



USER MANUAL



USBC-BOOSTER-V1
USBC-BOOSTER-V1B
USBC-BOOSTER-V1P

USB-C Interface with Signal Conditioning and Power Source

Bookmark Page

 Box Contents	 Button Functionality	 Connecting Steps	 Specifications	 Status LEDs	 Troubleshooting
 Electrical Connections	 Front/Rear View	 Maximum Cable Lengths			
 Mechanical Drawings	 Model Comparison	 Mounting Options			

Important Safety Instructions

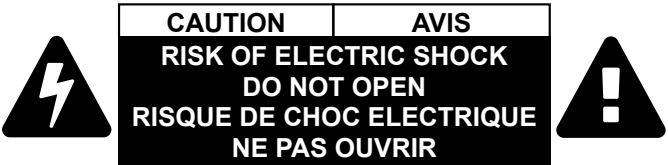
Class I apparatus construction.

This equipment must be used with a mains power system with a protective earth connection. The third (earth) pin is a safety feature, do not bypass or disable it. The equipment should be operated only from the power source indicated on the product.

To disconnect the equipment safely from power, remove the power cord from the rear of the equipment or from the power source. The MAINS plug is used as the disconnect device, the disconnect device shall remain readily operable.

There are no user-serviceable parts inside of the unit. Removal of the cover will expose dangerous voltages. To avoid personal injury, do not remove the cover. Do not operate the unit without the cover installed.

The appliance must be safely connected to multimedia systems. Follow instructions described in this manual.



Ventilation

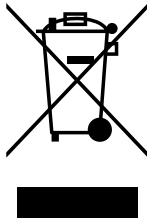
For the correct ventilation and to avoid overheating, ensure enough free space around the appliance. Do not cover the appliance, leave the ventilation holes free and never block or bypass the ventilators (if there are any).

WARNING

To prevent injury, the apparatus is recommended to be securely attached to the floor/wall, or mounted in accordance with the installation instructions. The apparatus shall not be exposed to dripping or splashing, and no objects filled with liquids, such as vases, shall be placed on the apparatus. No naked flame sources, such as lit candles, should be placed on the apparatus.

Waste Electrical & Electronic Equipment (WEEE)

This marking shown on the product or its literature indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product or their local government office for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.



Common Safety Symbols

Symbol	Description
	Direct current
	Alternating current
	Protective conductor terminal
	Equipotential Connector
	On (Power)
	Off (Power)
	Double insulation
	Caution, possibility of electric shock
	Caution
	Laser radiation
	Warning, Rotating fan
	Caution: for indoor use only

Table of Contents

1. INTRODUCTION.....	6	6. APPENDIX	26
1.1. DESCRIPTION	7	6.1. SPECIFICATION	27
1.2. BOX CONTENTS	8	6.1.1. USBC-BOOSTER-V1	27
1.2.1. Supplied Accessories.....	8	6.1.2. USBC-BOOSTER-CABLE-7 (for V1B Bundle)	28
1.2.2. Optional Accessories	8	6.1.3. CAB-USBC-HDMI-C300F (for V1P Bundle).....	28
1.3. FEATURES	8	6.2. MECHANICAL DRAWINGS	29
1.4. COMPATIBLE LIGHTWARE CABLES	9	6.3. MAXIMUM EXTENSION DISTANCES	29
1.4.1. Passive USB-C to USB-C Cables.....	9	6.4. FURTHER DOCUMENT INFORMATION	30
1.4.2. Active USB-C to USB-C Cables.....	9	6.5. LIMITED WARRANTY STATEMENT	30
1.4.3. USB-C to HDMI Cables	9		
1.5. MODEL COMPARISON	10		
1.6. TYPICAL APPLICATION DIAGRAMS.....	10		
1.6.1. USBC-BOOSTER-V1	10		
1.6.2. USBC-BOOSTER-V1P Bundle	11		
1.6.3. USBC-BOOSTER-V1B Bundle	12		
2. PRODUCT OVERVIEW.....	13		
2.1. FRONT AND REAR VIEW	14		
2.2. STATUS LEDs	14		
3. INSTALLATION.....	15		
3.1. MOUNTING OPTIONS.....	16		
3.1.1. Under-desk Installation with 50mm Screws.....	16		
3.1.2. Under-desk Installation with UD Mounting Plate F120	16		
3.2. CONNECTING STEPS.....	17		
3.3. C-LOCK INSTALLATION.....	18		
3.4. ELECTRICAL CONNECTIONS.....	18		
3.4.1. AC Power Connection	18		
3.4.2. USB Type-C Connectors	18		
4. DEVICE CONCEPT	19		
4.1. DISPLAYPORT SWITCH	20		
4.1.1. DP Alt Mode.....	20		
4.1.2. Supported Technologies	20		
4.1.3. Application Examples	21		
4.2. PRESENTED USB TIERS IN THE TOPOLOGY.....	22		
5. TROUBLESHOOTING	23		
5.1. ERROR CASES	24		
5.2. HOW TO SPEED UP THE TROUBLESHOOTING PROCESS	25		

