DM-RMC-4KZ-100-C

DigitalMedia™

DigitalMedia 8G+® 4K60 4:4:4 HDR Receiver & Room Controller 100

- *DigitalMedia 8G+® receiver and display controller*
- *Connects to a DM® switcher or transmitter over a single CAT type twisted pair cable [1]*
- *HDBaseT® compatible — Enables direct connection to other HDBaseT certified equipment*
- *Provides one HDMI® or DVI display output [2,3]*
- *Handles UHD and 4K video resolutions up to 4K60 4:4:4 [2]*
- *Handles HDR (High Dynamic Range) video (HDR10) [2]*
- *Handles 3D video and Deep Color*
- *Handles Dolby® TrueHD, Dolby Atmos®, DTS HD®, DTS:X®, and uncompressed 7.1 linear PCM audio*
- *HDCP 2.2 compliant*
- *Supports cable lengths up to 330 ft (100 m) for all resolutions up to UHD and 4K using DM Ultra cable [1]*
- *Supports cable lengths up to 330 ft (100 m) for 1080p, WUXGA, and 2K using DM 8G® cable or CAT5e [1]*
- *Supports cable lengths up to 230 ft (70 m) for UHD and 4K using DM 8G cable, or 165 ft (50 m) using CAT5e [1]*
- *Provides a 10/100 Ethernet LAN connection*
- *Enables device control via CEC, IR, RS-232, and Ethernet*
- *Compatible with Crestron® USB over Ethernet Extenders [6]*
- *Allows quick, easy setup and diagnostics*
- *Low-profile surface mount design*
- *Powered via the DM connection or optional power pack (sold separately) [4,5]*

The DM-RMC-4KZ-100-C provides a simple one-box interface solution for a single display device as part of a complete Crestron® DigitalMedia™ system. It functions as a DM 8G+® receiver and control interface, providing a single HDMI® output along with Ethernet, RS-232, and IR control ports. In addition to DM 8G+, it is also compatible with HDBaseT®, which allows it to be connected directly to an HDBaseT certified source. Its compact, low-profile design allows the DM-RMC-4KZ-100-C to be installed discreetly behind a flat panel display or above a ceiling mounted projector. It connects to the head end or source location using a single CAT type twisted pair cable.[1,2]

4K60 4:4:4 & HDR Support

Crestron DigitalMedia (DM®) was the world's first AV signal distribution solution to deliver end-to-end 4K signal management for large-scale commercial and residential applications. DM "4KZ" endpoints and cards enable new and existing DM systems to handle full 4K60 4:4:4 video signals, as well as HDR video signals (HDR10), without having to replace any wiring or switchers. Any Crestron DM system that supports 4K can be upgraded to handle 4K60 4:4:4 and HDR by simply installing DM 4KZ based cards, transmitters, and receivers. The DM-RMC-4KZ-100-C is designed to replace an existing DM-RMC-4K-100-C receiver without requiring any extra configuration or programming.[2]

DM 4KZ technology employs VESA® Display Stream Compression (DSC) to enhance the capabilities of DigitalMedia to handle the extreme bandwidth requirement of resolutions beyond 4K30 4:4:4 and 4K60 4:2:0. DSC is a lightweight, line-based 2:1 compression standard that delivers visually lossless performance for 4K60 4:4:4 and HDR signals. DSC is applied only to 4K60 4:4:4 and HDR input signals. All other signals are transported uncompressed.

DigitalMedia 8G+®

Engineered for ultra high-bandwidth and ultimate scalability, DigitalMedia 8G+ (DM 8G+) provides a true one-wire lossless transport for moving high-definition video, audio, power, Ethernet, and control signals over twisted pair copper wire. DM 8G+ transports uncompressed Full HD 1080p, WUXGA, and 2K signals over distances up to 330 feet (100 m) using Crestron DM Ultra Cable, Crestron DM 8G® Cable, or third-party CAT5e. Higher resolution signals up to UHD and 4K are supported over distances up to 330 feet (100 m) using DM Ultra Cable, 230 feet (70 m) using DM 8G Cable, or 165 feet (50 m) using CAT5e.[1]

