

Crestron CLWI-DIMFLVEX
In-Wall 0-10 V Dimmer, 230 VAC
Installation Guide



Further Inquiries
To locate specific information or resolve questions after reviewing this guide, contact Crestron's True Blue Support at 1-888-CRESTRON [1-888-273-7876] or refer to the listing of Crestron worldwide offices on the Crestron Web site (www.crestron.com/offices) for assistance within a particular geographic region.

To post a question about Crestron products, log onto the online help section of the Crestron Web site (www.crestron.com/onlinehelp). First-time users must establish a user account to fully benefit from all available features.

Future Updates
As Crestron improves functions, adds new features and extends the capabilities of the CLWI-DIMFLVEX, additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron Web site periodically for manual update availability and its relevance. Updates are identified as an "Addendum" in the Download column.

WARNING: To avoid fire, shock, or death; turn off power at circuit breaker or fuse and test that power is off before wiring!

- NOTES:** Observe the following points.
- To be installed and/or used in accordance with appropriate electrical codes and regulations.
 - This product should be installed by a qualified electrician

PREPARING AND CONNECTING WIRES
Strip the ends of the wires approximately 6 mm (1/4 in). Use care to avoid nicking the conductors. Twist together the ends of the wires that share a connection.

Crestron Electronics, Inc.
15 Volvo Drive Rockleigh, NJ 07647
Tel: 888.CRESTRON
Fax: 201.767.7576
www.crestron.com



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Specifications subject to change without notice.

As of the date of manufacture, the CLWI-DIMFLVEX has been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling.



Important Notes (Read before wiring and installation.)

CAUTION: TO REDUCE THE RISK OF OVERHEATING AND POSSIBLE DAMAGE TO OTHER EQUIPMENT, DO NOT INSTALL TO CONTROL A RECEPTACLE OR A TRANSFORMER-SUPPLIED APPLIANCE.

- CAUTION:**
- To be installed on 10 A branch circuits only.
 - To be installed with 1 x 1.5 - 2.5 mm² wire complying with BS6004:2000/IEC 60245 and local electrical codes.
 - To be used with loads that have a power factor greater than 0.95.

LOW VOLTAGE APPLICATIONS NOTE: Operation of a low voltage circuit with all lamps inoperative or removed may result in current flow in excess of normal levels. To avoid transformer overheating and premature transformer failure, Crestron recommends the following:

- Do not operate low voltage circuits without operative lamps in place.
- Replace burned-out lamps as quickly as possible.
- Use transformers that incorporate thermal protection or fuse transformer primary windings to prevent transformer failure due to overcurrent.

- NOTE:** The device requires a neutral connection to operate.
- Wiring: Use copper wire only. For supply connections, use wires rated for at least 75° C.
 - Lamp Type: For use with permanently installed 0 – 10 V fluorescent, 0 – 10 V LED, any 0 – 10 V dimmable load.
 - Temperature: For use where temperatures are between 0° to 40° C (32° to 104° F).

INTRODUCTION

The CLWI-DIMFLVEX delivers native Crestron® control to 0-10 V dimmable fixtures or switched loads, in new or retrofit 230 volt applications. Featuring reliable infiNET EX® wireless technology, the CLWI-DIMFLVEX can be installed in virtually any location thanks to reliable mesh networking. The CLWI-DIMFLVEX delivers a perfect solution for controlling newer LED fixtures from a single gang, without requiring external boosters.

Specifications

Specifications for the CLWI-DIMFLVEX are listed in the following table.

