LIGHTWARE
INNOVATIVE. RELIABLE. MADE IN EUROPE.

Quick Start Guide

DA4-HDMI20-C
DA8-HDMI20-C

Important Safety Instructions

Please read and keep the information in the attached safety instructions supplied with the product before starting to use the device.

Introduction

Thank you for choosing Lightware's DA-HDMI20-C series distribution amplifier.

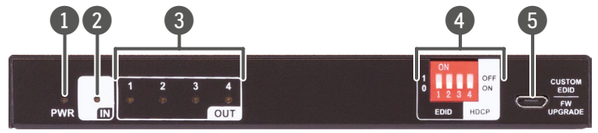
DA4-HDMI20-C 1x4 distribution amplifier distributes and amplifies one HDMI input signal to four HDMI outputs. This device supports HDMI video resolution up to 4K@60Hz 4:4:4, including multichannel audio formats. Besides passing EDID information from the display, there are multiple built-in EDID settings that can be selected with the 4-pin DIP switch on the front panel. The device also supports firmware update through a micro-USB port.

DA8-HDMI20-C is a compact distribution amplifier with built-in EDID Management and Pixel Accurate Reclocking, supporting DVI, HDMI 1.4, and HDMI 2.0 signals with or without HDCP encryption. The output signal is reclocked and stabilized to remove jitter caused by long cables or poor quality sources. Moreover, to ensure compatibility, the 4K signal on the output is automatically down-converted to HD when HD displays are connected.

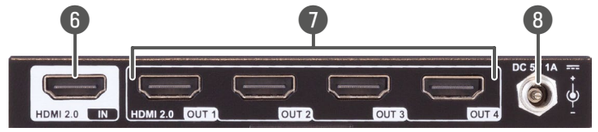
DA8-HDMI20-C features EDID Management and can emulate EDID to the video source even if no active HDMI display is attached to the outputs. HDCP enable/disable function turns off the HDCP capability on the input, which helps integrate certain laptops into a non-HDCP AV environment. There are 5 factory EDID presets and one programmable memory for storing a user EDID. This latter one can be uploaded through the USB connector. Moreover, the device can use any EDID read from the HDMI display device connected to its video output ports.

DA4-HDMI20-C

Front View



Rear view



1 **Power LED** — The LED lights in red when power is applied.

2 **Input LED** — The LED lights in green when HDMI signal is present on the input. The LED flashes when there is no HDCP encryption on the signal.

3 **Output LEDs** — The LEDs lights in green when HDMI signal is present on the respective output.

4 **DIP switch** — 4-pin DIP switch for EDID setting and HDCP mode selection.

5 **Micro-USB port** — Firmware update can be performed through this port.

6 **HDMI Input port** — Type-A female HDMI input port to connect an HDMI source.

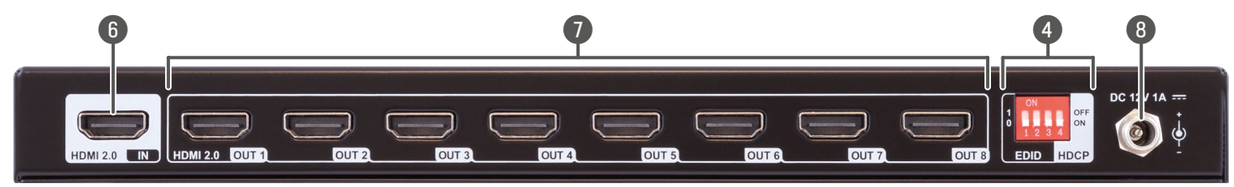
7 **HDMI Output ports** — Type-A female HDMI output ports to connect HDMI displays.

8 **DC 5V barrel port** — DC barrel connector to connect an AC power adapter.

DA8-HDMI20-C

Front View

Rear view



DIP Switch Operation

EDID Management

The DIP switch represents "1" when in the upper position, and "0" when in the lower position.

Switch 1-3 are used for setting the EDID. The DIP switch statuses and their corresponding settings are shown on the top of the product.