HDBaseT® Compatible

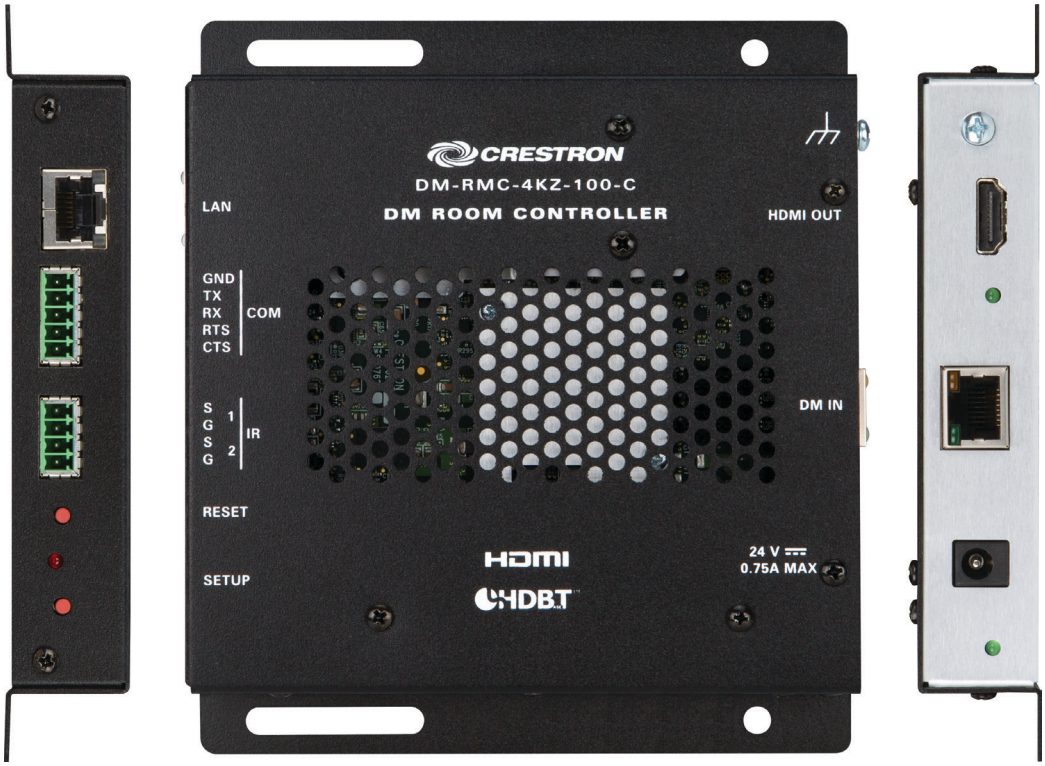
Crestron DigitalMedia 8G+ technology is designed using HDBaseT Alliance specifications, ensuring interoperability with other HDBaseT certified products. Via its DM 8G+ input, the DM-RMC-4KZ-100-C can be connected directly to an HDBaseT compliant source without requiring a DM transmitter.

Multimedia Display Interface

A single HDMI digital AV output port is provided on the DM-RMC-4KZ-100-C for connection to a display or other device. The HDMI output can also handle DVI signals using an appropriate adapter or interface cable.[2,3]

A single CAT type cable connects the DM-RMC-4KZ-100-C to a DM switcher or transmitter, or to an HDBaseT source, transporting video, audio, control, networking, and power signals all through one simple RJ45 connection.[1,4,5] Multiple DM-RMC-4KZ-100-Cs may be installed to handle each display in a multiroom distribution system, all fed from a central DM-MD series switcher. Or, a single DM-RMC-4KZ-100-C can be fed straight from a DM 8G+ or HDBaseT transmitter, affording a simple solution for extending a computer or AV signal to a single display.

DM-RMC-4KZ-100-C DM 8G+® 4K60 4:4:4 HDR Receiver & Room Controller 100



DM-RMC-4KZ-100-C – Left, Front, and Right Side Views

LAN Connectivity

Along with high-definition AV and control, DigitalMedia also integrates high-speed Ethernet networking for a total signal distribution solution. The DM-RMC-4KZ-100-C includes a 10/100 Ethernet port, which can be used to provide a convenient LAN connection for a local network device.

Embedded Device Control

The DM-RMC-4KZ-100-C includes built-in RS-232, IR, and Ethernet control ports to enable programmable control of the display device connected to it (via a control system). It also offers an alternative to such conventional control methods by harnessing the CEC (Consumer Electronics Control) signal embedded in HDMI. Through its connection to the control system, the DM-RMC-4KZ-100-C provides a gateway for controlling the display device right through the HDMI connection, potentially eliminating the need for any dedicated control wires or IR emitters.