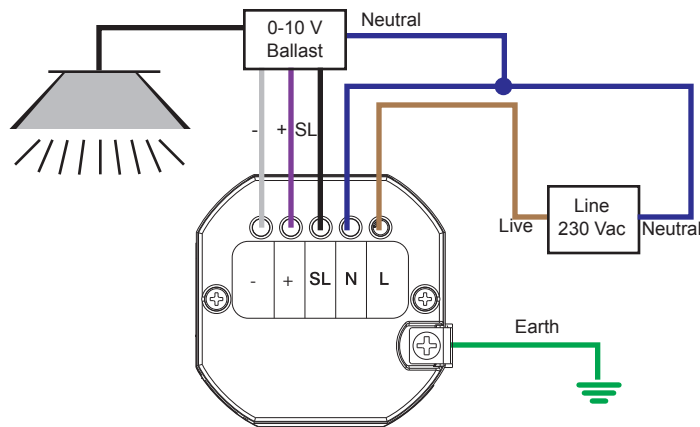
CLWI-DIMFLVEX Specifications

SPECIFICATION	DETAILS
Load Ratings	
Load Types	0 – 10 V fluorescent, 0 – 10 V LED, any 0 – 10 V dimmable load
Maximum Load	2 amps / AX; 30 mA sink only per channel
Power Requirements	230 volts ac, 50 Hz, line power
Wireless	
RF Transceiver	2-way RF, 2.4 GHz ISM Channels 11 - 26 (2400 to 2483.5 MHz), IEEE 802.15.4 compliant
Range (Typical)	Subject to site-specific conditions; Range is increased by adding additional devices or wireless expander
Gateway	Requires an infiNET EX gateway (sold separately)
Environmental	
Temperature	0° to 40° C (32° to 104° F)
Humidity	10% to 90% RH (non-condensing)
Enclosure	1-gang mountable in a 35 mm deep square or round electrical box; gangable in horizontal and vertical positioning; requires faceplate (not included)
Dimensions	
Height	72 mm (2.80 in)
Width	72 mm (2.80 in)
Depth	32 mm (1.24 in) including front face with buttons
Weight	95 g (4 oz)

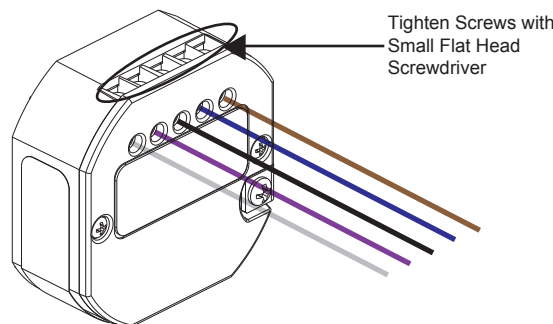
WIRING

The following describes the wiring of a CLWI-DIMFLVEX. Use 1 x 1.5 - 2.5 mm² (14 - 12 AWG) wiring when making connections. Refer to "Installation" on the following page for installation instructions.

- Turn power off at the circuit breaker.
- Wire the device as shown in the following diagram.



- When making connections to the device insert the wires into the back of the unit. Use a small flat head screwdriver to tighten the connection.



CONFIGURATION

Before the CLWI-DIMFLVEX can be used in local mode the device must be setup. During the setup process some or all fixed buttons can be configured for local control. If certain fixed buttons are to be operated remotely (via control system programming), do not assign local programming during this process. Buttons programmed for local functionality have pre-defined functionality which is described in the "Assign Button Functions" section that follows. Follow the procedures below to setup the device.

Setup Button Configuration

- Press and hold the setup button (located in the lower right corner of the device) for 5 seconds to enter *Button Layout* mode. The LEDs that correspond to the current button layout begin to blink fast. Do not release the setup button.

NOTE: If the setup button is held for 15 seconds without other button presses, the device restarts. Refer to "Operation - Device Reboot" on the following page for information.

NOTE: If the setup button is released before all buttons are configured the device exits *Button Layout* mode and no changes are saved. The device reverts to its previously programmed button layout.

- While holding the setup button and within 5 seconds of the flashing LEDs, press any button on the device that requires local functionality. Refer to the "Assign Button Functions" section for valid button layouts. The LED illuminates to verify the button press.

NOTE: After assigning a button, if no buttons are pressed for 10 seconds the device exits *Button Layout* mode without saving the layout. The device reverts to its previously programmed button layout.

- Continue holding the setup button and press the remaining buttons on the device that require local functionality. The LED associated with each button that is selected for local functionality is illuminated.

NOTE: If an invalid button pattern is selected, the button pattern is not saved.

Setup Minimum and Maximum Dimming Levels

To ensure proper operation of the connected load the minimum and maximum lighting levels must be established for each device. Follow the procedure below to enter *Min/Max Dimming* mode and to make changes to the levels.

- Press and hold the setup button for 10 seconds until all LEDs light and the middle LEDs begin blinking. The connected load dims to 50%.

NOTE: During *Min/Max Dimming* mode the device LEDs blink fast and indicate the current minimum and maximum dimming levels.

NOTE: The maximum level is saved only if the light level is raised above 75% (either of the top two LEDs is illuminated).

NOTE: The minimum level is saved only if the light level is lowered below 45% (either of the bottom two LEDs is illuminated).