ID	DIP SET	Emulated EDID
000-	1 2 3 4	Copy from Output 1
001-	1 2 3 4	Priority select 1 → 2 → 3 → 4
010-	1 2 3 4	Custom EDID
011-	1 2 3 4	1920x1080p60 2ch PCM
100-	1 2 3 4	3840x2160p30 2ch PCM
101-	1 2 3 4	3840x2160p60 2ch PCM
110-	1 2 3 4	4096x2160p60 2ch PCM
111-	1 2 3 4	3840x2160p60, HDR, 4:2:0 2ch PCM

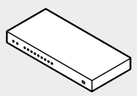
ℹ *If the DIP switch is set to 010- (Custom EDID), but there is no custom EDID present in the device, the EDID of the 101- position will be emulated automatically.*

HDCP Management

When the fourth switch is in the upper position, HDCP capability on the input is disabled. When it is in the lower position, HDCP capability is enabled.

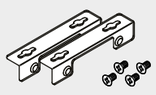
ON	1 2 3 4	**HDCP capability is enabled.**
OFF	1 2 3 4	**HDCP capability is disabled.**

Box Contents



Distributor Amplifier

5V DC Power Adaptor, Interchageable Plugs

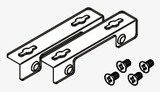
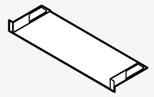


Mounting Ear Pack

Safety and Warranty Info, Quick Start Guide

Mounting Options

For the mounting of the devices Lightware supplies optional accessories for different usages. The device has two mounting holes with inner thread on the bottom side. Fasten the device by the screws enclosed to the accessory.

	 Mounting ear pack	 1U high rack shelf
DA4-HDMI20-C	✓	-
DA8-HDMI20-C	✓	✓

1U high rack shelf provides mounting holes for fastening one half rack sized unit and can be placed to a rack frame. The rack shelf can be ordered separately, please contact sales@lightware.com.

⚠ ***Using different (e.g. longer) screws may cause damage to the device.***

Features

- Resolutions of up to 4K@60Hz with 4:4:4 colorspace
- HDMI 2.0 and 1.x compliant
- HDCP 2.3 support
- Supports video resolution downscaling (e.g. 4K to 1080p) based on EDID
- 18 Gbps bandwidth
- Advanced EDID management: multiple built-in EDIDs can be selected
- Built-in equalizer for signal enhancement to avoid signal attenuation in transmission
- No signal latency, zero frame delay
- Supports CEC passthrough - **only for DA4 variant**
- LEDs indicate current operating status
- Firmware update via Micro-USB port

Firmware Update

Please follow the steps below to update the firmware of the device via the Micro-USB port:

1. Connect the device to the PC with a USB cable.
2. Power on the device. The PC will automatically detect a U-disk called "BOOTDISK".
3. Double-click on the U-disk to open it, and take note of a file named "READY.txt".
4. Copy the latest update file (.bin) directly to the "BOOTDISK" U-disk.
5. The "READY.txt" shall turn into "SUCCESS.txt" upon successful firmware update. If the update failed, please check the (.bin) file and then try the process described above again.
6. Remove the USB cable after the firmware update is complete.

TAKE CARE OF ME

I AM THE ONE AND ONLY USER DOCUMENT FOR THIS PRODUCT

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Further information on the device is available at www.lightware.com.

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19210132

Specifications

General

Compliance	CE, UKCA
EMC (Emission)	EN 55032:2015+A1:2020
EMC (Immunity)	EN 55035:2017+A11:2020
Safety	EN 62368-1:2020
Warranty	3 years
Power supply (Input)	100V~240V AC
Power supply (Output)	5V DC 1A
Power consumption (max) - DA4 / DA8	2.5W / 6.7 W
Heat dissipation - DA4 / DA8	8.5 BTU/h / 22.7 BTU/h
Operating temperature	-10°C~+55°C
Storage temperature	-25°C~+70°C
Operating humidity	10%-90%

Enclosure

Enclosure material	1 mm steel
Dimensions (mm) - DA4	142W x 17.6H x 70.4D
Dimensions (inch) - DA4	5.6W x 0.7H x 2.8D
Dimensions (mm) - DA8	271W x 26H x 77.4D
Dimensions (inch) - DA8	10.7W x 1H x 3D
Weight - DA4	260 g / 0.6 lbs
Weight - DA8	540 g / 1.2 lbs

Control

Front panel control	Yes, EDID switch
LED indicators	Live, Video Input Status, Video Output Status
EDID emulation	Advanced EDID management
EDID memory	5 factory presets, 1 programmable
EDID support	EDID v1.3
Control	Micro USB-B type connector

