HD-TXU-4KZ-211-CHGR

DM Lite® 4K60 4:4:4 Transmitter and 2x1 Auto-Switcher for HDMI®, USB-C® DisplayPort™, and USB 2.0 Signal Extension over CATx Cable with Device Charging

- *DM Lite® transmitter functionality designed to interoperate with a DM Lite HD-RXU-4KZ Series receiver*
- *Point-to-point extension of an HDMI® or USB-C® DisplayPort™ signal and USB 2.0 data signals over a CAT5e or higher cable*
- *Two inputs with automatic switching:*
  - *One HDMI input with associated USB 2.0 USB-C input*
  - *One USB-C input with DisplayPort Alt Mode capability, USB 2.0 support, and charging capability*
- *DM Lite transmission distance up to 130 ft (40 m) for UHD and 4K signals or up to 230 ft (70 m) for 1080p, WUXGA, and 2K signals*
- *4K60 4:4:4 capability*
- *HDR10, HDR10+, and Dolby Vision® video formats*
- *Enterprise-grade security*
- *Compliance with HDCP 2.3*
- *Integrated web server for device configuration and management*
- *Automatic display control using CEC (Consumer Electronics Control)*
- *EDID management*
- *Interoperability with a Crestron 3-Series® or later control system*
- *XiO Cloud® service support*
- *.AV Framework™ technology support*
- *Compact, surface-mountable design*
- *Power from 24VDC power pack (included)*

The HD-TXU-4KZ-211-CHGR is a DM Lite® 4K60 4:4:4 transmitter designed to pair with a DM Lite® HD-RXU-4KZ Series receiver. The paired transmitter and receiver enable extension of HDMI® or USB-C® DisplayPort™ AV signals along with USB 2.0 data. This is useful in applications where an AV source is located remotely from its destination, such as a display, projector, or codec solution. A CAT5e or higher twisted pair cable must be used to connect the HD-TXU-4KZ-211-CHGR to the DM Lite receiver.[1]

Interoperability with HD-RXU-4KZ Series Receivers

For interoperability between the HD-TXU-4KZ-211-CHGR and an HD-RXU-4KZ Series receiver, the DM Lite output port of the HD-TXU-4KZ-211-CHGR must be connected to the DM Lite input port of the HD-RXU-4KZ Series receiver.

> **NOTE:** USB 2.0 data extension is not supported if the HD-TXU-4KZ-211-CHGR is paired with a DM Lite receiver other than an HD-RXU-4KZ Series receiver or paired with a DMPS Lite™ switcher.

4K60 4:4:4 and HDR Support

The HD-TXU-4KZ-211-CHGR supports video resolutions up to 4K60 with 4:4:4 color sampling. HDR10, HDR10+, and Dolby Vision® video formats are also supported.[2]

Integrated Web Server

The HD-TXU-4KZ-211-CHGR includes a web server for device configuration and management. The web server also enables device, network, and other types of status information to be viewed.

Automatic Switching of Inputs

The web interface of the HD-TXU-4KZ-211-CHGR or control system programming can be used to configure AV switching behavior. Switching between the HDMI and USB-C DisplayPort inputs occurs based on the last connected input or on the routing priority assigned to each input. In addition, input selection push buttons on the front of the HD-TXU-4KZ-211-CHGR enable the desired input to be selected manually.

USB 2.0 Data Extension

Two USB 2.0 host ports and one USB 2.0 device port are provided on the HD-TXU-4KZ-211-CHGR, enabling connection to a wide variety of supported USB 2.0 peripheral devices.[3]

USB-C DisplayPort Input with Charging Capability

The USB-C DisplayPort input can charge a connected AV source such as a laptop with up to 60W of power.

Compact, Surface-Mountable Design

Compact in design, the HD-TXU-4KZ-211-CHGR can be mounted onto a flat surface such as the underside of a table, behind a credenza, or inside a podium. It can also be attached to a single rack rail in the back of an equipment cabinet. The HD-TXU-4KZ-211-CHGR receives power from the included power pack.[4]

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Specifications

Video

Input Signal Types
HDMI® (DVI and Dual-Mode DisplayPort™ interface compatible[4]) and DisplayPort over USB-C® (DisplayPort Alt Mode) with HDR10, HDR10+, Dolby Vision®, Deep Color, and 4K60 4:4:4 support[2]

Output Signal Type
DM Lite® with HDR10, HDR10+, Dolby Vision, Deep Color, and 4K60 4:4:4 support[2]

Copy Protection
HDCP 2.3

Resolutions
Common resolutions are listed in the following table.

Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
Progressive	4096x2160 DCI 4K & 3840x2160 4K UHD	24 Hz	4:4:4	12 bit
		30 Hz	4:4:4	12 bit
		60 Hz	4:2:2	12 bit
		60 Hz	4:4:4	8 bit
	2560x1600 WQXGA	60 Hz	4:4:4	8 bit
	1920x1080 FHD 1080p	60 Hz	4:4:4	12 bit
Interlaced (HDMI input only)	1920x1080 HD 1080i	30 Hz	4:4:4	12 bit

NOTES:
- The maximum supported resolution is 4K60 with 4:4:4 color sampling. Custom resolutions are supported at pixel clock rates up to 600 MHz.
- The USB-C DisplayPort input does not support interlaced video.

Audio

Input Signal Types
HDMI, DisplayPort over USB-C (DisplayPort Alt Mode)

Output Signal Type
DM Lite

Digital Formats
Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby® TrueHD, Dolby Atmos®, DTS®, DTS ES, DTS 96/24, DTS HD® High Res, DTS-HD Master Audio, DTS:X®, LPCM up to 8 channels

Communications

HDMI HDCP 2.3, EDID, CEC

USB-C HDCP 2.3, EDID, CEC; USB 2.0 up to 300 Mbps

USB USB signal extension via USB 2.0 host and device ports

DM Lite HDCP 2.3, EDID; USB 2.0 up to 300 Mbps

Ethernet 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP, Web browser setup and control, Crestron control system integration, IEEE 802.1X, Secure CIP, Authentication, SSH/SSL, TLS

Connectors

SERVICE (1) USB 2.0 Type-A connector, female; Used for firmware loading and configuration management; Can also provide up to 5V 500 mA power to a USB powered device

24V 4.5A (1) 2.1 x 5.5 mm DC power connector; 24VDC power input; PW-2475DU power pack included[4]

60W USB, INPUT 1 (1) USB Type-C® connector, female; Digital video/audio input using DisplayPort Alt Mode;[5] USB 2.0 data support; Can also charge connected AV source with up to 60W of power[5]

HDMI, INPUT 2 (1) HDMI Type A connector, female; HDMI digital video/audio input; DVI and Dual-Mode DisplayPort interface compatible[6]

DEVICE, INPUT 2 (1) USB Type-C® connector, female; USB 2.0 device port associated with HDMI input for AV sources that require USB 2.0 support; USB signal extender port for connection to a computer or other USB 2.0 host[3]

HOST (2) USB Type-A connectors, female; USB 2.0 host ports; USB signal extender ports for connection to USB mice, keyboards, or other USB 2.0 devices;[3] Available Power: 500 mA @ 5VDC per port

DigitalMedia™

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DM LITE OUT	(1) 8-pin RJ-45 yellow connector, female, shielded; DM Lite output port for connection to a DM Lite HD-RXU-4KZ Series receiver[1]
LAN	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port for device configuration and management
Ground	(1) Chassis ground lug

Controls and Indicators

PWR	(1) LED, indicates that power is being applied to the device. Amber indicates that the device is booting. Green indicates that the device is operational.
AUTO	(1) Push button for enabling or disabling automatic switching of inputs; (1) LED, green indicates that automatic switching of inputs is enabled
SETUP	(1) Push button for Ethernet setup; (1) LED, red indicates that the SETUP push button is pressed
INPUT 1	(1) Push button for manual selection of USB-C DisplayPort input; (1) LED, green indicates that the USB-C DisplayPort input is routed to an output, and amber indicates that a source is detected but is not routed to an output
INPUT 2	(1) Push button for manual selection of HDMI input; (1) LED, green indicates that the HDMI input is routed to an output, and amber indicates that a source is detected but is not routed to an output
DM LITE OUT	(2) LEDs on RJ-45 connector; Green indicates that a DM Lite link is established; Flashing amber indicates non-HDCP video, and solid amber indicates HDCP video.
LAN	(2) LEDs on RJ-45 connector; Green indicates that a 100 Mbps link is established; Solid amber indicates that a 1000 Mbps link is established; Flashing amber indicates 1000 Mbps Ethernet activity