- Using any available top button on the dimmer, raise the load to the maximum desired level. If the connected load begins to cycle or flash, the level must be reduced.
- Save the maximum dim level by holding the setup button for 2 seconds.
- Using any available bottom button on the dimmer, lower the load to the minimum desired level. If the connected load begins to flicker, the level must be increased.
- Save the minimum dimming level by holding the setup button for 2 seconds.
- Tap the setup button to exit *Min/Max Dimming* mode.

Setting Preset Levels

The device can recall and store up to three presets depending on the installed button configuration and local programming. Refer to the "Operation" section for configurations that utilize presets. To set the presets, follow the procedure below:

- Adjust the light level to the desired level.
- Enter *Programming* mode by tapping the setup button. Buttons capable of storing presets flash the LED.
- Press and hold the desired preset button until the LED blinks (about 2 seconds). If a button is not pressed, the device exits *Programming* mode after about 5 seconds.

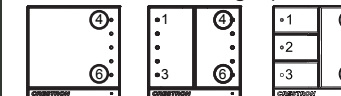
ASSIGN BUTTON FUNCTIONS

Default Button Functions

The CLWI-DIMFLVEX uses a fixed button configuration that functions differently depending on the button assembly that is installed. Refer to "Change Button Assemblies" section for instructions on how to change the button assembly. The illustrations in the following column show the available button assembly configurations that are available for the device. The button number with a circle around it identifies the button(s) configured for local operation during this procedure. All other fixed buttons shown (without a circle) are configured through remote control system programming.

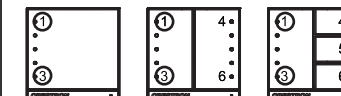
Button Functions for CLWI-DIMFLVEX

Rocker with LEDs on Right (Default Layout)



BUTTON #	TAP	DOUBLE TAP	HOLD	LED FEEDBACK	NIGHTLIGHT LED FEEDBACK
4	Preset 1	Fast full on	Raise	Load light level bar graph	LED glows when load is off
6	Delayed Off	Fast off	Lower	N/A	-

Rocker with LEDs on Left



BUTTON #	TAP	DOUBLE TAP	HOLD	LED FEEDBACK	NIGHTLIGHT LED FEEDBACK
1	Preset 1	Fast full on	Raise	Load light level bar graph	LED glows when load is off
3	Delayed Off	Fast off	Lower	N/A	-

Rocker with LEDs on Right with Presets



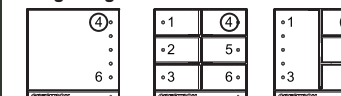
BUTTON #	TAP	DOUBLE TAP	HOLD	LED FEEDBACK	NIGHTLIGHT LED FEEDBACK
1	Preset 1	N/A	N/A	On when selected	LED glows when load is off
2	Preset 2	N/A	N/A	On when selected	LED glows when load is off
3	Preset 3	N/A	N/A	On when selected	LED glows when load is off
4	Full on	Fast full on	Raise	Load light level bar graph	LED glows when load is off
6	Delayed off	Fast off	Lower	Load light level bar graph	-

Rocker with LEDs on Left with Presets



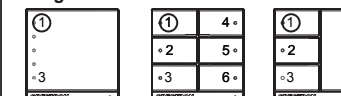
BUTTON #	TAP	DOUBLE TAP	HOLD	LED FEEDBACK	NIGHTLIGHT LED FEEDBACK
1	Full on	Fast full on	Raise	Load light level bar graph	LED glows when load is off
3	Delayed off	Fast off	Lower	Load light level bar graph	-
4	Preset 1	N/A	N/A	On when selected	LED glows when load is off
5	Preset 2	N/A	N/A	On when selected	LED glows when load is off
6	Preset 3	N/A	N/A	On when selected	LED glows when load is off

Single Right Button Control



BUTTON #	TAP	DOUBLE TAP	HOLD	LED FEEDBACK	NIGHTLIGHT LED FEEDBACK
4	Toggle Preset 1 / Delayed off	Fast full on	Cycle dim	On when load is on	LED glows when load is off

Single Left Button Control



BUTTON #	TAP	DOUBLE TAP	HOLD	LED FEEDBACK	NIGHTLIGHT LED FEEDBACK
1	Toggle Preset 1 / Delayed off	Fast full on	Cycle dim	On when load is on	LED glows when load is off

OPERATION

Upgrade Firmware

The device receives firmware upgrades via infiNET EX over-the-air firmware upgrades. Refer to the Crestron Toolbox™ help file for details.

