DM® Essentials 4K60 4:4:4 Transmitter and 2x1 Auto-Switcher for HDMI® and USB-C® DisplayPort™ Signal Extension over CATx Cable, Wall Plate

- *Point-to-point extension of an HDMI® or USB-C® DisplayPort™ signal over CAT5e or higher cable*
- *USB-C input with DisplayPort Alt Mode capability*
- *DM® Essentials 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*
- *Compliance with HDCP 2.3*
- *Automatic switching of HDMI and USB-C DisplayPort inputs*
- *CEC (Consumer Electronics Control) pass-through capability*
- *Two-gang wall plate design available in black or white finish*
- *Decorator style faceplate required (FP-G2-DM Series sold separately)*
- *Power from the remote DM Essentials receiver (surface mountable only) or DMPS Essentials switcher*

The HD-TX-4KZ-211-2G is a DM® Essentials 4K60 4:4:4 wall plate transmitter designed to interoperate with a DM Essentials receiver or DMPS Essentials switcher. The paired transmitter and receiver enable extension of HDMI® or USB-C® DisplayPort™ AV signals. 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 used to connect the HD-TX-4KZ-211-2G to the DM Essentials receiver or DMPS Essentials switcher.[1]

The HD-TX-4KZ-211-2G is available in two models: HD-TX-4KZ-211-2G-B (black) and HD-TX-4KZ-211-2G-W (white).

Interoperability with a DM Essentials Receiver or DMPS Essentials Switcher

The DM Essentials output port of the HD-TX-4KZ-211-2G must be connected to a DM Essentials input port of a DM Essentials receiver or DMPS Essentials switcher.

The HD-TX-4KZ-211-2G can be configured and controlled only when it is used with a DMPS Essentials switcher. The web interface of the switcher can be used to configure the HD-TX-4KZ-211-2G. In addition, control system programming and .AV Framework™ software support of the HD-TX-4KZ-211-2G is hosted by the switcher.

4K60 4:4:4 and HDR Support

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

Automatic Switching of Inputs

When the HD-TX-4KZ-211-2G is used with a DMPS Essentials switcher, the web interface of the switcher or control system programming hosted by the switcher can be used to configure the 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, the input selection push button on the front of the HD-TX-4KZ-211-2G enables the desired input to be selected manually.

Two-Gang Wall Plate Design

The HD-TX-4KZ-211-2G is designed to mount into a 2-gang U.S. electrical box or plaster ring (not included). The HD-TX-4KZ-211-2G can receive power from the remote DM Essentials receiver (surface mountable only) or DMPS Essentials switcher.[3]

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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® Essentials 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 Essentials
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, CEC pass-through[4]
USB-C	HDCP 2.3, CEC pass-through[4]
DM Essentials	HDCP 2.3

Connectors

HDMI IN	(1) HDMI Type A connector, female; HDMI digital video/audio input; DVI and Dual-Mode DisplayPort interface compatible[5]
USB IN	(1) USB Type C® connector, female; Digital video/audio input using DisplayPort Alt Mode[6]
DM OUT	(1) 8-pin RJ-45 yellow connector, female, shielded; DM Essentials output port for connection to a DM Essentials receiver or DMPS Essentials switcher[1]
24V 0.7A	(1) 2-pin 3.5 mm detachable terminal block; 24VDC power input; Power pack sold separately, required only if the HD-TX-4KZ-211-2G is used with a wall plate receiver[3]
Ground	(1) Chassis ground lug

Controls and Indicators

PWR	(1) Bicolor amber/green 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 (applicable only when used with a DMPS Essentials switcher); (1) LED, red indicates that the SETUP push button is pressed
LINK	(1) LED, green indicates that a DM Essentials link is established
INPUT	(1) Push button for manual input selection

HDMI IN	(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
USB IN	(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
RESET	(1) Push button for restoring the device to factory default settings
DM OUT	(2) LEDs on RJ-45 connector Green indicates that a DM Essentials link is established Flashing amber indicates non-HDCP video, and solid amber indicates HDCP video

Power

Power Pack	Input: 100-240VAC Output: 24VDC 0.75A Model: PW-2407WUL (sold separately, required only if the HD-TX-4KZ-211-2G is used with a wall plate receiver)[3]

Environmental

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

Construction

Chassis	Metal housing and bracket with black or white polycarbonate front label overlay
Mounting	Mounts in a 2-gang (or larger) 2-inch (51 mm) deep U.S. electrical box or plaster ring (not included)
Faceplate	Requires a decorator style faceplate (FP-G2-DM Series, sold separately)

Dimensions

Height	4.12 in. (105 mm)
Width	3.57 in. (91 mm)
Depth	1.66 in. (42 mm)

Weight

7.33 oz (208 g)

Compliance

Regulatory Model: M202046004

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

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

Models

HD-TX-4KZ-211-2G-B
DM® Essentials 4K60 4:4:4 Transmitter and 2x1 Auto-Switcher for HDMI® and USB-C® DisplayPort™ Signal Extension over CATx Cable, Wall Plate, Black

HD-TX-4KZ-211-2G-W
DM® Essentials 4K60 4:4:4 Transmitter and 2x1 Auto-Switcher for HDMI® and USB-C® DisplayPort™ Signal Extension over CATx Cable, Wall Plate, White

Available Accessories

For a list of available accessories, visit the HD-TX-4KZ-211-2G-B or HD-TX-4KZ-211-2G-W product page.

Notes:

1. For DM Essentials 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. When a DM Essentials wall plate transmitter is paired with a DM Essentials surface-mountable receiver, the power pack included with the receiver is used to power both devices.

   When a DM Essentials transmitter is paired with a DMPS Essentials switcher, the switcher provides power to the DM Essentials transmitter.

   If a wall plate transmitter is paired with a wall plate receiver, the devices must be powered independently by a PW-2407WUL power pack (sold separately) for each device. A wall plate transmitter and wall plate receiver cannot provide power to the remote device with which it is paired.

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4. EDID pass-through is not supported. To pass a 4K-capable source to a non-4K display, input EDID settings will need to be configured by temporarily connecting the HD-TX-4KZ-211-2G to a HD-PS401/402/621/622 or HD-RX-4K-210-C-E (sold separately) and using that device's web interface.

5. 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.

6. CBL-USB3G1-C-C-6 and CBL-USB3G2-C-C-3 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.

This product is covered under the Crestron standard limited warranty. Refer to www.crestron.com/warranty for full details.

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.

Specifications are subject to change without notice.

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3.57 in.
(91 mm)

4.12 in.
(105 mm)

0.19 in.
(5 mm)

2.62 in.
(67 mm)

2.74 in.
(70 mm)

1.47 in.
(37 mm)

3.56 in.
(90 mm)