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1

Introduction

Thank you for choosing Lightware's USBC-BOOSTER-V1 series devices. In the first chapter we would like to introduce the device by highlighting the most important features in the sections listed below:

▶ Description	7
▶ Box Contents	8
▶ Features	8
▶ Compatible Lightware Cables	9
▶ Model Comparison	10
▶ Typical Application Diagrams	10

1.1. Description

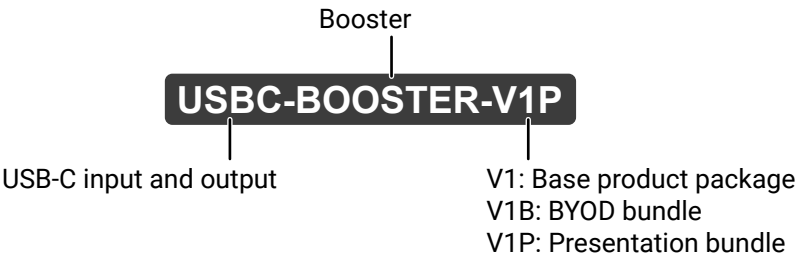
Lightware’sUSBC-BOOSTERseries is designed to solve a common real-world limitation of USB-C in professional meeting and collaboration spaces: when connection points must be placed farther apart than a standard passive cable can reliably support, performance and user experience quickly degrade. In typical installations, pushing USB-C beyond about five meters often leads to unstable signal integrity, reduced power delivery, and intermittent disconnects—especially in BYOD scenarios where a laptop is expected to share high-resolution video, handle USB data, and charge at the same time. While active optical cables can extend distance, they tend to introduce higher cost, greater fragility, and practical maintenance issues, since damage to a connector can force replacement of an entire long cable assembly.



The USBC-BOOSTER approach provides a compact, plug-and-play “middle ground” built for integrators who need dependable medium-distance extension without adding configuration complexity. Positioned inline between two USB-C cable segments, a booster unit is engineered to regenerate and stabilize the full-featured USB-C link, supporting modern meeting room requirements such as USB 2.0/3.2 data, DisplayPort Alternate Mode video—including up to 4K60 operation—and consistent Power Delivery for charging demanding devices. The device is intended for discreet installation under tables or behind displays, with a robust enclosure and silent operation suited to always-on environments. Importantly, it uses an internal power supply with a standard mains input, avoiding external power bricks and simplifying deployment.