USB Signal Extension (optional)

DigitalMedia allows for the routing of USB signals alongside video and audio. USB signal extension is enabled on the DM-RMC-4KZ-100-C by adding a Crestron USB over Ethernet Extender Module (model USB-EXT-DM-LOCAL or USB-EXT-DM-REMOTE).[6]

Low-Profile Installation

The DM-RMC-4KZ-100-C mounts conveniently to a wall, ceiling, or other flat surface. At just over one inch deep, it fits easily behind a flat panel display or above a ceiling-mounted projector. The unit can be powered using PoDM (Power over DigitalMedia) or an optional wall mount power pack (PW-2407WU) for a true one-wire solution.[4,5]

All connections and LED indicators are positioned on the sides, ensuring optimal access and visibility for a clean, serviceable installation. An array of indicators is provided for easy setup and troubleshooting.

Please refer to the DigitalMedia webpage at https://www.crestron.com/digitalmedia *for additional design tools and reference documents.*

SPECIFICATIONS

Video

Maximum Resolutions:

Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
Progressive	4096x2160 DCI 4K & 3840x2160 4K UHD	24 Hz	4:4:4	36 bit
		30 Hz	4:4:4	36 bit
		60 Hz	4:2:2	36 bit
		60 Hz	4:4:4	24 bit
	2560x1600 WQXGA	60 Hz	4:4:4	36 bit
	1920x1080 HD1080p	60 Hz	4:4:4	36 bit
Interlaced	1920x1080 HD1080i	30 Hz	4:4:4	36 bit

NOTE: Common resolutions are shown; other custom resolutions are supported at pixel clock rates up to 600 MHz

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Input Signal Types: DM 8G+ & HDBaseT w/HDR10, Deep Color, 3D, & 4K60 4:4:4 support
Output Signal Types: HDMI w/HDR10, Deep Color, 3D, & 4K60 4:4:4 support [2] (DVI compatible [3])
Copy Protection: HDCP 2.2

Audio

Input Signal Types: DM 8G+, HDBaseT
Output Signal Type: HDMI
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

Ethernet: 10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
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 (0-5 Volts) up to 19.2k baud (via control system)
DigitalMedia: DM 8G+, HDCP 2.2, EDID, CEC, PoDM, Ethernet
HDBaseT: HDCP 2.2, EDID, CEC, RS-232, PoE, Ethernet
HDMI: HDCP 2.2, EDID, CEC

NOTE: Supports management of HDCP and EDID; supports management of CEC between the connected HDMI device and a control system

Connectors

LAN: (1) 8-pin RJ45 connector, female, shielded;
10Base-T/100Base-TX Ethernet port

COM: (1) 5-pin 3.5 mm detachable terminal block;
Bidirectional RS-232 port;
Up to 115.2k baud, hardware and software handshaking support

IR 1 – 2: (1) 4-pin 3.5 mm detachable terminal block;
Comprises (2) IR/Serial ports;
IR output up to 1.1 MHz;
1-way serial TTL/RS-232 (0-5 Volts) up to 19200 baud

24VDC 0.75A MAX: (1) 2.1 x 5.5 mm DC power connector;
24 Volt DC power input;
PW-2407WU power pack (optional, sold separately)

DM IN: (1) 8-pin RJ45 connector, female, shielded;
DM 8G+ input, HDBaseT compliant;
PoDM PD port (HDBaseT PoE compatible) [4,5];
Connects to the DM 8G+ output of a DM switcher, transmitter, or other DM device, or to an HDBaseT device, via CAT5e, Crestron DM-CBL-8G, or Crestron DM-CBL-ULTRA cable [1]

HDMI OUT: (1) HDMI Type A connector, female;
HDMI digital video/audio output (DVI compatible [3]) [2]

Ground: (1) 6-32 screw;
Chassis ground lug

Controls & Indicators

LAN: (2) LEDs, green LED indicates Ethernet link status, amber LED indicates Ethernet activity
RESET: (1) Recessed pushbutton, for hardware reset
SETUP: (1) Red LED and (1) recessed pushbutton, for Ethernet setup
24VDC: (1) Green LED, indicates operating power supplied via PoDM, HDBaseT PoE, or optional local power pack
DM IN: (2) LEDs, green LED indicates DM link status, amber LED indicates video and HDCP signal presence
HDMI OUT: (1) Green LED, indicates video signal presence at the HDMI output

Power

Power over DM (PoDM): IEEE 802.3at Type 1 Class 0 (12.95 W) compliant PoDM PD (Powered Device), capable of being powered by a PoDM PSE (Power Sourcing Equipment) [4]

Power over HDBaseT: IEEE 802.3at Type 1 Class 0 (12.95 W) compliant HDBaseT PoE PD (Powered Device), capable of being powered by an HDBaseT PoE PSE (Power Sourcing Equipment) [5]

