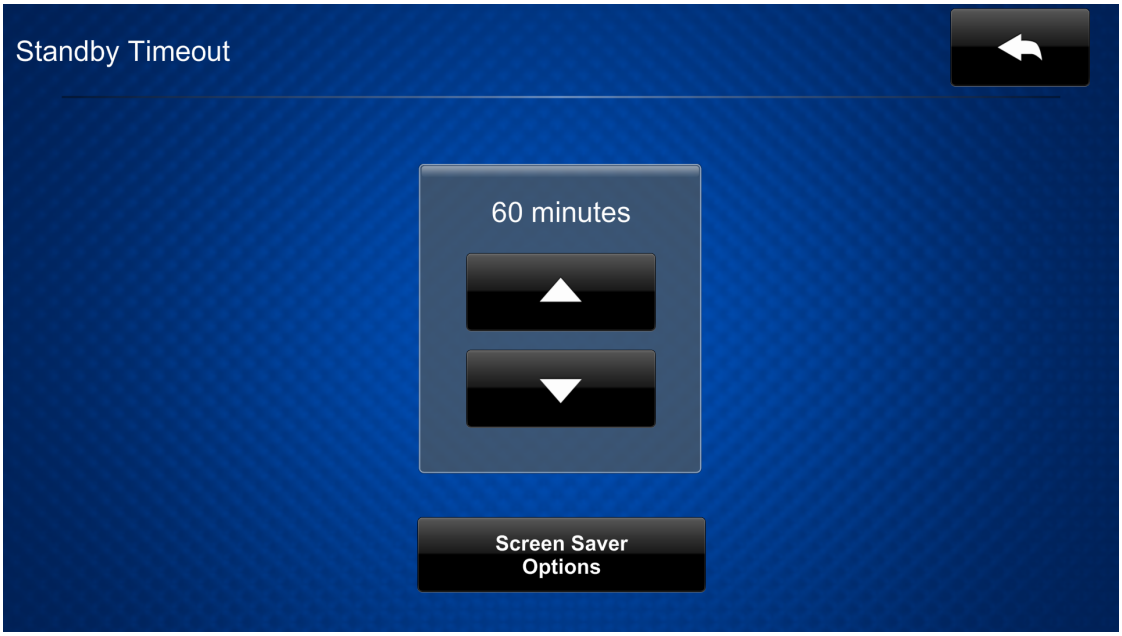
> **NOTE:** The **Media Volume** controls adjust the H.264 streaming media level in relation to the **Volume** controls.

- **Master Volume**
  - Tap the up and down arrow buttons to raise or lower the main DGE volume incrementally from 0 to 100%.
  - Tap **Mute On** or **Mute Off** to mute or unmute the main volume.
  - Tap **Test** to play a test recording at the current volume level.
- **Media Volume**
  - Tap the up and down arrow buttons to raise or lower the DGE media volume incrementally from 0 to 100%.
  - Tap **Mute On** or **Mute Off** to mute or unmute the media volume.
- **Beep Volume**
  - Tap the up and down arrow buttons to raise or lower the DGE beep volume incrementally from 0 to 100%.
  - Tap **Beep On** or **Beep Off** to turn the beep volume on or off.

Tap the back button  to return to the main setup screen.

Standby Timeout

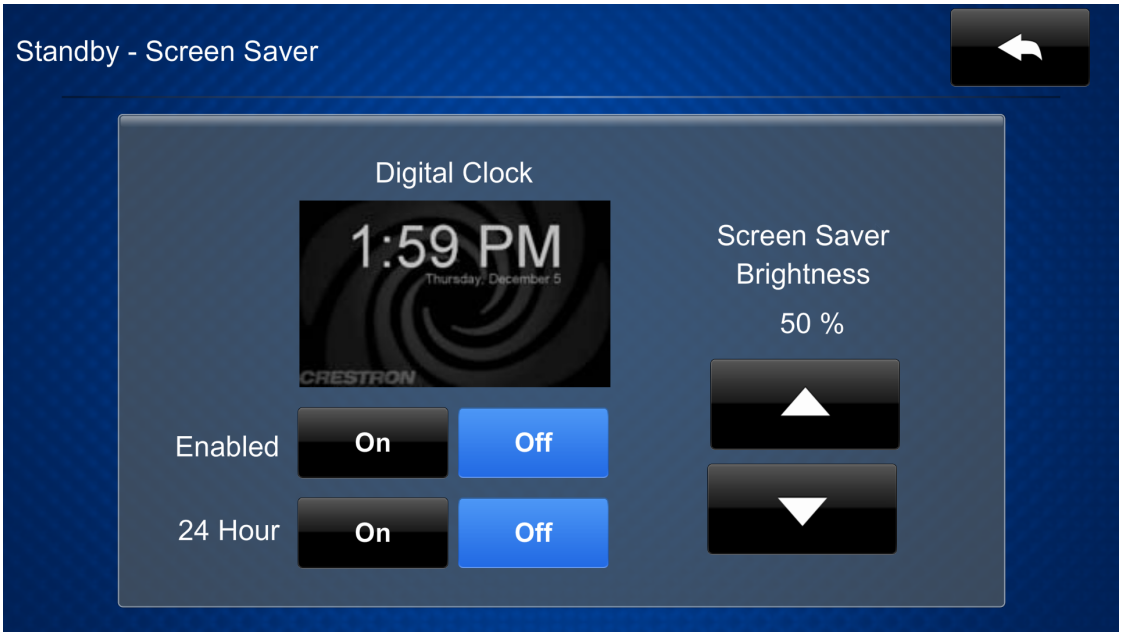
Tap **Standby Timeout** on the main setup screen to display the **Standby Timeout** screen.



Use the **Standby Timeout** screen to set the standby timeout settings for the DGE.

Tap the up and down arrow buttons to set the DGE standby timeout duration from 0 to 120 minutes. Select "0" to turn off standby timeout (primarily for nontouch applications).

Tap **Screen Saver Options** to display the **Standby - Screen Saver** screen.



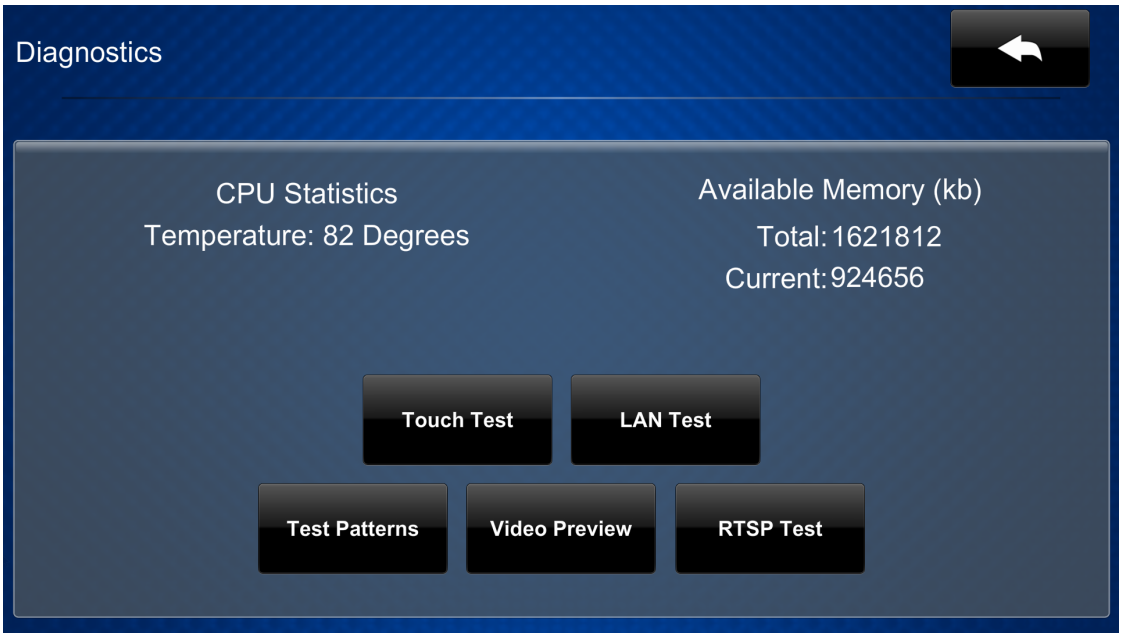
- Tap **On** or **Off** next to **Enabled** to turn the digital clock screensaver on or off during standby timeout.
- Tap **On** or **Off** next to **24 Hour** to turn 24-hour time format on or off for the digital clock.
- Tap the up and down arrow buttons under **Screen Saver Brightness** to set the screensaver brightness from 0 to 100%.

Tap the back button to return to the **Standby Timeout** screen.

Tap the back button again to return to the main setup screen.

Diagnostics

Tap **Diagnostics** on the main setup screen to display the **Diagnostics** screen.



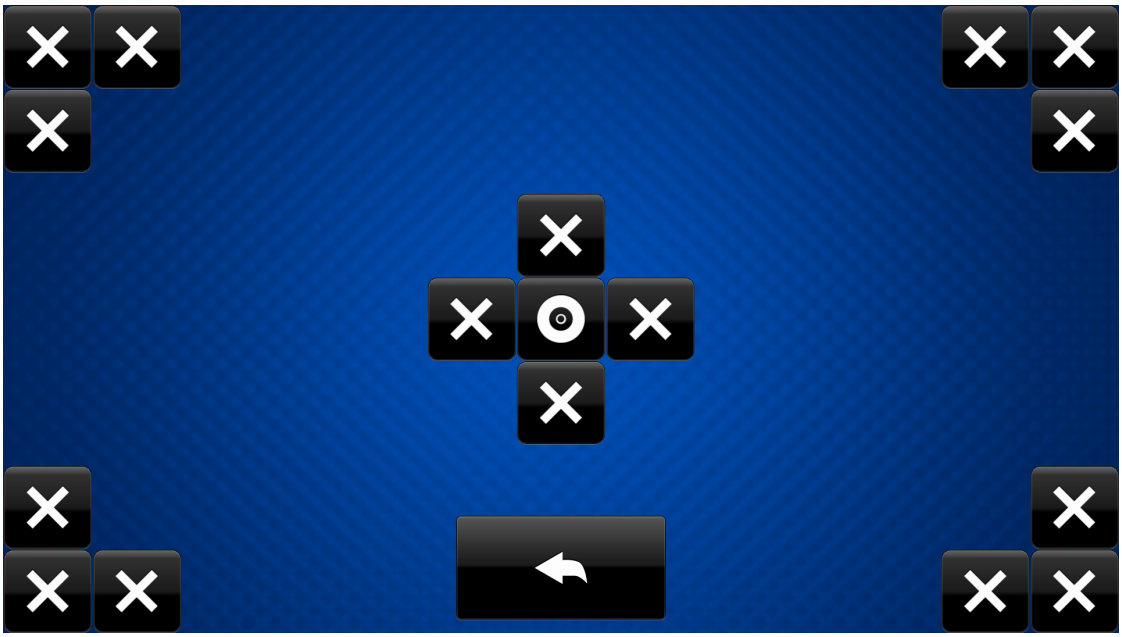
Use the **Diagnostics** screen to access various diagnostic test screens for the DGE. The **Diagnostics** screen also provides the DGE CPU temperature and available memory.

Each test screen is described in the sections that follow.

Tap the back button to return to the main setup screen.

Touch Test

Tap **Touch Test** on the **Diagnostics** screen to display the touch test screen.



Use the touch test screen to test the touch functionality of the connected touch screen display. When a location button is tapped, its respective indicator lights on the screen.

Tap the back button  to return to the **Diagnostics** screen.

LAN Test

Tap **LAN Test** on the **Diagnostics** screen to display **Diagnostics - LAN** screen.

Use the **Diagnostics - LAN** screen to view and test the Ethernet network connection. The **Diagnostics - LAN** screen displays the DGE MAC and IP addresses, subnet mask address, default router address, primary and secondary DNS addresses, host name, and domain name. A **Link** indicator is provided to indicate the status of the Ethernet network connection. (Green indicates that the Ethernet network connection is active.)