Restore Default Settings

If needed, use the following command to reset the device to its factory default settings. Send the console command "restore" to perform a restore of the factory defaults. All local programming needs to be reset.

Device Reboot

To reboot the CLWI-DIMFLVEX press and hold the setup button for 15 seconds. Release the setup button after all LEDs on the front of the device flash to full on and then turn off. This indicates that the device is rebooting. Reboot is completed once the LEDs come back on to normal operating mode.

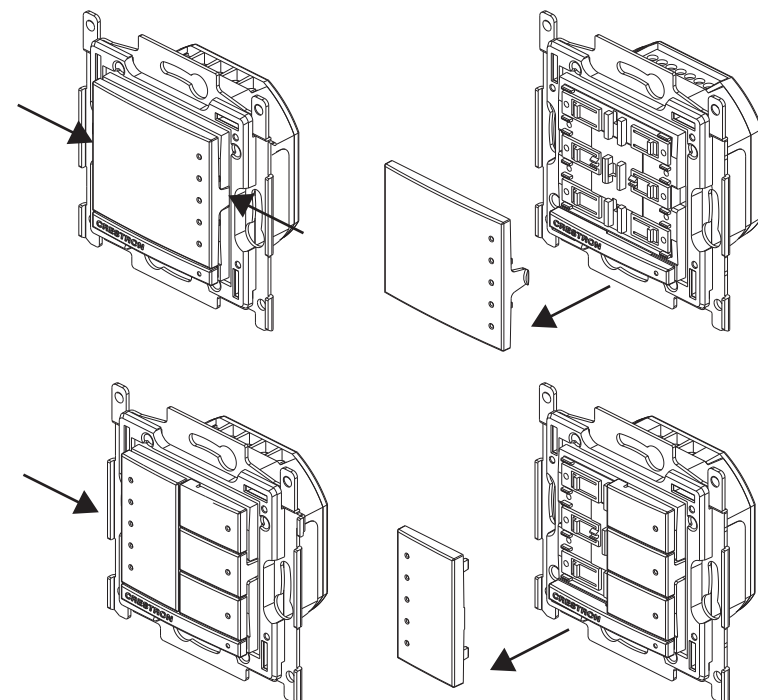
CHANGE BUTTON ASSEMBLIES

Follow the procedure below if the button assemblies need to be changed or replaced.

1. Remove the button assembly by squeezing the sides of the button assembly near the center of the device.
2. Remove the button assembly by carefully pulling the button assembly off of the device. Refer to the illustrations that follow.

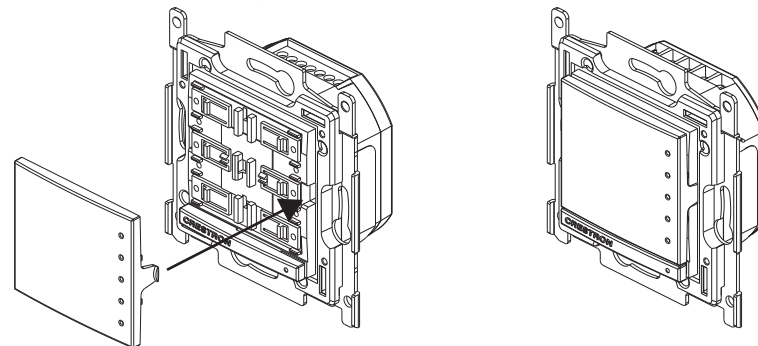
NOTE: When there are two or more button assemblies installed on a device, press on one side of the button assembly and carefully remove the button assembly. The second button assembly can be removed in the manner described in step 1 and 2 above. Refer to the illustrations that follow.

Remove Button Assembly



3. Insert the new button assemblies onto the device by pressing them into the device. It might be necessary to squeeze the sides of the button assembly to allow for easier assembly.

Install Button Assembly



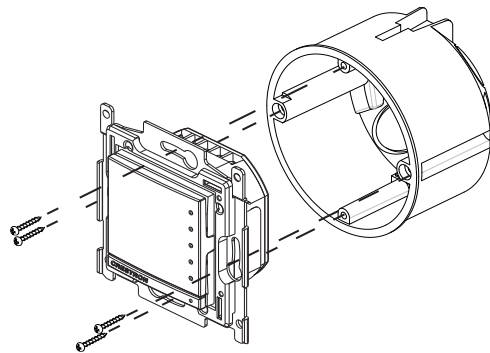
INSTALLATION

Single Gang Installation

Refer to the following procedure and illustration to install the device into a single gang electrical box. Electrical box depth must be 35 mm (1.38 in) or deeper.