Power

Power Pack (Included)	Input: 100-240VAC Output: 24VDC 7.5A Model: PW-2475DU[4]

Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	20% to 90% RH (non-condensing)

Enclosure

Chassis	Metal, black finish, vented top, front, rear, and sides, 2 mounting brackets included
Mounting	Freestanding, surface mountable, or attachment to a single rack rail

Dimensions

Height	1.20 in. (30 mm)
Width	8.52 in. (216 mm)
Depth	6.48 in. (165 mm)

Weight

1.96 lb (0.89 kg)

Compliance

Regulatory Model: M202047007

Intertek® Listed for US and Canada, CE, IC, FCC Part 15 Class B digital device

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

Model

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Included Accessory

PW-2475DU
Desktop Power Pack, 24VDC, 7.5A

Available Accessories

For a list of available accessories, visit the HD-TXU-4KZ-211-CHGR product page.

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DM Lite® 4K60 4:4:4 Transmitter and 2x1 Auto-Switcher for HDMI®, USB-C® DisplayPort™, and USB 2.0 Signal Extension over CATx Cable with Device Charging

1. For DM Lite connections, use Crestron DM-CBL-8G, Crestron DM-CBL-ULTRA, or third-party CAT5e or higher cable. For information about the maximum transmission distance for each cable type, refer to Online Help Answer ID 1001567.

   To safeguard against unpredictable environmental electrical noise that may impact performance at resolutions above 1080p, shielded cable and connectors are recommended for all applications and are required when bundling multiple cables in a wire run. Cables are sold separately.

2. For HDMI inputs, 4K60 4:4:4 performance and HDR support require the use of HDMI cables and couplers with a minimum TMDS bandwidth of 18 Gbps. If 4K60 4:2:0 or 4K30 4:4:4 performance is acceptable, cables and couplers with a minimum bandwidth of 10.2 Gbps may be used. Bandwidth loss is cumulative; therefore, performance may be reduced when inserting multiple cables and couplers inline.

   For USB-C DisplayPort inputs, 4K60 4:4:4 performance and HDR support require the use of USB 3.2 Gen 1 (5 Gbps) cables with support for DisplayPort Alt Mode (DisplayPort 1.4 video, 4K60 4:4:4, 2 lanes). Cables are sold separately.

3. The HD-TXU-4KZ-211-CHGR is engineered to deliver maximum compatibility with the widest possible range of USB devices. Crestron does not guarantee that all USB devices are compatible with the HD-TXU-4KZ-211-CHGR.

4. The HD-TXU-4KZ-211-CHGR is powered by the included power pack. The HD-TXU-4KZ-211-CHGR cannot receive power from a remote DM Lite receiver.

5. CBL-USB3G1-C-C-6 and CBL-USB3G2-C-C-3 cables are sold separately.

6. The HDMI input requires an appropriate adapter or interface cable to accommodate a Dual-Mode DisplayPort or DVI signal. CBL-HD-DVI interface cables are sold separately.

This product may be purchased from select authorized Crestron dealers and distributors. To find a dealer or distributor, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/How-To-Buy/Find-a-Representative or contact us for additional information by visiting www.crestron.com/contact/our-locations for your local contact.

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

The product warranty can be found at www.crestron.com/warranty.

The specific patents that cover Crestron products are listed online at patents.crestron.com.

Certain Crestron products contain open-source software. For specific information, please visit www.crestron.com/opensource.

HDMI

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8.52 in.
(216 mm)

8.36 in.
(212 mm)

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HD-TXU-4KZ-211-CHGR
DM LITE 4K
TRANSMITTER
HDMI

PWR — AUTO — SETUP — INPUT 1 2   SERVICE

6.28 in.   6.48 in.
(160 mm)   (165 mm)

PWR — AUTO — SETUP — INPUT 1 2   SERVICE
CRESTRON   HD-TXU-4KZ-211-CHGR

1.20 in.
(30 mm)

1.12 in.
(28 mm)

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