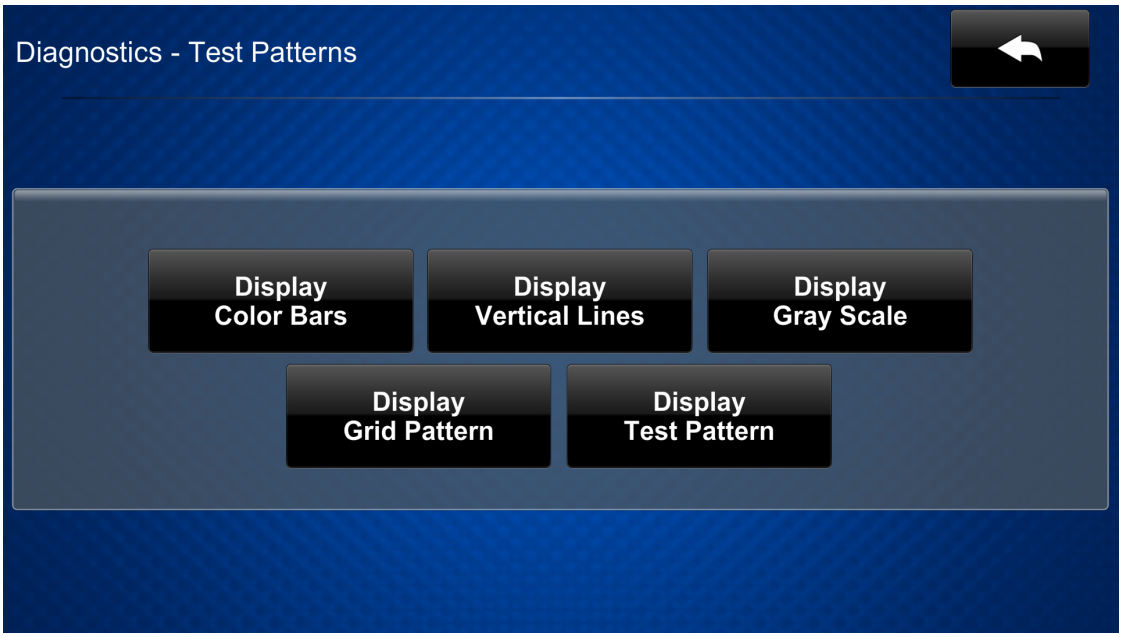
The **Diagnostics - LAN** screen also provides controls to test the connection to the default router. Tap **On** to begin the test and **Off** to end the test.

During the router test, the DGE pings the default router. If the router is communicating with the DGE, connection data is displayed below the ping test controls within five seconds. The connection data updates after every successive ping.

Tap the back button  to return to the **Diagnostics** screen.

Test Patterns

Tap **Test Patterns** on the **Diagnostics** screen to display the **Diagnostics - Test Patterns** screen.



Use the **Diagnostics - Test Patterns** screen to display any of the available test patterns on the connected touch screen display. Tap one of the buttons on the screen to display its respective test pattern.

Tap the back button  to return to the **Diagnostics** screen.

HDMI Preview (DGE-100 Only)

Tap **HDMI Preview** on the DGE-100 **Diagnostics** screen to display the **Diagnostics - HDMI Preview** screen.

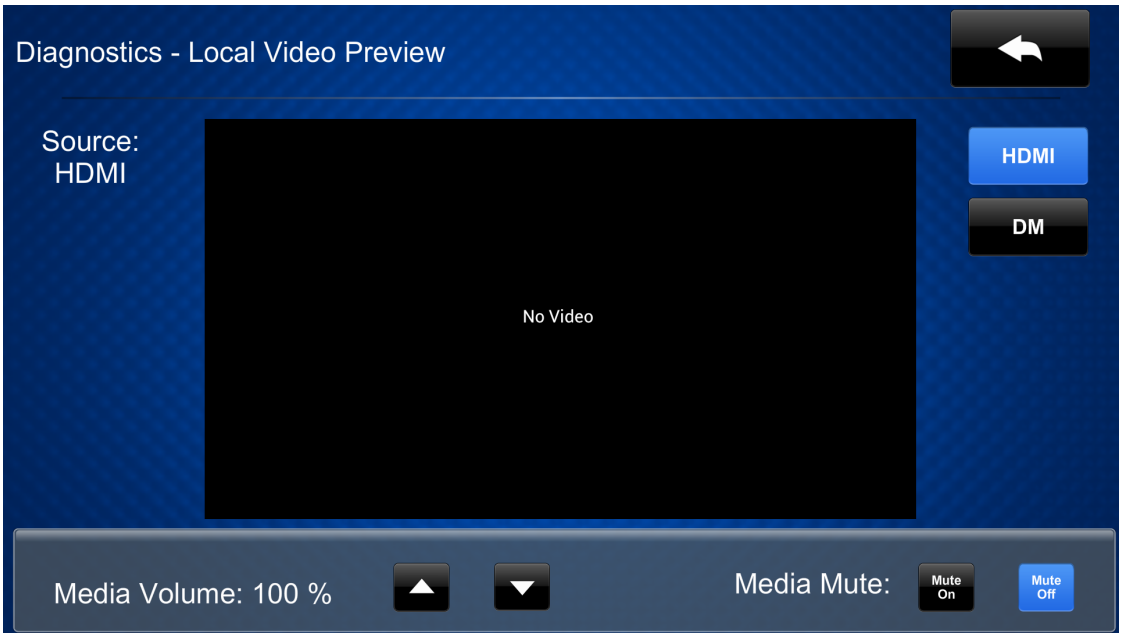
Use the **Diagnostics - HDMI Preview** screen to preview the video source that is connected to the HDMI® input.

- Tap the up and down arrow buttons next to **Media Volume** to raise or lower the media volume incrementally from 0 to 100%.
- Tap **On** or **Off** under **Media Mute** to mute or unmute the media volume.

Tap the back button  to return to the **Diagnostics** screen.

Video Preview (DM-DGE-200-C Only)

Tap **Video Preview** on the DM-DGE-200-C **Diagnostics** screen to display the **Diagnostics - Local Video Preview** screen.



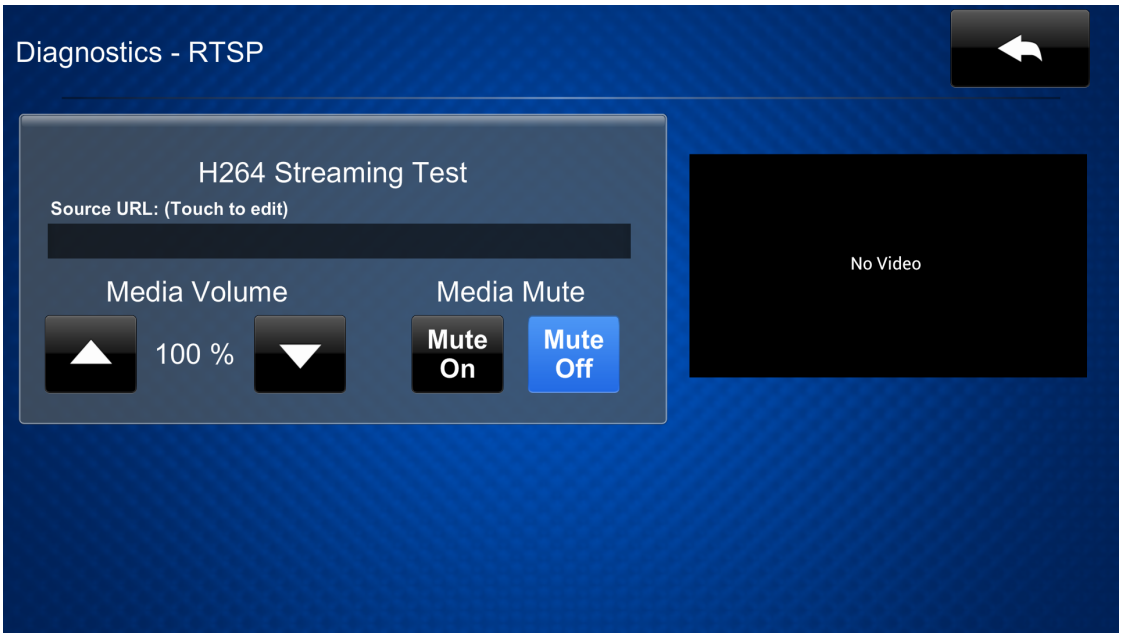
Use the **Diagnostics - Local Video Preview** screen to preview the video source that is connected to either the HDMI input or DM® input.

- Tap **HDMI** or **DM** to switch between displaying the video source for the HDMI and DM inputs.
- Tap the up and down arrow buttons next to **Media Volume** to raise or lower the media volume incrementally from 0 to 100%.
- Tap **On** or **Off** under **Media Mute** to mute or unmute the media volume.

Tap the back button to return to the **Diagnostics** screen.

RTSP Test

Tap **RTSP Test** on the **Diagnostics** screen to display the **Diagnostics - RTSP** screen.



Use the **Diagnostics - RTSP** screen to view and test RTSP (real time streaming protocol) on the DGE.

- Tap the text field under **H264 Streaming Test** to display an on-screen keyboard for entering an H.264 streaming video source URL. The chosen H.264 streaming video source is shown on the top right of the screen.
- Tap the up and down arrow buttons next to **Media Volume** to raise or lower the media volume incrementally from 0 to 100%.
- Tap **On** or **Off** under **Media Mute** to mute or unmute the media volume.

Tap the back button to return to the **Diagnostics** screen.

About

Tap **About** on the main setup screen to display the **About** screen.

Use the **About** screen to view information about the DGE, including the firmware version and the operating system versions.

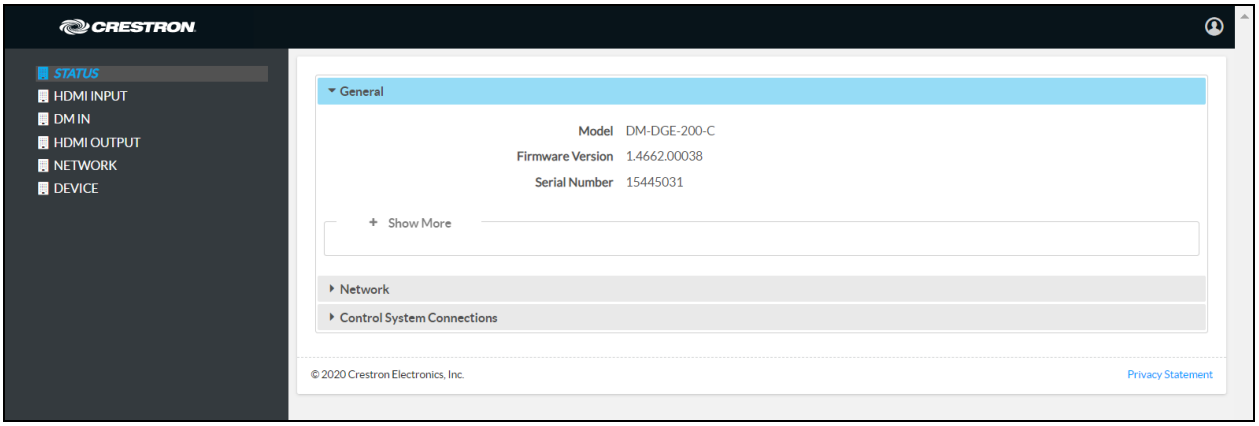
Tap the back button  to return to the main setup screen.

Web Configuration

The DGE may be monitored and configured using its web configuration interface. The web configuration interface is accessible from a web browser via the DGE IP address as described in Access the Web Configuration Interface on page 35.

> **NOTE:** If authentication is turned on for the DGE, an administrator username and password must be entered prior to accessing the web configuration interface. For more information, refer to Turn on Authentication on page 37.

The web configuration opens with the **STATUS** page is displayed and the **General** accordion expanded by default (DM-DGE-200-C shown).



The web configuration interface provides the following selections that can be chosen from the navigation menu on the left of the page. The menu is always visible with the selected page highlighted in blue.

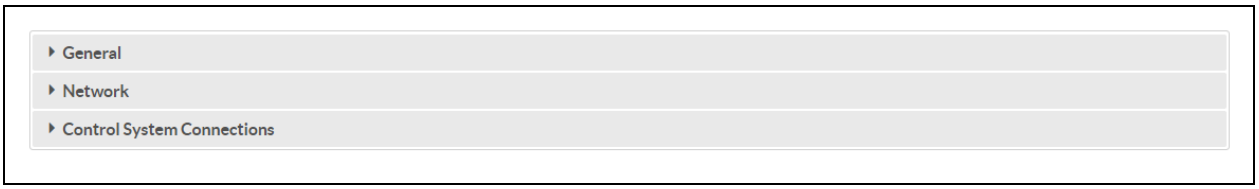
- **STATUS**: Used to monitor DGE status.
- **HDMI INPUT**: Used to monitor and configure the HDMI® input.
- **DM IN**: (DM-DGE-200-C only) Used to monitor and configure the DM® input.
- **HDMI OUTPUT**: Used to monitor and configure the HDMI output.
- **NETWORK**: Used to configure the DGE network settings.
- **DEVICE**: Used to configure DGE device settings.

If authentication is turned on, a user profile icon is shown in the top right of the page. Select the user profile icon to view details about the user and to log out of the web configuration interface.

Status

Select **STATUS** from the navigation menu to display collapsible accordions for viewing the status of the device, network, and connected control system.