Power Pack (Optional): Input: 100-240 Volts AC, 50/60 Hz
Output: 0.75 Amps @ 24 Volts DC
Model: PW-2407WU (sold separately)

Environmental

Temperature: 32° to 104° F (0° to 40° C)
Humidity: 10% to 90% RH (non-condensing)

Enclosure

Chassis: Metal, black finish, with (2) integral mounting flanges; vented front, top, and bottom
Mounting: Freestanding, surface mount, or attach to a single rack rail

Dimensions

Height: 6.09 in (155 mm)
Width: 5.63 in (143 mm)
Depth: 1.08 in (28 mm)

Weight

16.5 oz (468 g)

Compliance

UL Listed for US & Canada, CE, IC, FCC Part 15 Class B digital device

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Maximum Cable Lengths

Cable Type: / Resolution:	DM-CBL-ULTRA DM® Ultra Cable	DM-CBL-8G DM 8G® Cable	CAT5e (or better) [1]
1920x1080 FHD 1080p	330 ft (100 m)	330 ft (100 m)	330 ft (100 m)
1920x1200 WUXGA			
1600x1200 UXGA			
2048x1080 DCI 2K			
2048x1152 QWXGA			
2560x1080 UWFHD		230 ft (70 m)	165 ft (50 m)
2560x1440 WQHD			
2560x1600 WQXGA			
3840x2160 4K UHD			
4096x2160 DCI 4K			

MODELS & ACCESSORIES

Available Models

DM-RMC-4KZ-100-C: DigitalMedia 8G+® 4K60 4:4:4 HDR Receiver & Room Controller 100

Available Accessories

PW-2407WU: Wall Mount Power Pack 24VDC, 0.75A, Universal
DM-CBL-ULTRA-PC Series: DigitalMedia™ Ultra Patch Cables
DM-CONN-ULTRA-RECP Series: DigitalMedia™ Ultra Keystone RJ45 Jacks
DM-CBL-ULTRA-NP Series: DigitalMedia™ Ultra Cable, Non-Plenum Type CMR
DM-CBL-ULTRA-P Series: DigitalMedia™ Ultra Cable, Plenum Type CMP
DM-CBL-ULTRA-LSZH Series: DigitalMedia™ Ultra Cable, Low Smoke Zero Halogen
DM-CONN-20: Connectors for DM-CBL-ULTRA DigitalMedia Ultra Cable, 20-Pack
DM-CBL-8G-NP Series: DigitalMedia 8G™ Cable, non-plenum
DM-CBL-8G-P Series: DigitalMedia 8G™ Cable, plenum
DM-8G-CONN-WG-100: Connectors with Wire Guide for DM-CBL-8G DigitalMedia 8G™ Cable, 100-Pack
DM-8G-CRIMP-WG: Crimping Tool for DM-8G-CONN-WG
DM-PSU-ULTRA-MIDSPAN: DigitalMedia™ Ultra Midspan PoDM++ Injector
CBL Series: Crestron® Certified Interface Cables
IRP2: IR Emitter w/Terminal Block Connector
USB-EXT-DM-LOCAL: USB over Ethernet Extender with Routing, Host Module
USB-EXT-DM-REMOTE: USB over Ethernet Extender with Routing, 4-Port Device Module

Notes:

1. The maximum cable length for DigitalMedia 8G+ (DM 8G+) or HDBaseT is dependent upon the type of cable and resolution of the video signal. Refer to the “Maximum Cable Lengths” table for a detailed overview. Crestron legacy cable models DM-CBL DigitalMedia Cable and DM-CBL-D DigitalMedia D Cable support the same resolutions and cable lengths as CAT5e. Shielded cable and connectors are required when bundling multiple cables in a wire run, and are recommended for all applications to safeguard against unpredictable environmental electrical noise which may impact performance at resolutions above 1080p. Refer to the Crestron DigitalMedia Design Guide, Doc. #4546 for complete system design guidelines. DM 8G+ is compatible with HDBaseT Alliance specifications for connecting to HDBaseT compliant equipment. All wire and cables are sold separately.
2. 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. Please be aware that bandwidth loss is cumulative, so performance may be reduced when inserting multiple cables and couplers inline.
3. The HDMI output requires an appropriate adapter or interface cable to accommodate a DVI signal. CBL-HD-DVI interface cables are available separately.
4. To power the DM-RMC-4KZ-100-C using PoDM (Power over DigitalMedia) requires connection to a DM switcher or other equipment that has a PoDM PSE port. Any wiring that is connected to a PoDM PSE port is for intra-building use only and should not be connected to a line that runs outside of the building in which the PSE is located.
5. To power the DM-RMC-4KZ-100-C using HDBaseT PoE requires connection to a switcher or other equipment that has an HDBaseT PoE PSE port. Any wiring that is connected to an HDBaseT PoE PSE port is for intra-building use only and should not be connected to a line that runs outside of the building in which the PSE is located.
6. USB over Ethernet Extender Modules are sold separately. Refer to the USB-EXT-DM-LOCAL and USB-EXT-DM-REMOTE spec sheets for more information.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at https://www.crestron.com/How-To-Buy/Find-a-Representative or by calling 855-263-8754.