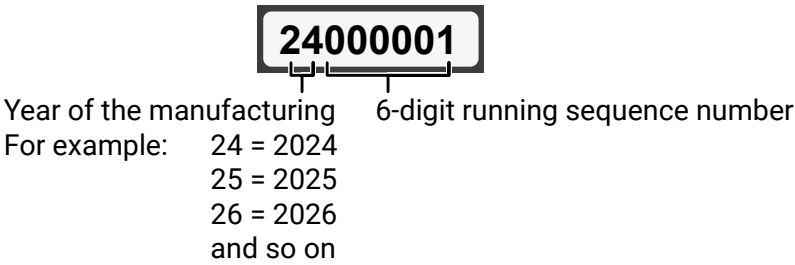
Across the series, the focus is on predictable performance and reduced total cost of ownership in high-traffic spaces: instead of relying on long, expensive, hard-to-replace cable runs, integrators can keep long runs passive and serviceable, and treat the shorter, more frequently worn endpoint cables as the only components that may need routine replacement. This makes the USBC-BOOSTER series a practical building block for BYOD table connections, small-to-medium meeting rooms, and retrofit projects where teams want the convenience of a single USB-C connection for video, data, and charging—delivered with the stability expected in professional AV installations.

Model Denomination



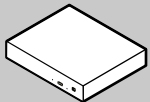
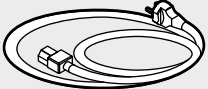
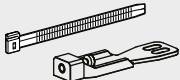
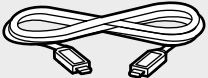
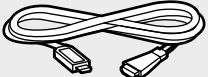
About the Serial Number

From 1st of October 2024, serial number format of Lightware devices is the following: the first two digits are of the year of manufacture, while the remaining digits make up the running sequence number.



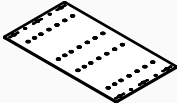
1.2. Box Contents

1.2.1. Supplied Accessories

			USBC-BOOSTER-V1	USBC-BOOSTER-V1B Bundle	USBC-BOOSTER-V1P Bundle
Supplied device		USBC-BOOSTER-V1 device	✓	✓	✓
Supplied accessories		IEC power cable	✓	✓	✓
		C-Lock and cable ties	✓ (4x)	✓ (4x)	✓ (4x)
		Pan head, zinc plated, chipboard screw 4x50mm, PZ	✓ (2x)	✓ (2x)	✓ (2x)
		USB-C 7 m cable made for the Booster (USBC-BOOSTER-CABLE-7)	✗	✓	✗
		USB-C to HDMI 3 m cable (CAB-USBC-HDMI-C300F)	✗	✗	✓
		Safety & Warranty Info; Quick Start Guide	✓	✓	✓

1.2.2. Optional Accessories

Optional accessories can be ordered separately. For the details, please contact sales@lightware.com.

			USBC-BOOSTER-V1	USBC-BOOSTER-V1B Bundle	USBC-BOOSTER-V1P Bundle
Optional accessories		UD Mounting Plate F120	✓	✓	✓

1.3. Features

- **4K60 Output over USB-C**
Up to 4K 2160p@60Hz 4:4:4 video input or 4096x2160@60Hz resolution over the USB-C output.
- **USB 2 and USB 3 Support**
USBC-BOOSTER-V1 transmits USB 2.0 and USB 3.2 signals as well.
- **Charging over USB-C**
The device sends power up to 100W on the input and up to 15W on the output sides.
- **Configurable Cable Length up to 12m**
The device supports 5m USB-C cable on the input side and further 7m on the output side.
- **Built-in Power Supply with Fanless Design**
Built-in PSU with standard IEC power connector, no external power supply unit needed.
- **DisplayPort Alt Mode Support**
The Booster supports DisplayPort Alt Mode 2-lane and 4-lane modes.
- **Plug & Play**
No driver needed for the installation, it's plug & play.

1.4. Compatible Lightware Cables

To order Lightware produced cables, please contact sales@lightware.com.