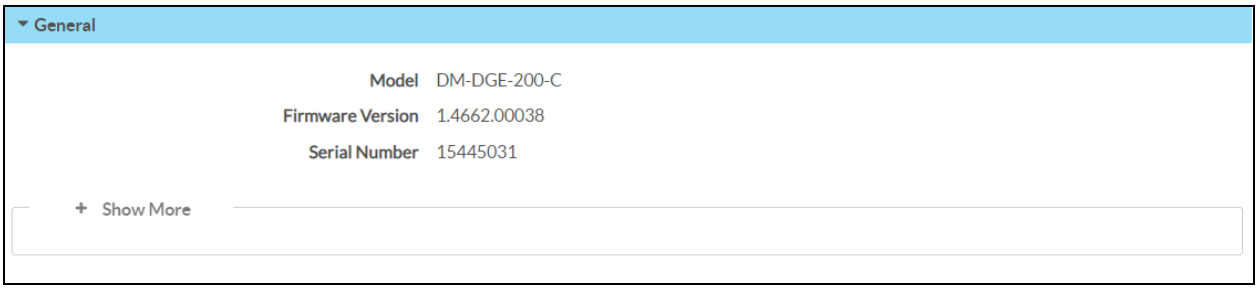
Select an accordion name to expand the section. If the section is expanded, select the accordion name again to collapse it.



Each selection is described in the sections that follow.

General

Expand the **General** accordion to display general device information for the DGE.



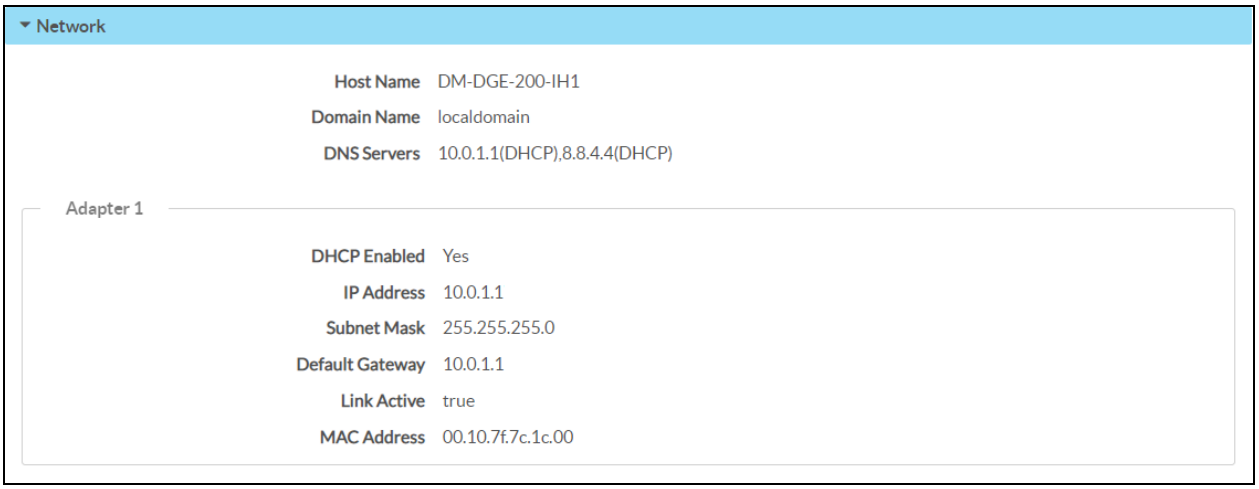
The following **General** information is displayed:

- **Model**: The DGE model name.
- **Serial Number**: The DGE serial number.
- **Firmware Version**: The firmware version loaded onto the DGE.

Select **+Show More** to display an expanded section that shows additional DGE information. If **+ Show More** is selected, select **- Show Less** to collapse the section.

Network

Expand the **Network** accordion to display the status of network settings for the DGE.



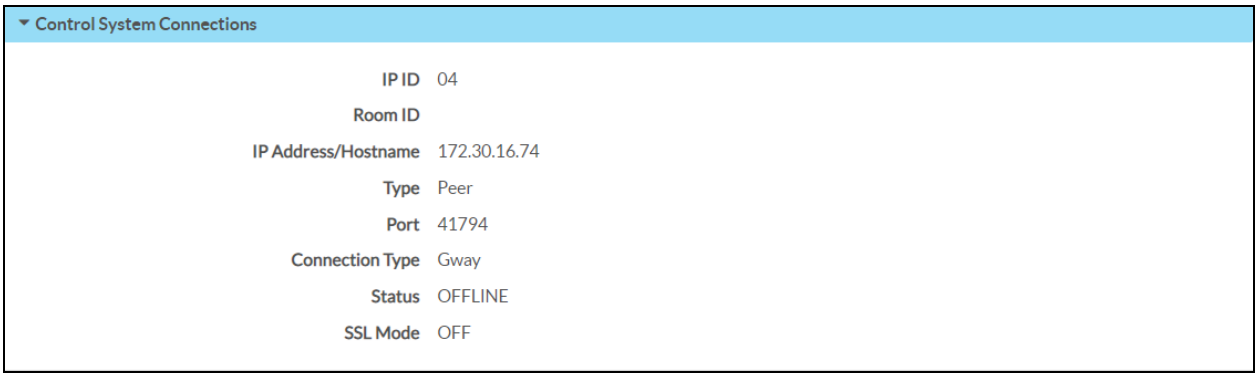
The following **Network** information is displayed:

- **Host Name**: The DGE host name.
- **Domain Name**: The DGE domain name.
- **DNS Servers**: The DNS (domain name server) addresses used to resolve the DGE domain to an IP address.
- **DHCP Enabled**: Reports whether DHCP is turned on (**Yes**) or not (**No**).
- **IP Address**: The DGE IP address, shown only if an Ethernet connection is active.
- **Subnet Mask**: The DGE subnet mask address, shown only if an Ethernet connection is active.
- **Default Gateway**: The gateway router address, shown only if an Ethernet connection is active.
- **Link Active**: Reports the status of the Ethernet connection (A **true** message indicates that the Ethernet connection is active, while a **false** message indicates that the Ethernet connection is inactive).
- **MAC Address**: The unique MAC (media access control) address for the DGE Ethernet adapter.

For information on configuring network settings, refer to Network on page 65.

Control System Connections

Expand the **Control System Connections** accordion to display the status of a control system connected to the DGE.



The following **Control System Connections** information is displayed:

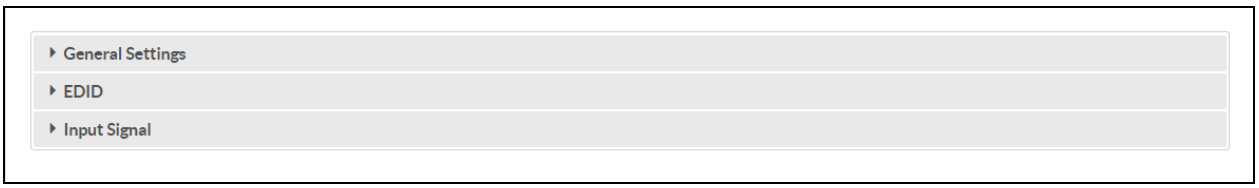
- **IP ID**: The IP ID used to connect the DGE to the control system.
- **Room ID**: The control system room ID that the DGE is associated with (for connections to the Crestron Virtual Control server-based control system).
- **IP Address/Hostname**: The control system IP address or host name.
- **Type**: The control system connection method.
- **Port**: The control system server port.
- **Connection Type**: The control system connection type.
- **Status**: The control system connection status.
- **SSL Mode**: The SSL mode (**Encrypt and Validate**, **Encrypt**, or **OFF**) used for the control system connection.

For information on configuring control system connection settings, refer to Control System on page 73.

HDMI Input

Select **HDMI INPUT** from the navigation menu to display collapsible accordions for configuring the HDMI input settings.

Select an accordion name to expand the section. If the section is expanded, select the accordion name again to collapse it.



Each selection is described in the sections that follow.

General Settings

Expand the **General Settings** accordion to configure general settings for the HDMI input.

- **HDCP Support**: Turn on the toggle to turn on HDCP (high-bandwidth digital content protection) support for the HDMI input.

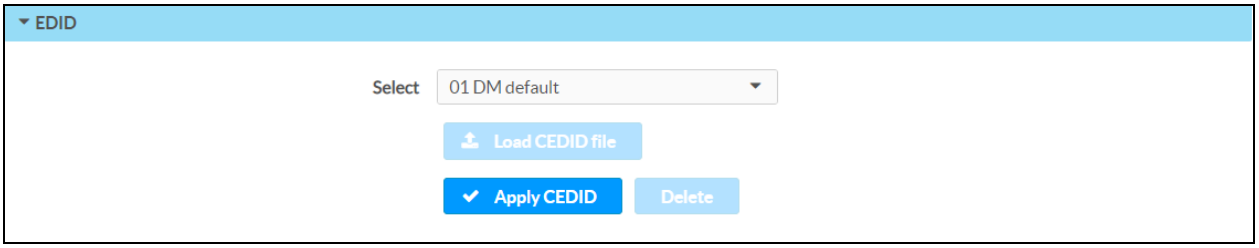
  When **HDCP Support** is turned on, source signals that require HDCP compliance are allowed to pass through to the display that is connected to the HDMI output. When **HDCP Support** is turned off, source signals that require HDCP compliance are not allowed to pass through to the connected display.

  > **NOTE:** When **HDCP Support** is turned on, the connected display must also be HDCP compliant.

- **Hot Plug Wake Up**: Turn on the toggle to have the display wake when a source is plugged into the HDMI input while the DGE is running.

EDID (HDMI Input)

Expand the **EDID** accordion to configure EDID (extended display identification data) settings for the HDMI input.



EDID is a data structure provided by a digital display to describe its capabilities for a video source (such as a graphics card or a set-top box). EDID allows a source device to identify the types of monitors that are connected to it.

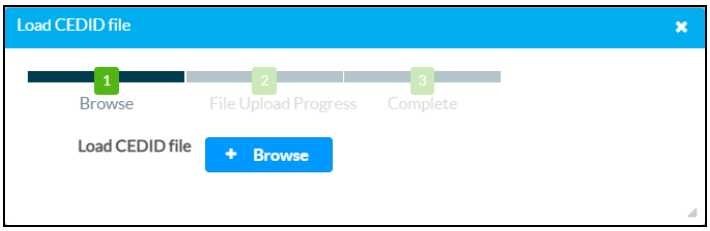
Use the **Select** drop-down menu to select an EDID profile for the HDMI input, and then select ✓ **Apply CEDID**. Select **Delete** to delete the selected EDID profile.

> **NOTE:** Only devices that use the selected EDID profile are allowed to send signals through the DGE.

If the desired EDID profile is not listed, a custom EDID (CEDID) profile may be loaded onto the device.

To load a CEDID profile:

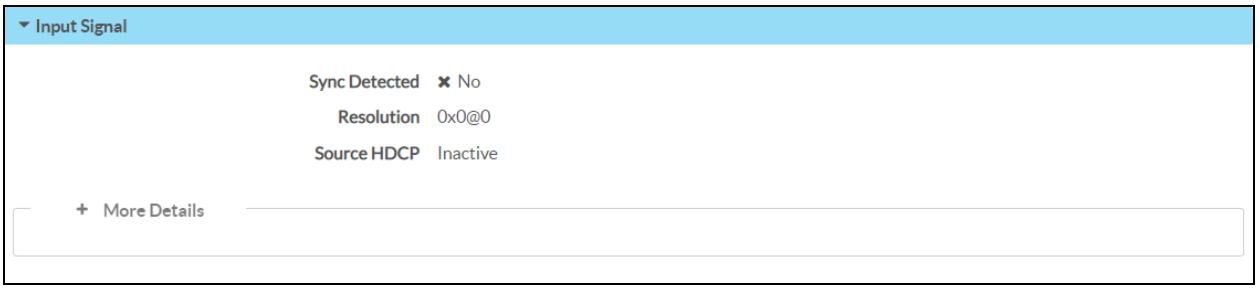
1. Select **Custom** from the **Select** drop-down menu.
2. Select **Load CEDID File**. The **Load CEDID** dialog box is displayed.



3. Select **+ Browse**, and then navigate to the CEDID file on the host computer.
4. Select the CEDID file, and then select **Open**.
5. Select Send EDID to load the CEDID file to the DGE. The upload progress is shown in the dialog box.
6. Once the DGE has completed the upload, select **OK**.

Input Signal (HDMI Input)

Expand the **Input Signal** accordion to view the status of the input signal connected to the HDMI input (if one is present).



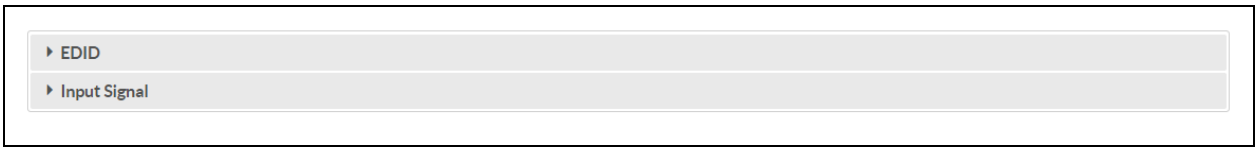
- **Sync Detected**: Reports whether the HDMI input signal is synced to the DGE.
- **Resolution**: The resolution of the HDMI input signal.
- **Source HDCP**: Reports whether HDCP is active or inactive on the HDMI input signal.