The specific patents that cover this and other Crestron products are listed online at https://www.crestron.com/legal/patents.

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

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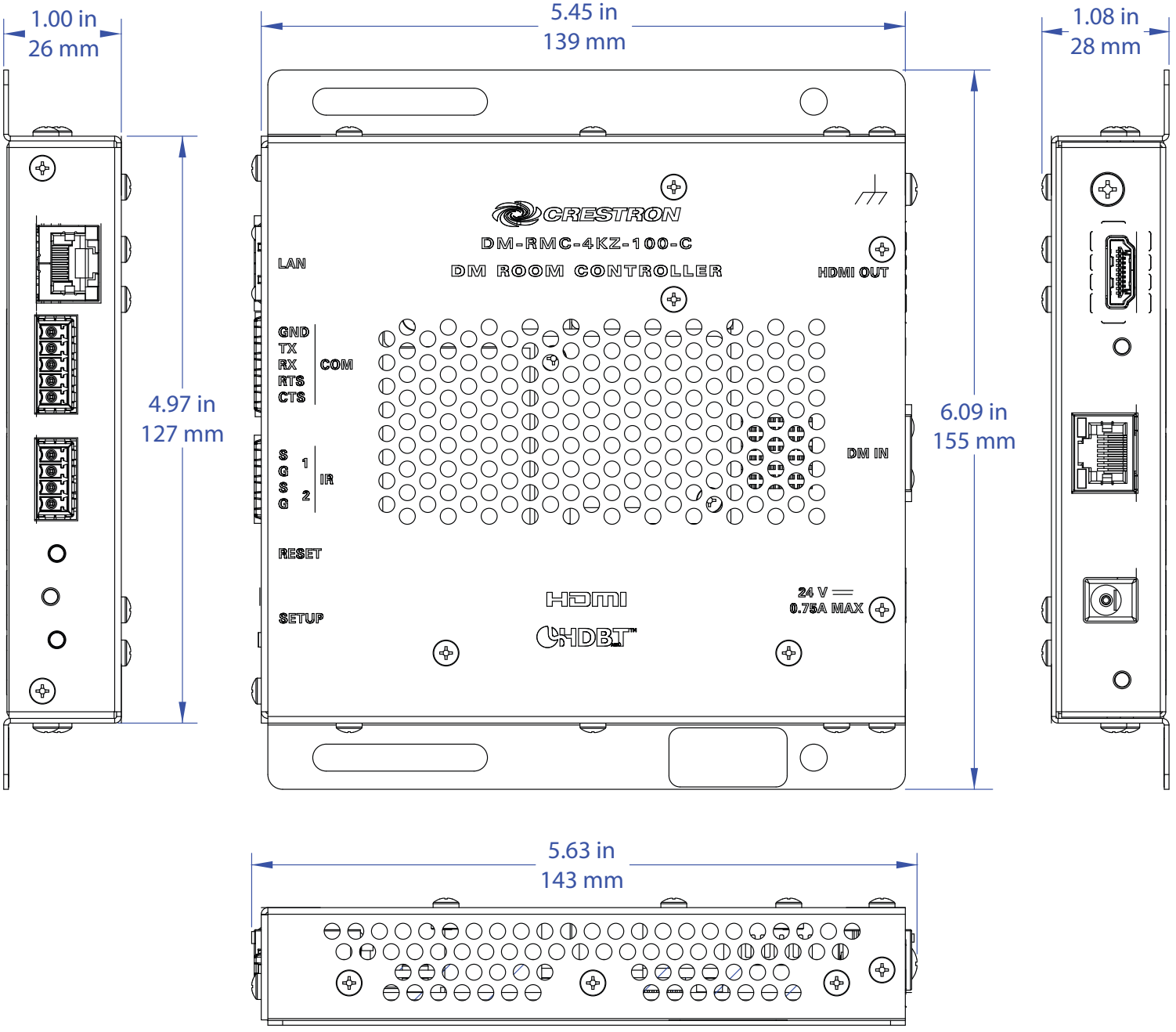

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