HDMI Ports

Connector	Type-A female HDMI
Standard	HDMI 1.4, HDMI 2.0
Maximum resolution	4096x2160@60Hz, 8 bit color
HDCP compliancy	HDCP 2.3 compliant
3D support	Yes
Reclocking	Yes
Input cable equalization	+12dB fixed
Digital audio formats	All HDMI2.0 formats multi-channel PCM, Dolby True-HD, DTS-HD master audio
CEC (DA4)	DA4 - Supported / DA8 - Not supported

Uploading a Custom EDID

To upload a custom EDID to the device, please follow these steps:

1. Connect the device to a host computer using the micro-USB port.
2. Power on the device (or restart it if it was powered on when plugging the cable in).
3. The computer will now treat the device as a USB drive.
4. Make sure that the custom EDID file is in binary format, contains either 128 or 256 bytes (with CEA extension), and that its extension is *.edid*.
5. Copy the chosen EDID file to the device. If the upload is successful, a file called “E_SUCC.txt” shall appear on the device.
6. Unplug the micro-USB cable and restart the device. The custom EDID shall be available for choosing.

If the upload is successful, the custom EDID can be emulated by setting the DIP switch to the 010- position.

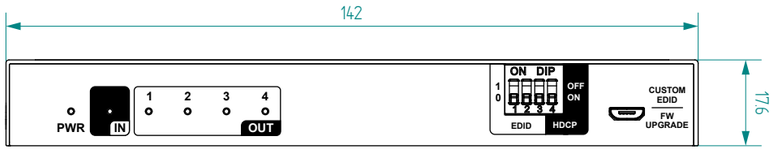
ℹ *The custom EDID remains in the device memory even if it is turned off.*

Mechanical Drawings

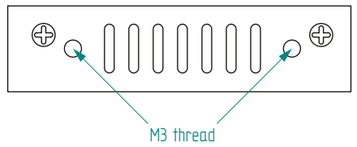
The following drawings describe the dimensions of the DA4-HDMI20-C and DA8-HDMI20-C devices. The dimensions are in mm.

DA4-HDMI20-C

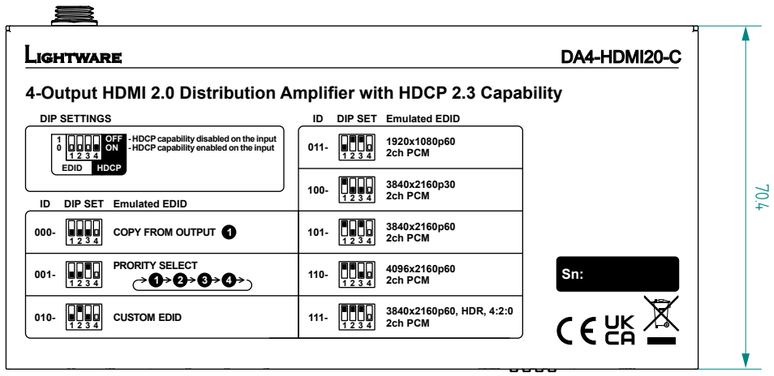
Front View



Side View

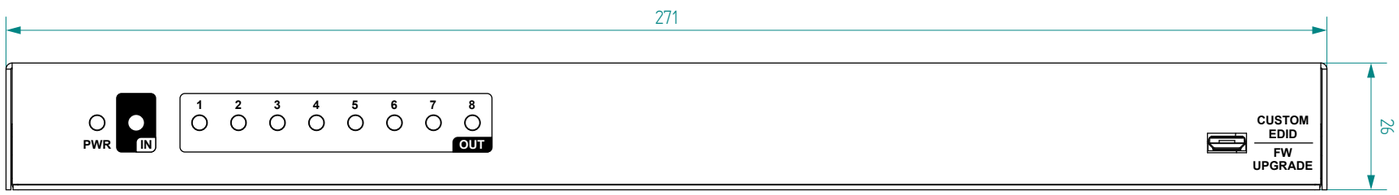


Top View

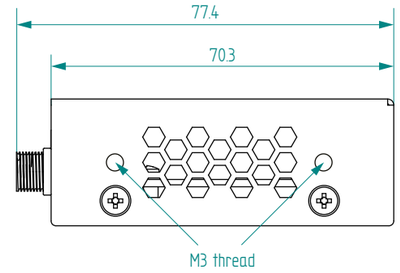


DA8-HDMI20-C

Front View



Side View



Bottom View