Select **+ More Details** to display an expanded section that shows additional information about the HDMI input signal. If **+ More Details** is selected, select **- Less Details** to collapse the section.

DM In

Select **DM In** from the navigation menu to display collapsible accordions for configuring the DM input settings.

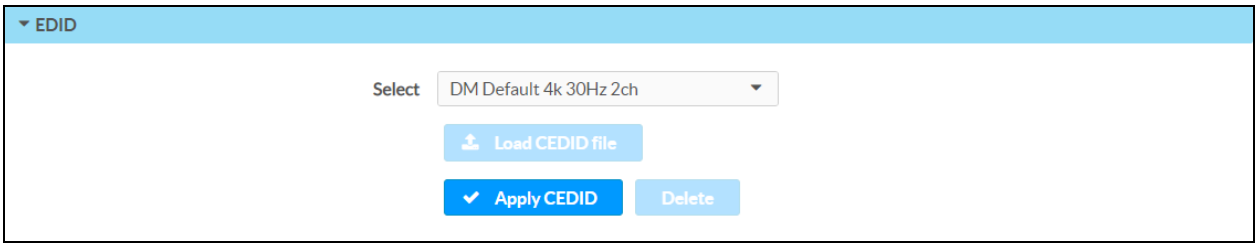
Select an accordion name to expand the section. If the section is expanded, select the accordion name again to collapse it.



Each selection is described in the sections that follow.

EDID (DM In)

Expand the **EDID** accordion to configure EDID (extended display identification data) settings for the DM input.



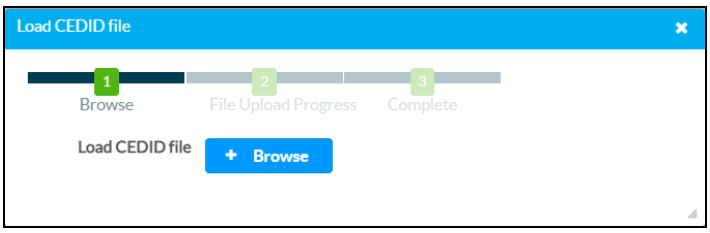
Use the **Select** drop-down menu to select an EDID profile for the DM input, and then select ✓ **Apply CEDID**. Select **Delete** to delete the selected EDID profile.

> **NOTE:** Only devices that use the selected EDID profile are allowed to send signals through the DGE.

If the desired EDID profile is not listed, a custom EDID (CEDID) profile may be loaded onto the device.

To load a CEDID profile:

1. Select **Custom** from the **Select** drop-down menu.
2. Select **Load CEDID File**. The **Load CEDID** dialog box is displayed.

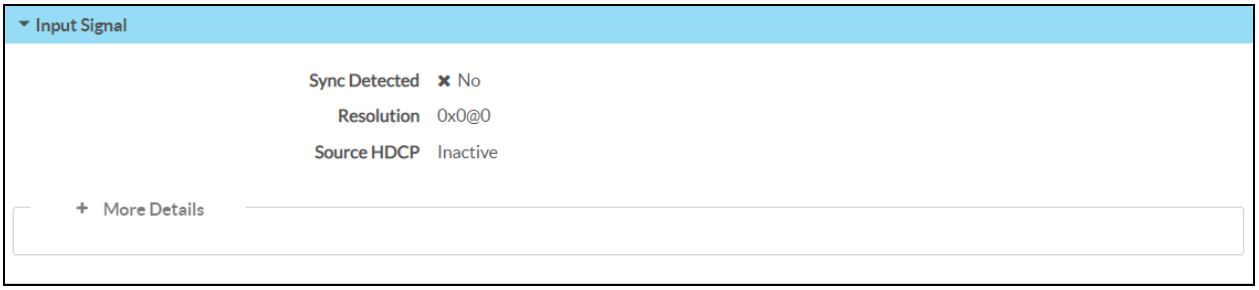


3. Select **+ Browse**, and then navigate to the CEDID file on the host computer.
4. Select the CEDID file, and then select **Open**.

5. Select Send EDID to load the CEDID file to the DGE. The upload progress is shown in the dialog box.
6. Once the DGE has completed the upload, select **OK**.

Input Signal (DM In)

Expand the **Input Signal** accordion to view the status of the input signal connected to the DM input (if one is present).



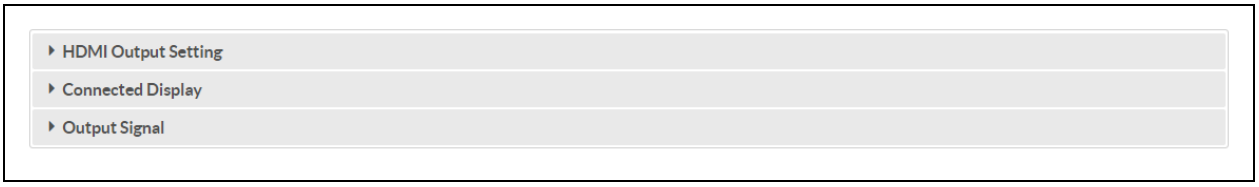
- **Sync Detected**: Reports whether the DM input signal is synced to the DGE.
- **Resolution**: The resolution of the DM input signal.
- **Source HDCP**: Reports whether HDCP is active or inactive on the DM input signal.

Select **+ More Details** to display an expanded section that shows additional information about the DM input signal. If **+ More Details** is selected, select **- Less Details** to collapse the section.

HDMI Output

Select **HDMI OUTPUT** from the navigation menu to display collapsible accordions for configuring the HDMI output settings.

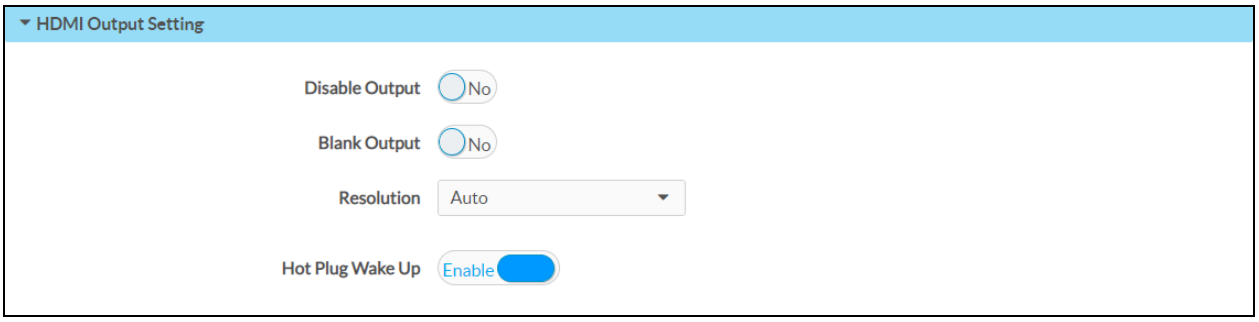
Select an accordion name to expand the section. If the section is expanded, select the accordion name again to collapse it.



Each selection is described in the sections that follow.

HDMI Output Setting

Expand the **HDMI Output Setting** accordion to configure general settings for the HDMI output.



- **Disable Output**: Turn on the toggle to turn off the HDMI output. When the output is turned off, no video signal will be passed to the display connected to the HDMI output.
- **Blank Output**: If **Disable Output** is turned off, turn on the toggle to use output blanking for the HDMI output.
- **Resolution**: Use the drop-down menu to select a compatible resolution for the HDMI output signal.
- **Hot Plug Wake Up**: Turn on the toggle to wake the display when a source is plugged into the HDMI output while the DGE is running.

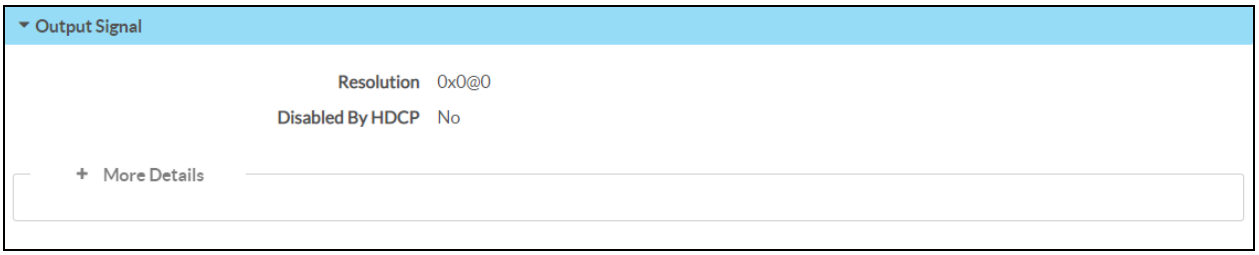
Connected Display

Expand the **Connected Display** accordion to view the status of the display connected to the HDMI output.

- **Sink Connected**: Reports whether the display device is connected to the DGE.
- **Manufacturer**: The display device manufacturer.
- **Name**: The display device name.
- **Serial Number**: The display device serial number.

Output Signal

Expand the **Output Signal** accordion to view the status of the output signal connected to the HDMI output (if one is present).



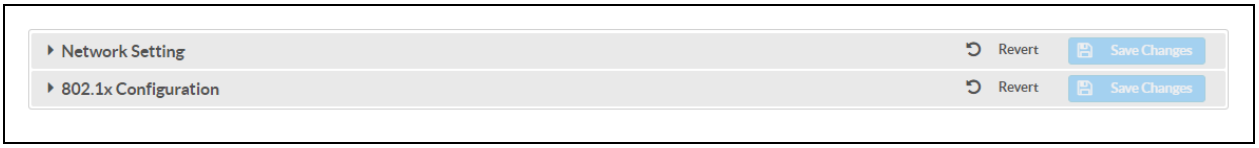
- **Resolution**: The resolution of the HDMI output signal.
- **Disabled by HDCP**: Reports whether the signal has been disabled because it is not DHCP compliant.

Select **+ More Details** to display an expanded section that shows additional information about the HDMI output signal. If **+ More Details** is selected, select **- Less Details** to collapse the section.

Network

Select **NETWORK** from the navigation menu to display collapsible accordions for configuring the DGE network settings.

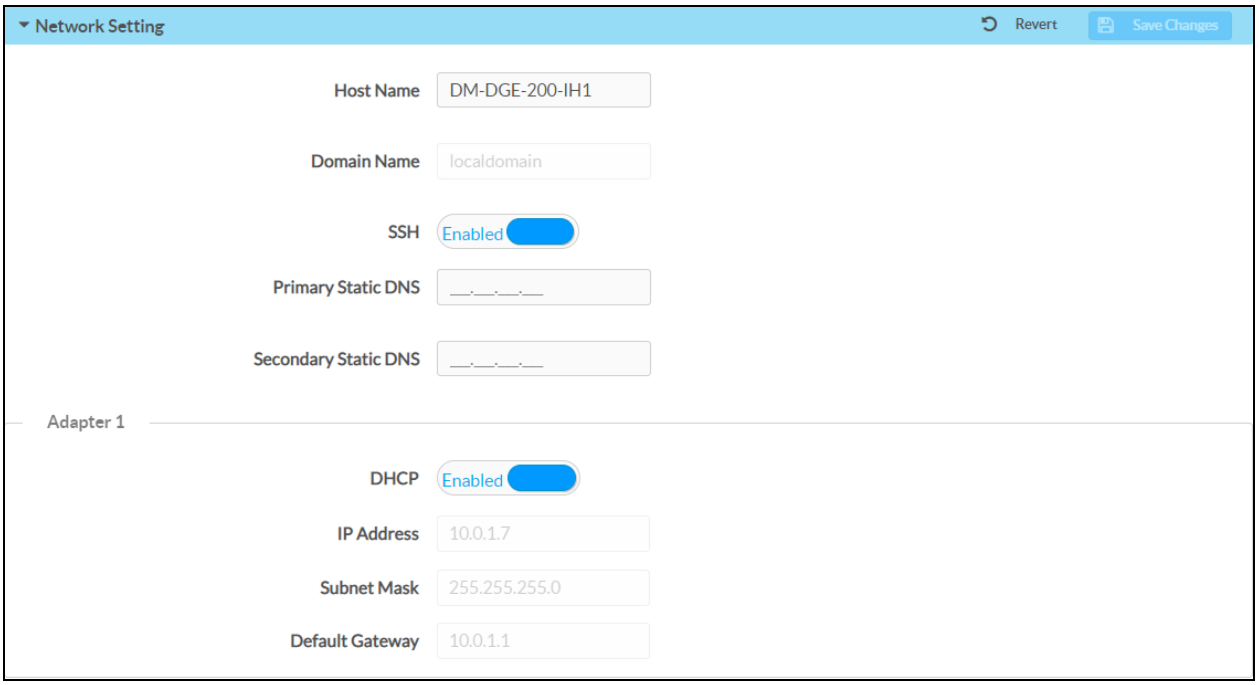
Select an accordion name to expand the section. If the section is expanded, select the accordion name again to collapse it.