1. Push all power wires back into the electrical box and fasten the device to the electrical box with the provided screws. Refer to the following illustration for details.

NOTE: Use care when placing the device in the electrical box. Pinched wires may cause a short circuit.



2. Attach the faceplate (not supplied).
3. Ensure all buttons, including the program button, actuate without sticking.
4. Restore power at the circuit breaker.

Multigang Installation

In multigang installations, several devices are grouped horizontally or vertically in one electrical box. When ganging vertically the devices snap together by sliding the bottom of the upper device into the top of the lower device. This allows the devices to be mounted closer together.

For a smooth appearance, one-piece multigang faceplates (not supplied) can be installed.

NOTE: When devices are ganged in a horizontal position, the devices do not interlock.

NOTE: When installing into a multigang box, do not fully tighten devices to box until faceplate has been aligned.

WIRELESS COMMUNICATIONS

The device connects to the Crestron network via the infiNET EX communications protocol. Use the procedures outlined below to join or leave an infiNET EX network and to verify communications between the device and the control system.

Joining an infiNET EX Network

Before a device can be used in a lighting system, it must first join an infiNET EX network by being acquired by an infiNET EX gateway.

NOTE: A device can be acquired by only one gateway.

1. Put the infiNET EX gateway into *Acquire* mode from the unit itself or from Crestron Toolbox, as described in the latest version of its manual, which is available from the Crestron Web site (www.crestron.com/manuals).
2. Place the device into *Acquire* mode by doing the following:
 - a. Tap the setup button three times then press and hold it down (tap-tap-tap-press+hold) until all LEDs on the device flash once (this can take up to 10 seconds).
 - b. Release the button to start the acquire process. The top two LEDs blink slowly to show that the device is actively scanning the infiNET EX network.
 - The top two LEDs turn on for 5 seconds to show that the device has been successfully acquired to the infiNET EX network.
 - The top two LEDs blink fast to indicate that the device was not successfully acquired to the infiNET EX network. Tap the setup button to acknowledge failure to acquire to the infiNET EX network. Ensure gateway is in acquire mode and within range before attempting the acquire process again.

Leaving an infiNET EX Network

To leave an infiNET EX network put the device into *Acquire* mode, as described in "Joining an infiNET EX Network" above, when no gateway is in *Acquire* mode.

Verifying Communications Status

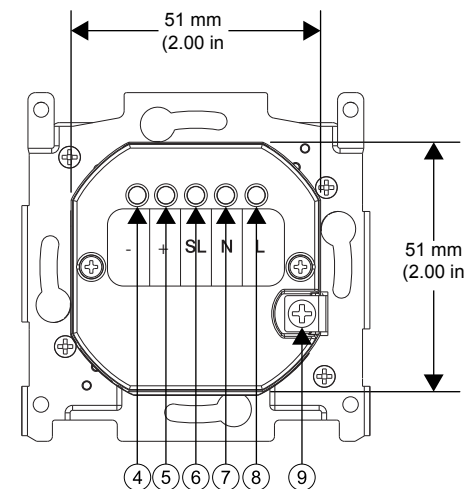
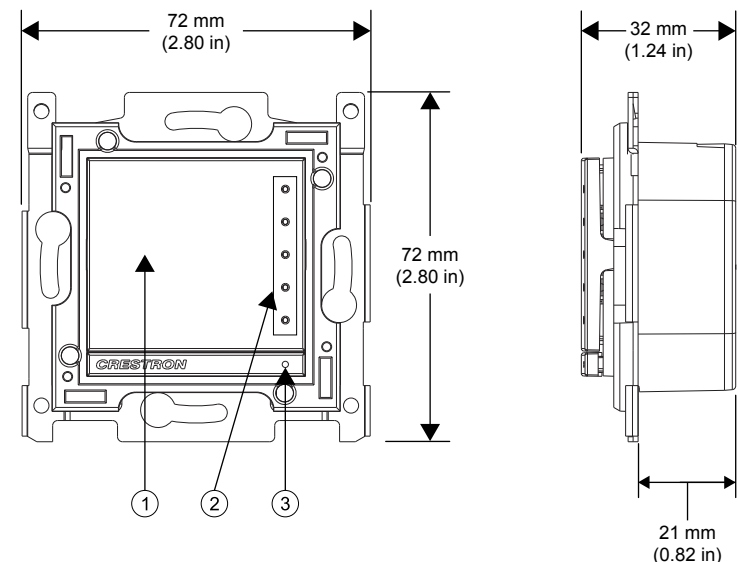
To check the communication status of the device tap the setup button three times then press and hold it down (tap-tap-tap-press+hold) for 2 seconds. The top two LEDs blink to indicate the communication status. Refer to the following table for details.