1.4.1. Passive USB-C to USB-C Cables



Part Number	Product name	Length		USB Standard	Max. charging	USB tiers
		Metric	Imperial			
13740048	CAB-USBC-T100B	1m	3.28ft	USB3.2 Gen 2x2	60W / 3A	0
13740016	CAB-USBC-T100C	1m	3.28ft	USB3.2 Gen 2x2	100W / 5A	0
13740017	CAB-USBC-T200B	2m	6.56ft	USB3.2 Gen 1x2	60W / 3A	0
13740030	CAB-USBC-T200C	2m	6.56ft	USB3.2 Gen 2x2	100W / 5A	0
13740045	CAB-USBC-T200X	2m	6.56ft	USB4 Gen 3x2	240W / 5A	0
13740020	CAB-USBC-T300B	3m	9.84ft	USB3.2 Gen 1x2	60W / 3A	0
13740034	CAB-USBC-T300C	3m	9.84ft	USB3.2 Gen 2x2	100W / 5A	0
13740023	CAB-USBC-T400B	4m	13.12ft	USB3.2 Gen 1x2	60W / 3A	0
13740039	CAB-USBC-T400C	4m	13.12ft	USB3.2 Gen 1x2	100W / 5A	0
13740024	CAB-USBC-T500B	5m	16.40ft	USB3.2 Gen 1x2	60W / 3A	0
13740038	CAB-USBC-T500C	5m	16.40ft	USB3.2 Gen 1x2	100W / 5A	0

1.4.2. Active USB-C to USB-C Cables



Part Number	Product name	Length		USB Standard	Max. charging	USB tiers
		Metric	Imperial			
13740035	CAB-USBC-AOC800E	8m	26.25ft	USB3.2 Gen 1x1	60W / 3A	1
13740047	CAB-USBC-AOC900B	9m	29.53ft	USB3.2 Gen 1x1	60W / 3A	1
13740036	CAB-USBC-AOC1000E	9.8m	32.15ft	USB3.2 Gen 1x1	60W / 3A	1

1.4.3. USB-C to HDMI Cables



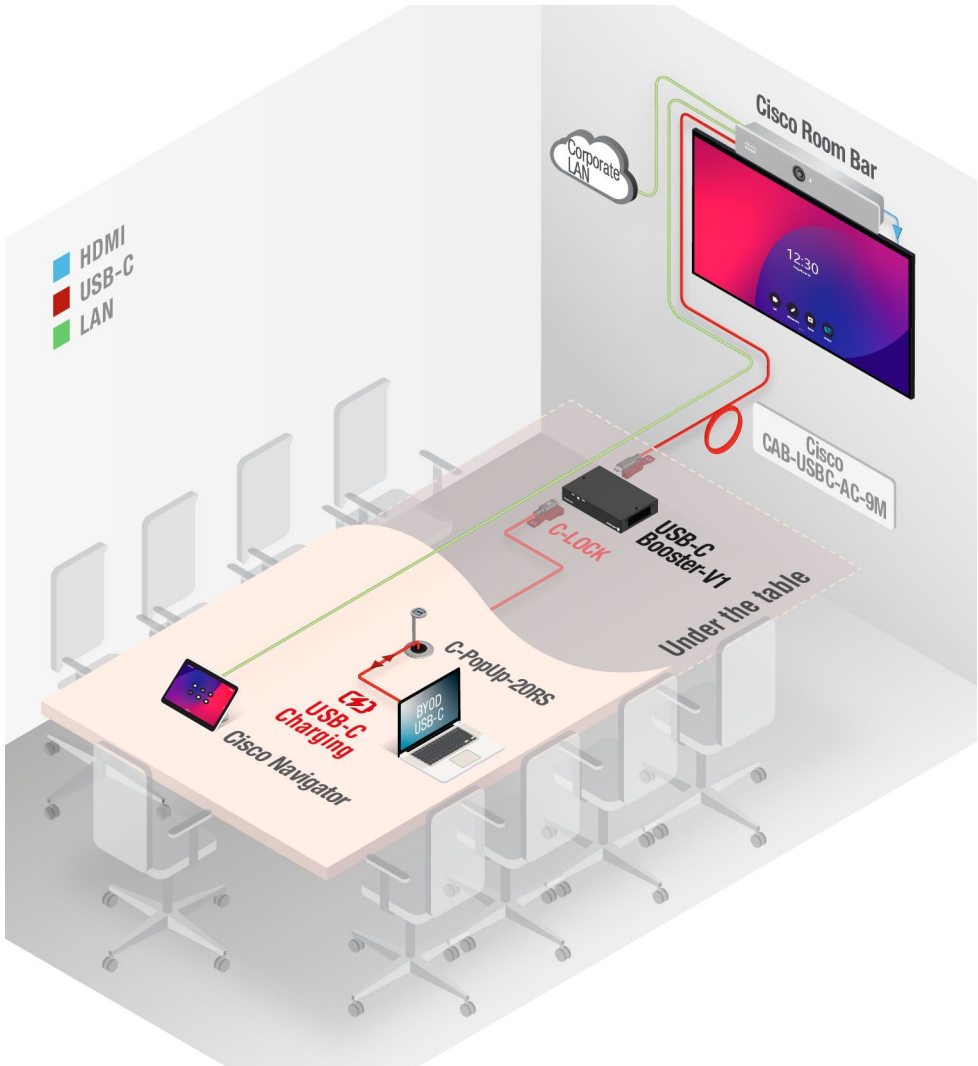
Part Number	Product name	Length		USB Standard	Max. charging	USB tiers
		Metric	Imperial			
13750103	CAB-USBC-HDMI-C200F	2m	6.56ft	N/A	N/A	N/A
13750104	CAB-USBC-HDMI-C300F	3m	9.84ft	N/A	N/A	N/A