Each selection is described in the sections that follow.

Network Setting

Expand the **Network Setting** accordion to configure general network settings for the DGE.



> **NOTE:** The **IP Address**, **Subnet Mask**, and **Default Gateway** fields are required only if **DHCP** is turned off.

- **Host Name**: Enter the DGE host name.
- **Domain Name**: Enter the fully qualified domain name on the network.
- **SSH**: Turn on the toggle to use SSH (secure socket shell) for secure remote access.
- **Primary Static DNS**: Enter the primary DNS address used to resolve the DGE domain to an IP address.
- **Secondary Static DNS**: Enter the secondary DNS address used to resolve the DGE domain to an IP address.
- **DHCP**: Turn on the toggle to turn on DHCP for the DGE Ethernet connection.

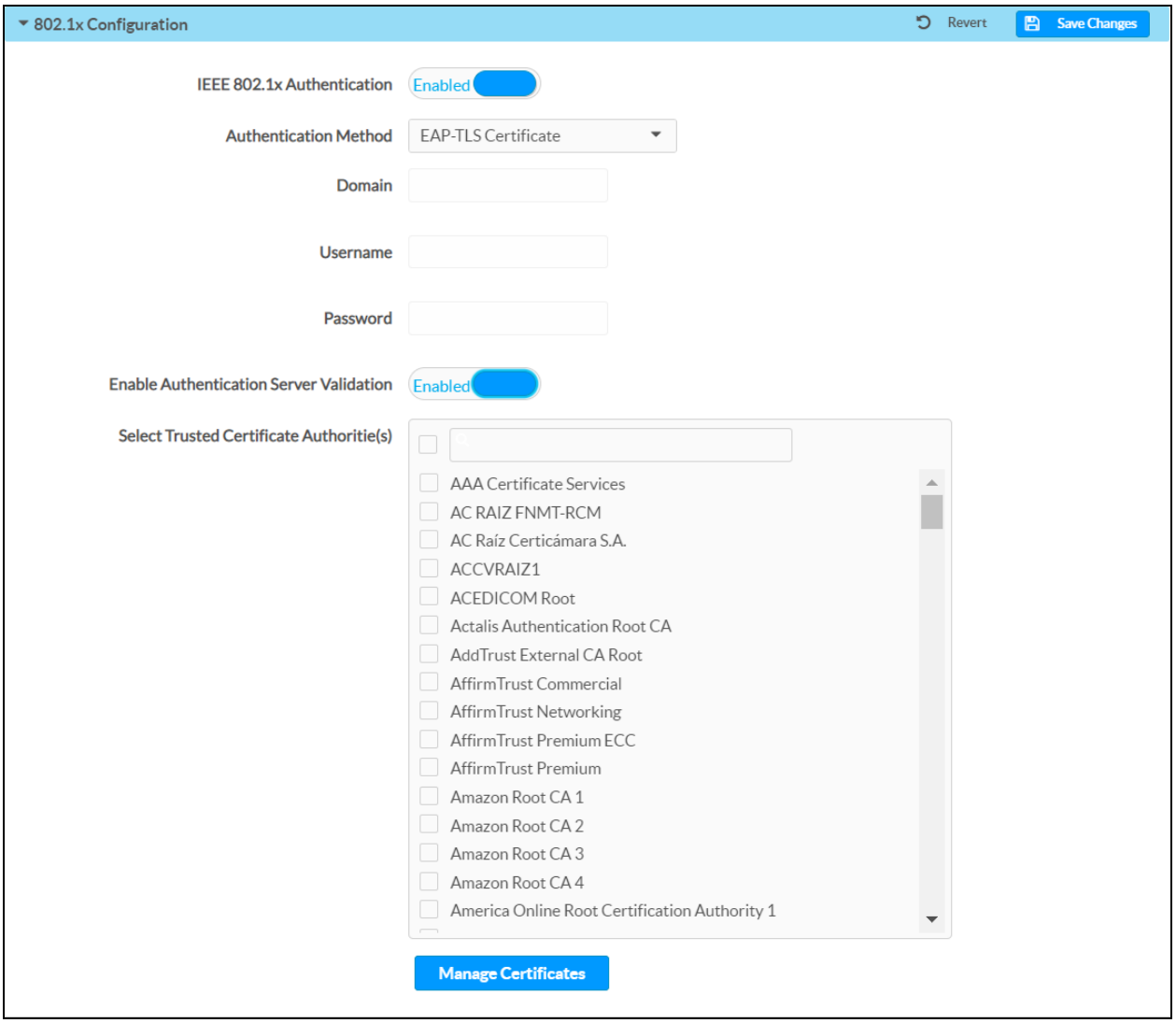
  > **NOTE:** If DHCP is turned on, IP does not function until a reply has been received from the server. The DGE broadcasts requests for an IP address periodically.

- **IP Address**: Enter the static DGE IP address on the network.
- **Subnet Mask**: Enter the DGE subnet mask address on the network.
- **Default Gateway**: Enter the gateway router address on the network.

Select **Save Changes** next to the **Network Setting** accordion to save any changes. Select **Revert** to revert to the last saved settings.

802.1X Configuration

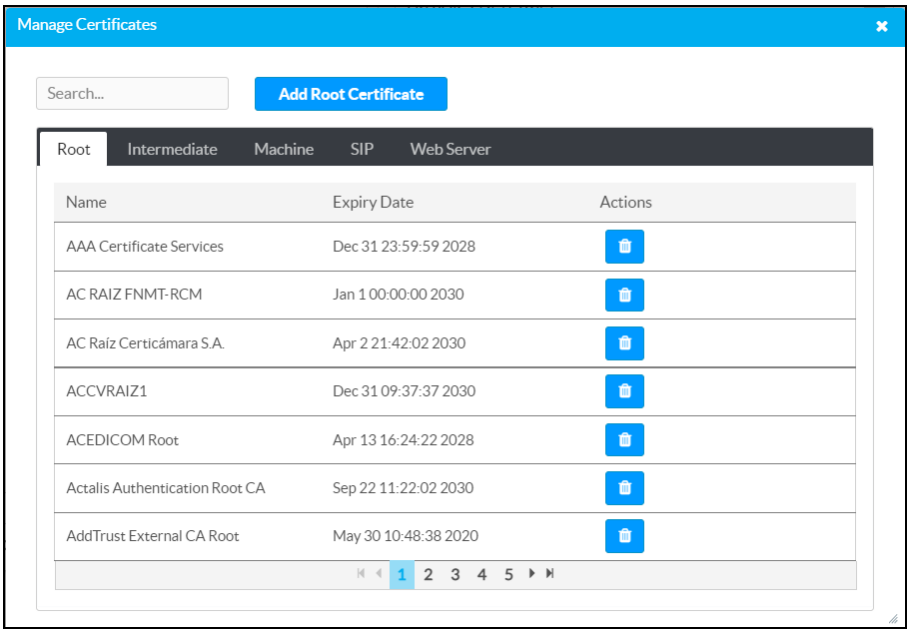
Expand the **802.1x Configuration** accordion to configure IEEE 802.1X network authentication for DGE security.



- **IEEE 802.1x Authentication**: Turn on the toggle to use 802.1X authentication for the touch screen.
- **Authentication Method**: Select an 802.1X authentication method (**EAP-TLS Certificate** or **EAP MSCHAP V2- password**) from the drop-down menu.
- **Domain**: If **EAP MSCHAP V2- password** is selected for **Authentication Method**, enter a domain name that is required for authentication.
- **Username**: If **EAP MSCHAP V2- password** is selected for **Authentication Method**, enter a username that is required for authentication.
- **Password**: If **EAP MSCHAP V2- password** is selected for **Authentication Method**, enter a password that is required for authentication.

- **Enable Authentication Server Validation**: Turn on the toggle to use server validation for increased security.
- **Select Trusted Certificate Authorities**: Select trusted CAs (Certificate Authorities) from the provided CAs to be used for server validation:
    - Select the check box to the left of a CA to select it as a trusted CA.
    - Enter a search term into the text field at the top of the CA menu to search for and display CAs that match the search term.
    - Select the check box to the left of the search field at the top of the CA menu to select all CAs as trusted CAs.

Select **Manage Certificates** to add or remove CAs from the list. The **Manage Certificates** dialog box is displayed with the **Root** tab selected.



Select the tabs near the top of the page to switch between the different types of CAs (**Root**, **Intermediate**, **Machine**, or **Web Server**). The same settings are provided for each type of CA.

Type a search term into the **Search...** text field to search for and display CAs that match the search term.

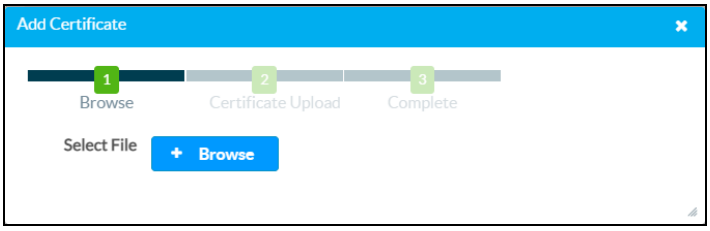
The following information is provided for each type of CA:

- **Name**: The CA name.
- **Expiry Date**: The date and time that the CA is set to expire.

If the CAs span multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page.

Select the trashcan button in the **Actions** column for a CA to delete it. A dialog box is displayed asking if the CA should be deleted. Select **Yes** to delete the certificate or **No** to cancel.

Select **Add [Type] Certificate** to add a CA of one of the four available types (**Root**, **Intermediate**, **Machine**, or **Web Server**) to the list of CAs. The **Add Certificate** dialog box is displayed.



To add a new certificate:

1. Select **Browse**.
2. Navigate to the CA file on the host computer.
3. Select the CA file, and then select **Open**.
4. Select **Load** to load the CA file to the touch screen. The upload progress is shown in the dialog box.
5. Once the touch screen has completed the upload, select **OK.**

Select the **x** button to close the **Add Certificate** dialog box at any time during the upload process. Selecting the **x** button before the CA file is uploaded to the touch screen cancels the upload.

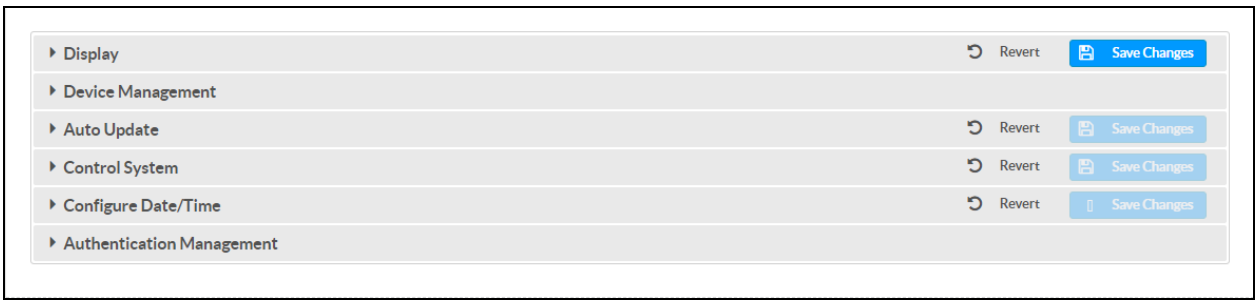
Select the **x** button to close the **Manage Certificates** dialog box and to return to the **802.1x Authentication** page.

Select **Save Changes** next to the **802.1x Authentication** accordion to save any changes. Select **Revert** to revert to the last saved settings.

Device

Select **DEVICE** from the navigation menu to display collapsible accordions for configuring the DGE device settings.

Select an accordion name to expand the section. If the section is expanded, select the accordion name again to collapse it.



Each selection is described in the sections that follow.