LED DISPLAY	COMMUNICATION STATUS
Turns on (up to 5 seconds) when button is released.	Device is communicating with the control system.
Blinks three times.	Device communicating with gateway but gateway not communicating with the control system.
Blinks twice.	Device previously joined to network but not communicating with the gateway.
Blinks once.	Device not joined to the network.

Physical Description

This section provides information on the connections, controls and indicators available on the CLWI-DIMFLVEX.

CLWI-DIMFLVEX Dimensions



#	CONNECTORS, CONTROLS & INDICATORS	DESCRIPTION
1	Buttons	Configurable for one rocker (up/down), or any combination of up to two small rockers or two 3-button pads; Default button arrangement: CLWI-DIMFLVEX: One rocker Maximum layout contains six buttons; each press configurable for up to three discrete functions via single click, double click and hold; programmable via control system
2	LED Indicator	Up to (10) white LED pinholes, depending on button configuration
3	Setup Button	Allows setup and configuration of the device
4	-	(1) 1 x 1.5 - 2.5 mm ² (14-12 AWG), screw terminal, 10 V- output
5	+	(1) 1 x 1.5 - 2.5 mm ² (14-12 AWG), screw terminal, 10 V+ output
6	Switched Live	(1) 1 x 1.5 - 2.5 mm ² (14-12 AWG), screw terminal, switched live power output
7	Neutral	(1) 1 x 1.5 - 2.5 mm ² (14-12 AWG), screw terminal, neutral
8	Live	(1) 1 x 1.5 - 2.5 mm ² (14-12 AWG), screw terminal, live power input
9	Earth	(1) screw post, ground

Return and Warranty Policies

Merchandise Returns / Repair Service

1. No merchandise may be returned for credit, exchange or service without prior authorization from Crestron. To obtain warranty service for Crestron products, contact an authorized Crestron dealer. Only authorized Crestron dealers may contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number and return address.
2. Products may be returned for credit, exchange or service with a Crestron Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to Crestron, 6 Volvo Drive, Rockleigh, N.J. or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. Crestron reserves the right in its sole and absolute discretion to charge a 15% restocking fee plus shipping costs on any products returned with an RMA.
3. Return freight charges following repair of items under warranty shall be paid by Crestron, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

Crestron Limited Warranty

Crestron Electronics, Inc. warrants its products to be free from manufacturing defects in materials and workmanship under normal use for a period of three (3) years from the date of purchase from Crestron, with the following exceptions: disk drives and any other moving or rotating mechanical parts, pan/tilt heads and power supplies are covered for a period of one (1) year; touch screen display and overlay components are covered for 90 days; batteries and incandescent lamps are not covered.

This warranty extends to products purchased directly from Crestron or an authorized Crestron dealer. Purchasers should inquire of the dealer regarding the nature and extent of the dealer's warranty, if any.

Crestron shall not be liable to honor the terms of this warranty if the product has been used in any application other than that for which it was intended or if it has been subjected to misuse, accidental damage, modification or improper installation procedures. Furthermore, this warranty does not cover any product that has had the serial number altered, defaced or removed.

This warranty shall be the sole and exclusive remedy to the original purchaser. In no event shall Crestron be liable for incidental or consequential damages of any kind (property or economic damages inclusive) arising from the sale or use of this equipment. Crestron is not liable for any claim made by a third party or made by the purchaser for a third party.

Crestron shall, at its option, repair or replace any product found defective, without charge for parts or labor. Repaired or replaced equipment and parts supplied under this warranty shall be covered only by the unexpired portion of the warranty.

Except as expressly set forth in this warranty, Crestron makes no other warranties, expressed or implied, nor authorizes any other party to offer any warranty, including any implied warranties of merchantability or fitness for a particular purpose. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty. This warranty statement supersedes all previous warranties.

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