Display

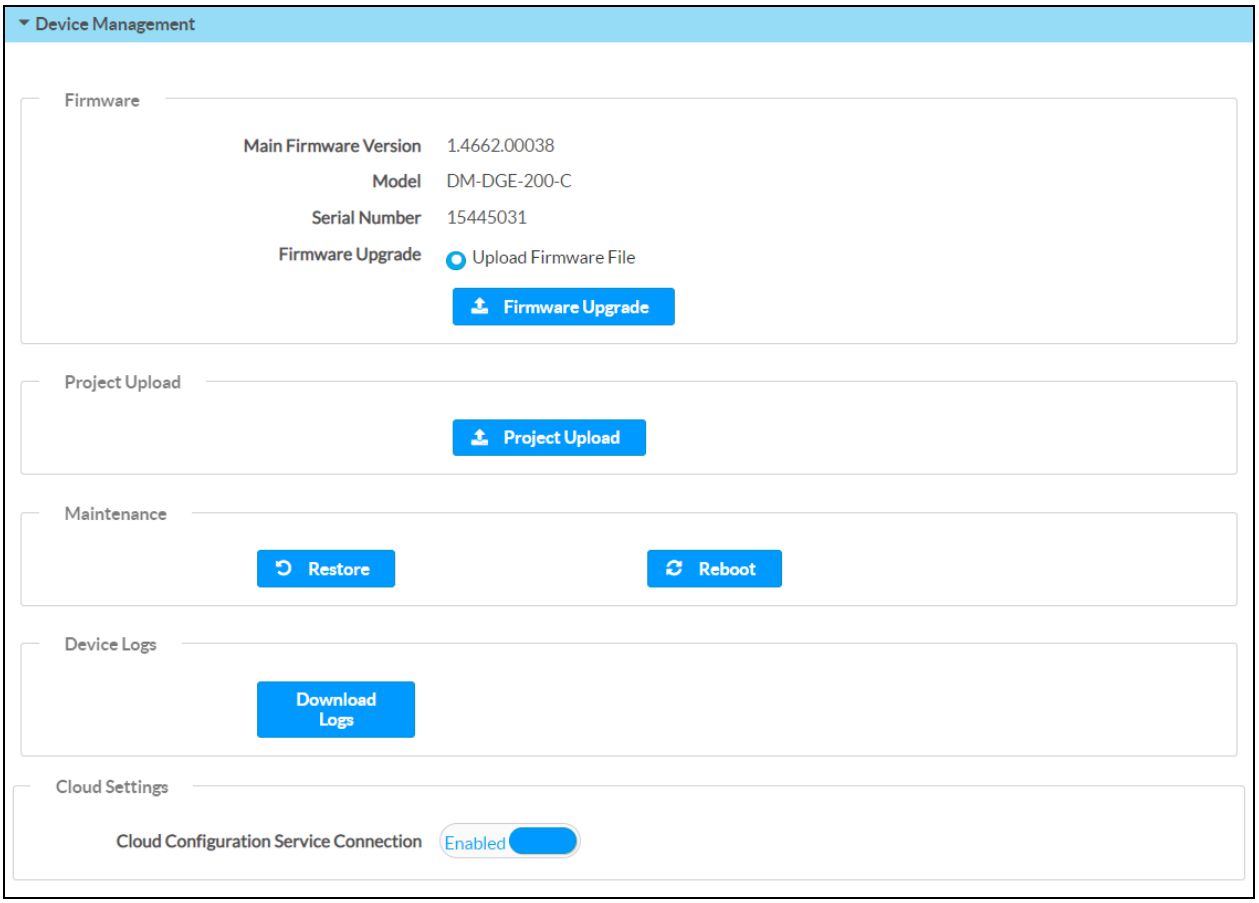
Expand the **Display** accordion to configure standby timeout settings for the DGE.

Enter a standby timeout duration (0–120 minutes) for the DGE in the **Display Standby** text field. Enter "0" to turn off standby timeout (primarily for nontouch applications).

Select **Save Changes** next to the **Display** accordion to save any changes. Select **Revert** to revert to the last saved settings.

Device Management

Expand the **Device Management** accordion to perform various device management tasks for the DGE.



Firmware

The following information is displayed for the current DGE firmware:

- **Main Firmware Version**: The firmware version loaded onto the DGE.
- **Model**: The DGE device model.
- **Serial Number**: The DGE serial number.

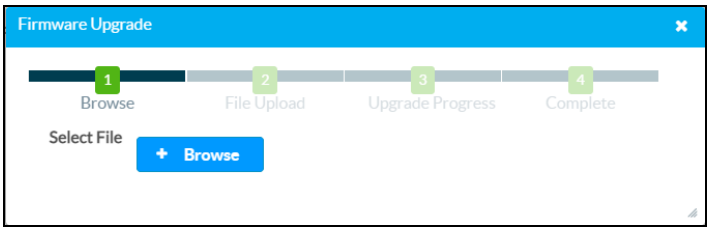
Firmware Upgrade controls are also provided for loading firmware to the DGE using the web configuration interface.

> **NOTE:** The PinPoint™ UX software functionality has been removed from the DM-DGE-200-C as of firmware version 1.3781.000*xxx*. Prior to upgrading the firmware to this version or later, the device must be taken out of PinPoint UX mode. If the firmware is upgraded while the device is in PinPoint UX mode, the device must be restored or the firmware must be downgraded to turn off PinPoint UX mode.

To load a firmware PUF (package update file) onto the DGE:

> **NOTE:** Visit www.crestron.com/Support/Resource-Library to download the latest firmware PUF.

1. Select **Firmware Upgrade**. The **Firmware Upgrade** dialog box is displayed.

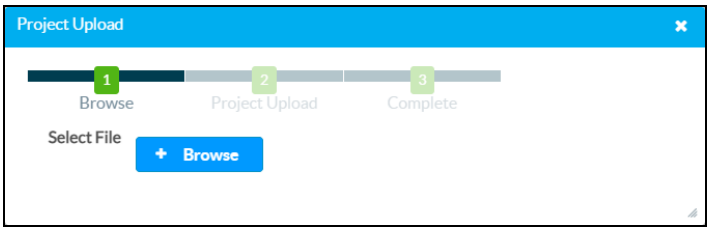


2. Select **+ Browse**, and then navigate to the firmware PUF on the host computer.
3. Select the firmware PUF, and then select **Open**.
4. Select **Load** to load the PUF to the DGE. The upload progress is shown in the dialog box.
5. Once the DGE has completed the firmware upgrade, select **OK**.

Select the **x** button to close the **Firmware Upgrade** dialog box at any time during the upgrade process. Selecting the **x** button before the PUF is uploaded to the DGE cancels the upgrade.

Project Upload

Select **Project Upload** to load a custom user project to the DGE. The **Project Upload** dialog box is displayed.



To load a custom user project onto the DGE:

1. Select **+ Browse**, and then navigate to the project .vtz file on the host computer.
2. Select the .vtz file, and then select **Open**.
3. Select **Load** to load the .vtz file to the DGE. The upload progress is shown in the dialog box.
4. Once the DGE has completed the project upload, select **OK**.

Select the **x** button to close the **Project Upload** dialog box at any time during the upload process. Selecting the **x** button before the .vtz file is uploaded to the DGE cancels the upgrade.

Maintenance

The following maintenance controls are provided:

- Select **Restore** to restore the DGE configuration settings to their default values. After **Restore** is selected, a dialog box is displayed asking whether the device settings should be restored. Select **Yes** to confirm the restore or **No** to cancel.

  > **CAUTION:** Restoring the DGE returns all settings to their default values and removes any static IP addresses or IP table connections that were previously added.

- Select **Reboot** to restart the DGE. After **Reboot** is selected, a dialog box is displayed asking whether the DGE should be restarted. Select **Yes** to confirm the restart or **No** to cancel.

Device Logs

Select **Download Logs** to download the DGE message logs for diagnostic purposes. The message files download as a compressed .tgz file. Once the compressed file is downloaded, extract the message log files to view them.

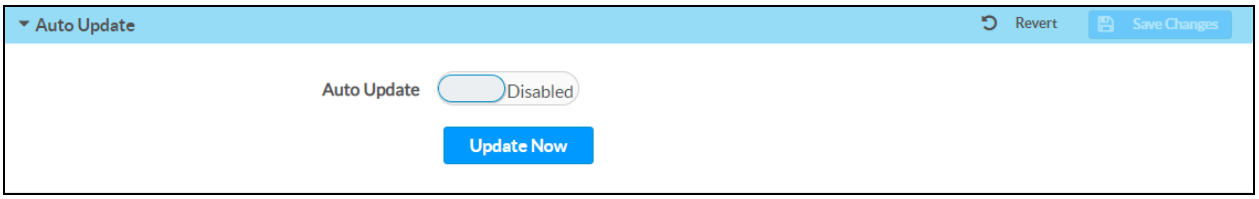
Cloud Settings

Turn on the **Cloud Configuration Service Connection** toggle to allow the DGE to be connected to an XiO Cloud® service account. This toggle is turned on by default.

For more information on connecting the DGE to an XiO Cloud service account, refer to XiO Cloud Service on page 36.

Auto Update

Expand the **Auto Update** accordion to configure automatic firmware updates for the DGE.



The following **Auto Update** controls are provided:

- Turn on the **Auto Update** toggle to turn on automatic firmware updates for the DGE.

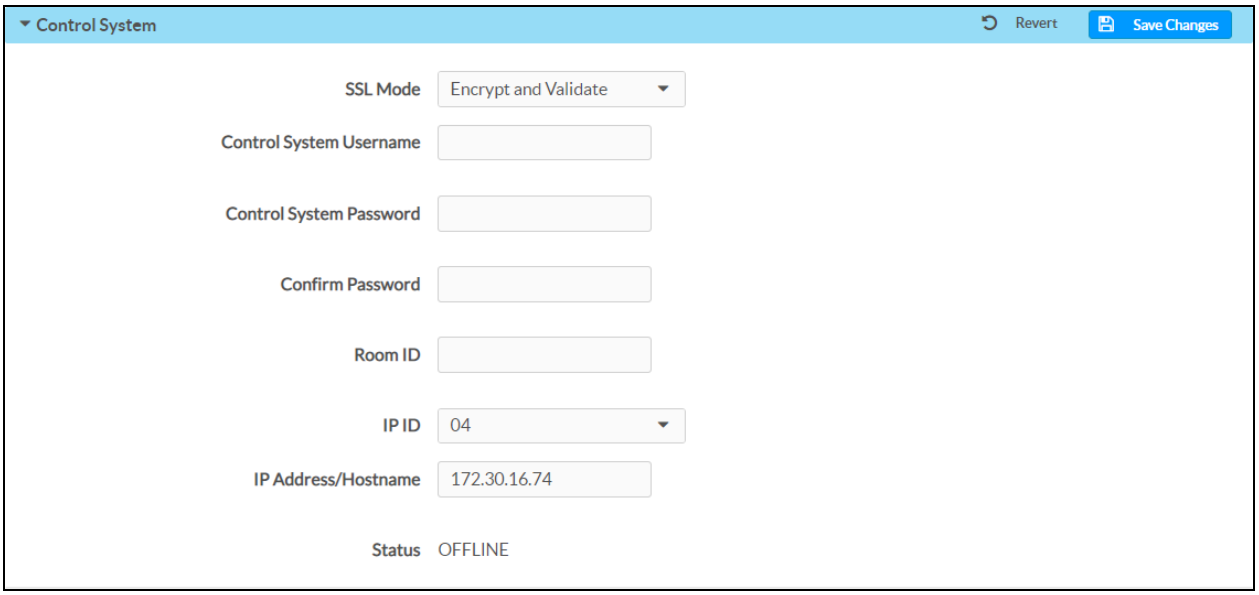
  When **Auto Update** is turned on, the DGE connects to a secure Crestron file server to check for new firmware at an established time outside of business hours (02:00 local time). If new firmware is available, the DGE attempts to download and install the firmware.

- Select **Update Now** to check the file server for new firmware immediately. If new firmware is available, the DGE attempts to download and install the firmware.

Select **Save Changes** next to the **Auto Update** accordion to save any changes. Select **Revert** to revert to the last saved settings.

Control System

Expand the **Control System** accordion to configure a connection between the DGE and a control system.



- **SSL Mode**: Use the drop-down menu to select a SSL (secure sockets layer) mode (**Encrypt and Validate**, **Encrypt**, or **OFF**) to use for the control system connection:

    - **Encrypt and Validate**: The control system username and password will be required to validate an encrypted SSL connection. Enter a username and password in the appropriate fields that are displayed.
    - **Encrypt**: An encrypted SSL connection will be used without requiring the control system username or password for validation.
    - **OFF**: An SSL connection will not be used.
- **Control System Username**: If **Encrypt and Validate** is selected for **SSL Mode**, enter the control system admin account username.
- **Control System Password**: If **Encrypt and Validate** is selected for **SSL Mode**, enter the control system admin account password.
- **Confirm Password**: If **Encrypt and Validate** is selected for **SSL Mode**, reenter the password used for **Control System Password**.
- **Room ID**: Enter the room ID that is associated with the DGE. This setting is applicable only if connecting the DGE to a Creston Virtual Control server-based control system.

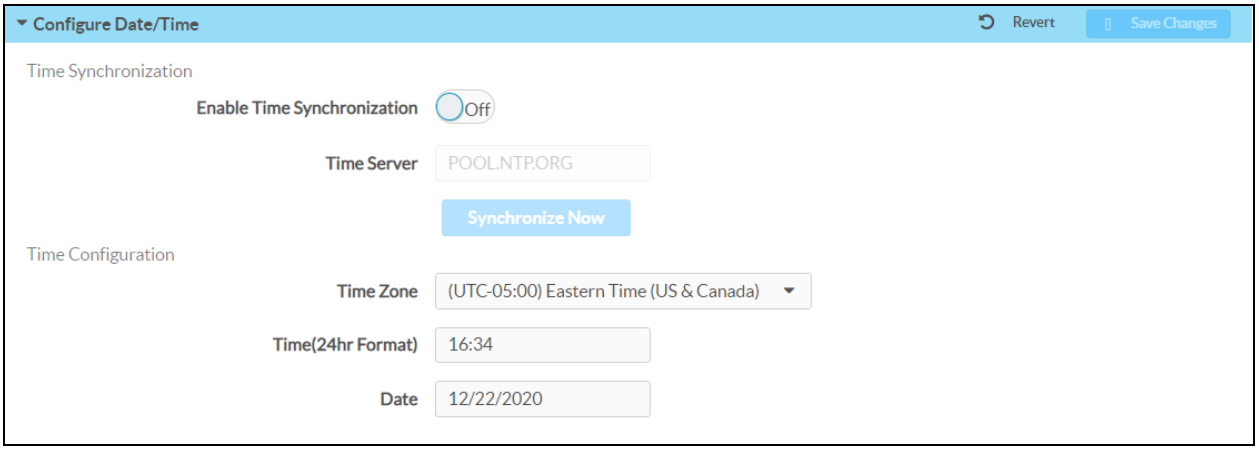
  > **NOTE:** For more information on connecting the DGE to Crestron Virtual Control via a room ID, refer to the Crestron Virtual Control Server Software Product Manual.

- **IP ID**: Enter the IP ID used to connect the DGE to the control system.
- **IP Address/Hostname**: Enter the IP address or host name of the control system.
- **Status**: Reports the status of the connected control system (**ONLINE** or **OFFLINE**).

Select **Save Changes** next to the **Control System** accordion to save any changes. Select **Revert** to revert to the last saved settings.

Configure Date/Time

Expand the **Configure Date/Time** accordion to configure the date and time settings for the DGE.



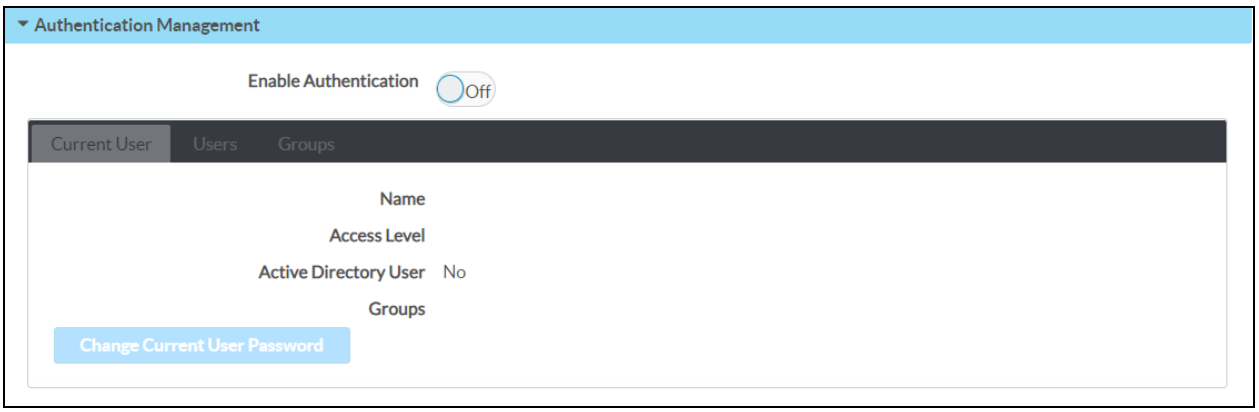
- **Enable Time Synchronization**: Turn on the toggle to turn on time synchronization via SNTP (simple network time protocol).
- **Time Server**: If **Enable Time Synchronization** is turned on, enter the SNTP server used to synchronize the date and time for the DGE.

- **Synchronize Now**: If **Enable Time Synchronization** is turned on, select **Synchronize Now** to synchronize the DGE with the SNTP server entered for **Time Server**.
- **Time Zone**: Select a time zone for the DGE using the drop-down menu.
- **Time(24hr format)**: Set the time for the DGE (in 24-hour format) using the pop-up menu that is displayed.
- **Date**: Set the date for the DGE using the pop-up calendar that is displayed.

Select **Save Changes** next to the **Configure Date/Time** accordion to save any changes. Select **Revert** to revert to the last saved settings.

Authentication Management

Expand the **Authentication Management** accordion to configure authentication management settings for the DGE, including adding users and groups and assigning access levels.



Turn on the **Enable Authentication** toggle to turn on authentication for the DGE.

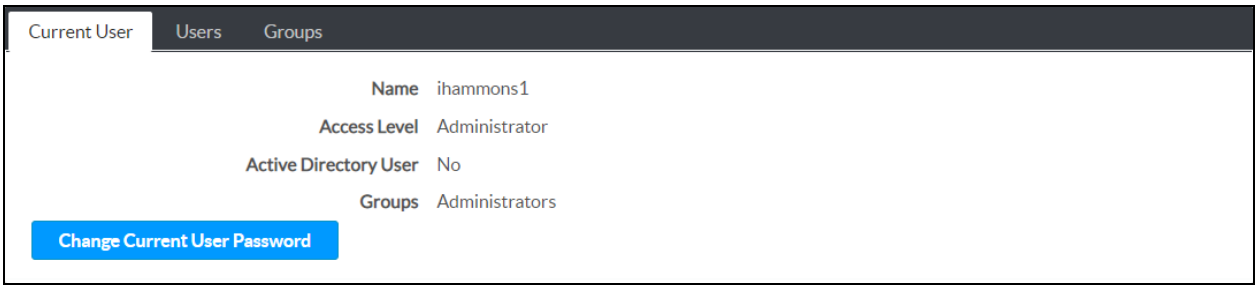
When authentication is turned on, the web configuration interface prompts the user to enter a new administrator username and password. After restarting the DGE, this username and password must be entered to access the web configuration utility or to connect to the DGE through Crestron Toolbox™ software. For more information, refer to Turn on Authentication on page 37.

CAUTION: Do not lose the administrator username and password, as the DGE must be restored to its factory default settings to reset the username and password.

Use the following **Authentication Management** settings to add, delete, and edit DGE users and groups.

Current User

Select the **Current User** tab to view and edit information for the current DGE user.



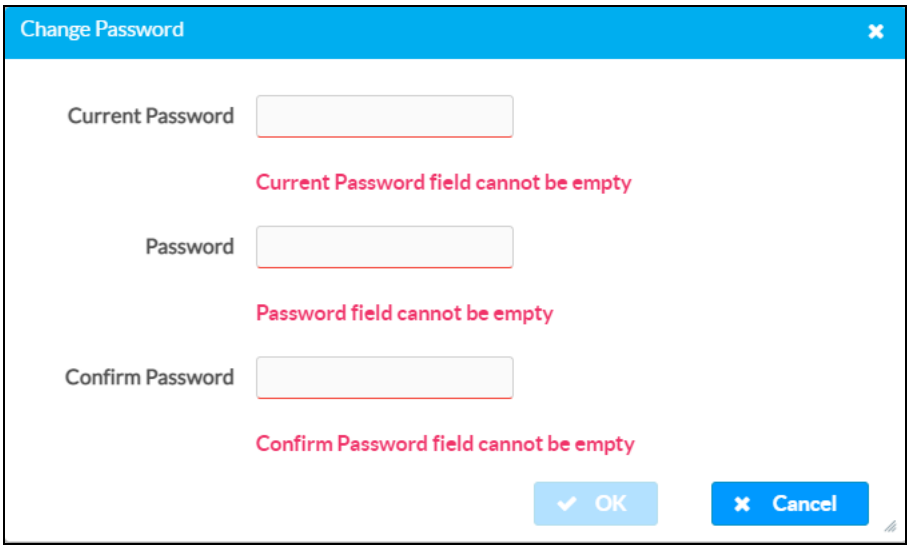
The following settings are displayed for the current user:

- **Name**: The chosen username.
- **Access Level**: The access level granted to the user (**Administrator**, **Programmer**, **Operator**, **User**, or **Connect**).
- **Active Directory User**: Reports whether the current user is (**Yes**) or is not (**No**) authenticated through Active Directory® software.

  > **NOTE:** A user must be added to an Active Directory group before the user may be selected as an active directory user. For more information, refer to Groups on page 80.

- **Groups**: Any groups of which the current user is a member.

Select **Change Current User Password** to change the password for the current user. The **Change Password** dialog box is displayed.

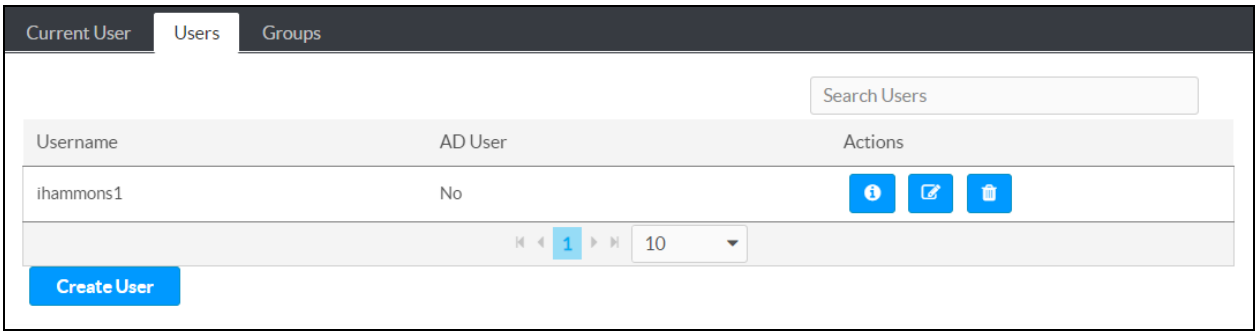


Enter the existing password in the **Current Password** field. Then, enter a new password in the **Password** field, and reenter the password in the **Confirm Password** field.

Select **OK** to save the new password, or select **Cancel** to cancel the change.

Users

Select the **Users** tab to view and edit information for DGE users.



Enter text into the **Search Users** field to find and display users that match the search term(s).

DGE users are listed in table format. The following information is displayed for each DGE user:

- **Username**: The chosen username.
- **AD User**: Reports whether the user is (**Yes**) or is not (**No**) authenticated through Active Directory.

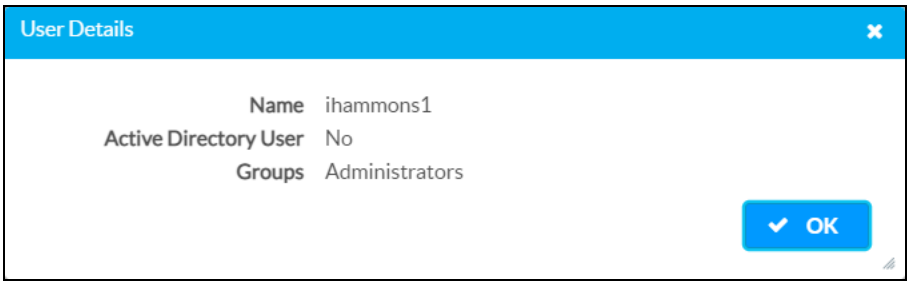
> **NOTE:** A user must be added to an Active Directory group before the user may be selected as an active directory user. For more information, refer to Groups on page 80.

If the DGE users span multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page. Additionally, the number of users displayed on each page may be set to 5, 10, or 20 users.

An **Actions** column is also provided for each user that allows various actions to be performed. The following selections may be selected from the **Actions** column.

User Details

Select the information button in the **Actions** column to view information for the selected user. The **User Details** dialog box is displayed.



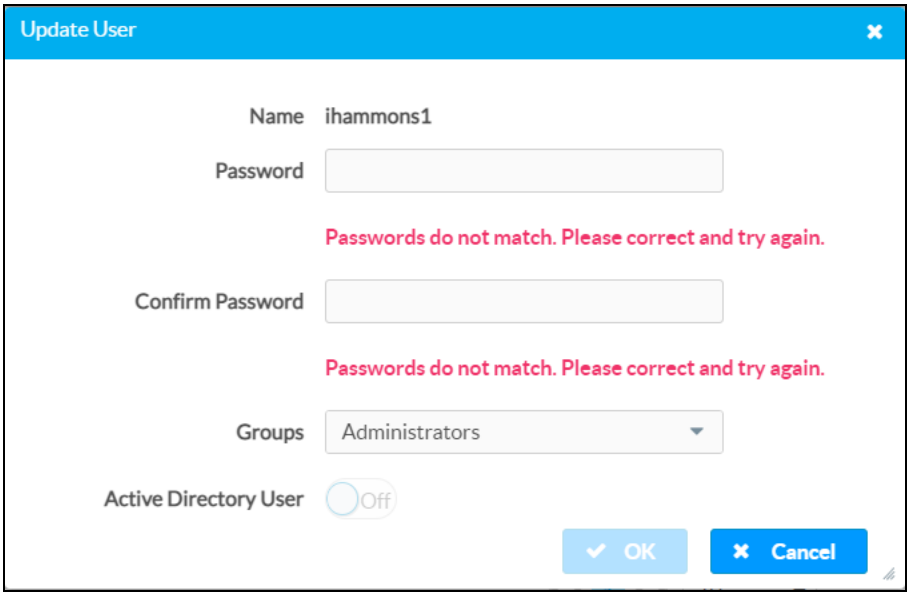
The following settings are displayed for the current user:

- **Name**: The chosen username.
- **Active Directory User**: Reports whether the user is (**Yes**) or is not (**No**) authenticated through Active Directory.
- **Groups**: Lists any groups that contain the user.

Select **OK** to close the dialog box.

Update User

Select the edit button in the **Actions** column to edit settings for the selected user. The **Update User** dialog box is displayed.



The following **Update User** settings may be viewed or configured:

- **Name**: The chosen username.
- **Password**: Enter a new password for the selected user.
- **Confirm Password**: Reenter the password entered in the **Password** field.
- **Groups**: Add the user to one or more groups. For more information, refer to Groups on page 80.

  > **NOTE:** A user must be added to an Active Directory group to be selected as an Active Directory user.

- **Active Directory User**: Turn on the toggle to use authentication via Active Directory for the selected user.

Select **OK** to save any changes or select **Cancel** to cancel the changes.

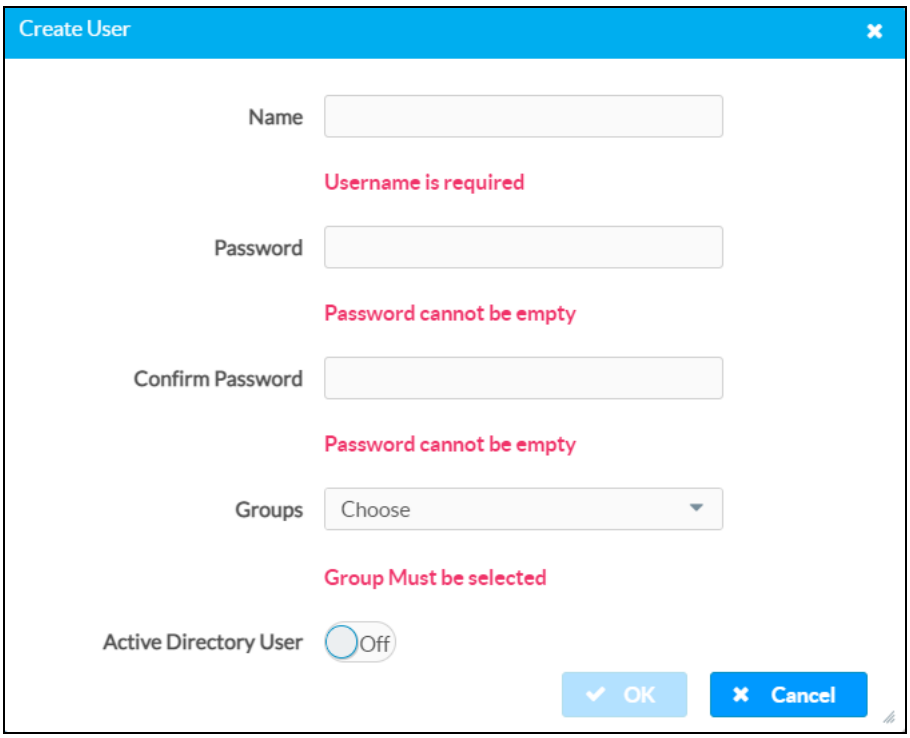
Delete User

Select the trashcan icon in the **Actions** column to delete the user.

A dialog box is displayed asking whether the user should be deleted. Select **Yes** to delete the user or **No** to cancel.

Create User

Select **Create User** at the bottom of the page to create a new DGE user. The **Create User** dialog box is displayed.



Use the following settings to create a new user:

- **Name**: Enter a username.
- **Password**: Enter a password for the user.
- **Confirm Password**: Reenter the password entered in the **Password** field.
- **Groups**: Add the user to one or more groups. For more information, refer to Groups on page 80.

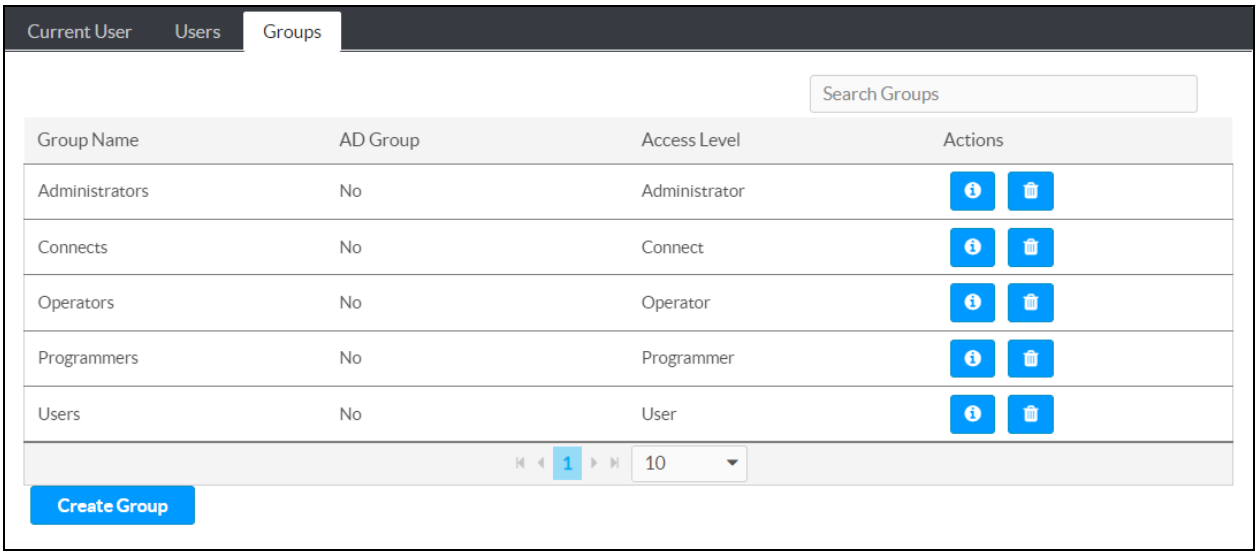
  > **NOTE:** A user must be added to an Active Directory group to be selected as an Active Directory user.

- **Active Directory User**: Turn on the toggle to use authentication via Active Directory for the selected user.

Select **OK** to save any changes and create the new user or select **Cancel** to cancel. The new user is added to the **Users** tab of the **Authentication Management** accordion.

Groups

Select the **Groups** tab to view and edit information for DGE groups.



Enter text into the **Search Groups** field to find and display groups that match the search term (s).

DGE groups are listed in table format. The following information is displayed for each DGE group:

- **Username**: The chosen group name.
- **AD User**: Reports whether the group is (**Yes**) or is not (**No**) authenticated through Active Directory.

  > **NOTE:** Active Directory provides an additional layer of authentication for touch screen groups and users. Active directory group and user names are stored in the touch screen console along with a unique SID (security identifier). When an Active Directory user attempts to authenticate against the console, the console first checks the user credentials. If the Active Directory authentication is successful, Active Directory queries the console for the user or group's SID. The user is granted access to the touch screen only if at least one SID match is found.

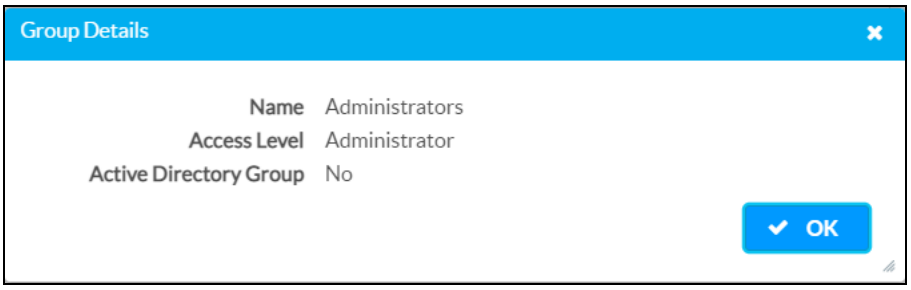
- **Access Level**: The access level for the selected group (**Administrator**, **Programmer**, **Operator**, **User**, or **Connect**).

If the DGE groups span multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page. Additionally, the number of groups displayed on each page may be set to 5, 10, or 20 users.

An **Actions** column is also provided for each group that allows various actions to be performed. The following selections may be selected from the **Actions** column.

Group Details

Select the information button in the **Actions** column to view information for the selected group. The **Group Details** dialog box is displayed.



The following settings are displayed for the current group:

- **Name**: The chosen group name.
- **Access Level**: The access level for the selected group (**Administrator**, **Programmer**, **Operator**, **User**, or **Connect**).
- **Active Directory Group**: Reports whether the group is (**Yes**) or is not **(No**) authenticated through Active Directory.

Select **OK** to close the dialog box.

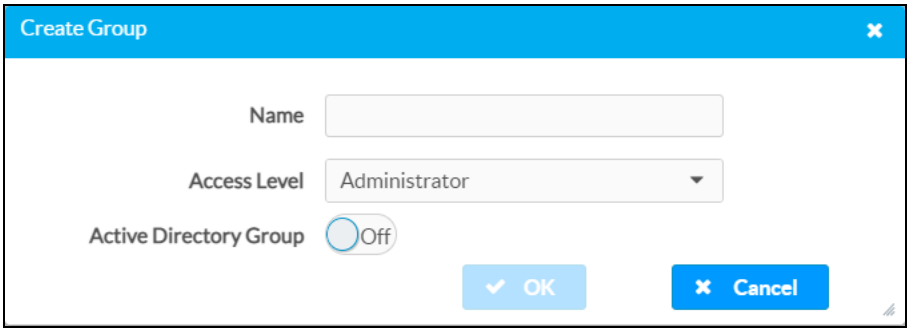
Delete Group

Select the trashcan icon in the **Actions** column to delete the group.

A dialog box is displayed asking whether the group should be deleted. Select **Yes** to delete the group or **No** to cancel.

Create Group

Select **Create Group** at the bottom of the page to create a new DGE group. The **Create Group** dialog box is displayed.



Use the following settings to create a new user:

- **Name**: Enter a group name.

  > **NOTE:** If authenticating with Active Directory, do not enter the domain name for the Active Directory group in the **Name** field. If this information is being entered via console commands, omit `domain\local` from the command (for example, use `adddomaing -n:crestron -L:A` instead of `adddomaing -n:domain.local\crestron -L:A`).

- **Access Level**: Select the access level for the selected group (**Administrator**, **Programmer**, **Operator**, **User**, or **Connect**).
- **Active Directory Group**: Turn on the toggle to have the group authenticated through Active Directory.

Select **OK** to save any changes and create the new group or select **Cancel** to cancel. The new group is added to the **Groups** tab of the **Authentication Management** accordion.

Perform a Factory Restore

If the DGE-100 and DM-DGE-200-C must be restored to its factory default settings, perform the following recovery procedure.

CAUTION: Restoring the DGE returns all settings to their default values and removes any static IP addresses or IP table connections that were previously added.

1. Press the red **RESET** button on the device bottom panel. The DGE will begin to reset.
2. Once the Crestron swirl logo is shown on a connected touch screen display, the reset process has completed. Press the **RESET** button again.
3. Repeat steps 1–2 to perform the reset process 9 more times (for a total of 11 times).

After the 11th reset, the DGE enters recovery mode and will begin the factory restore process without prompting. Once the DGE resets after this process, it can be configured as described in Initial Setup on page 35.

Operation

The DGE is controlled using a connected touch screen display. The DGE supports gesturing and swiping controls to perform various functions. Supported touch controls vary by the loaded user program.

Resources

The following resources are provided for the DGE-100 and DM-DGE-200-C.

NOTE: You may need to provide your Crestron.com web account credentials when prompted to access some of the following resources.

Crestron Support and Training

- Crestron True Blue Support
- Crestron Resource Library
- Crestron Online Help (OLH)
- Crestron Training Institute (CTI) Portal

Programmer and Developer Resources

- help.crestron.com: Provides help files for Crestron programming tools such as SIMPL, SIMPL#, and Crestron Toolbox™ software
- developer.crestron.com: Provides developer documentation for Crestron APIs, SDKs, and other development tools

Product Certificates

To search for product certificates, refer to support.crestron.com/app/certificates.

Related Documentation

- Crestron Programming Design Guide
- Crestron® Touch Screens Security Reference Guide
- IP Guidelines for the IT Professional Best Practices
- Streaming Video Switching Optimization on Crestron Touch Screens Best Practices
- XiO Cloud® Service User Guide

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Product Manual — Doc. 7696D
10/27/22
Specifications subject to
change without notice.