1.5. Model Comparison

	 USBC-BOOSTER-V1 + IEC power cable + 4x C-LOCK + 2x 50mm chipboard screws	 USB-C 7m cable specifically designed only for the Booster	 USB-C to HDMI 3m cable (CAB-USBC- HDMI-C300F)
USBC-BOOSTER-V1	✓	✗	✗
USBC-BOOSTER-V1B	✓	✓	✗
USBC-BOOSTER-V1P	✓	✗	✓

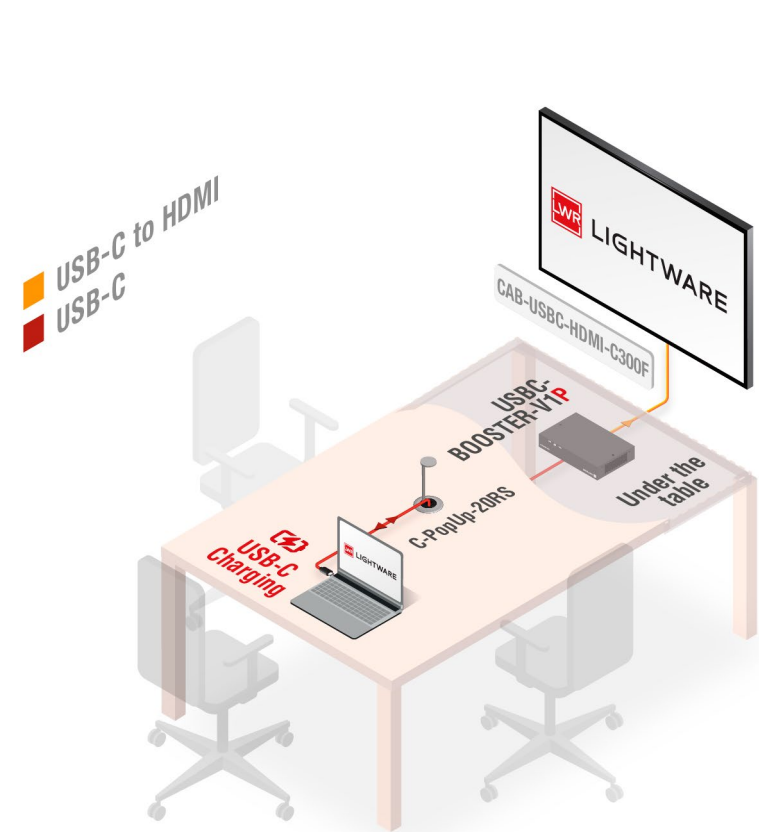
1.6. Typical Application Diagrams

1.6.1. USBC-BOOSTER-V1

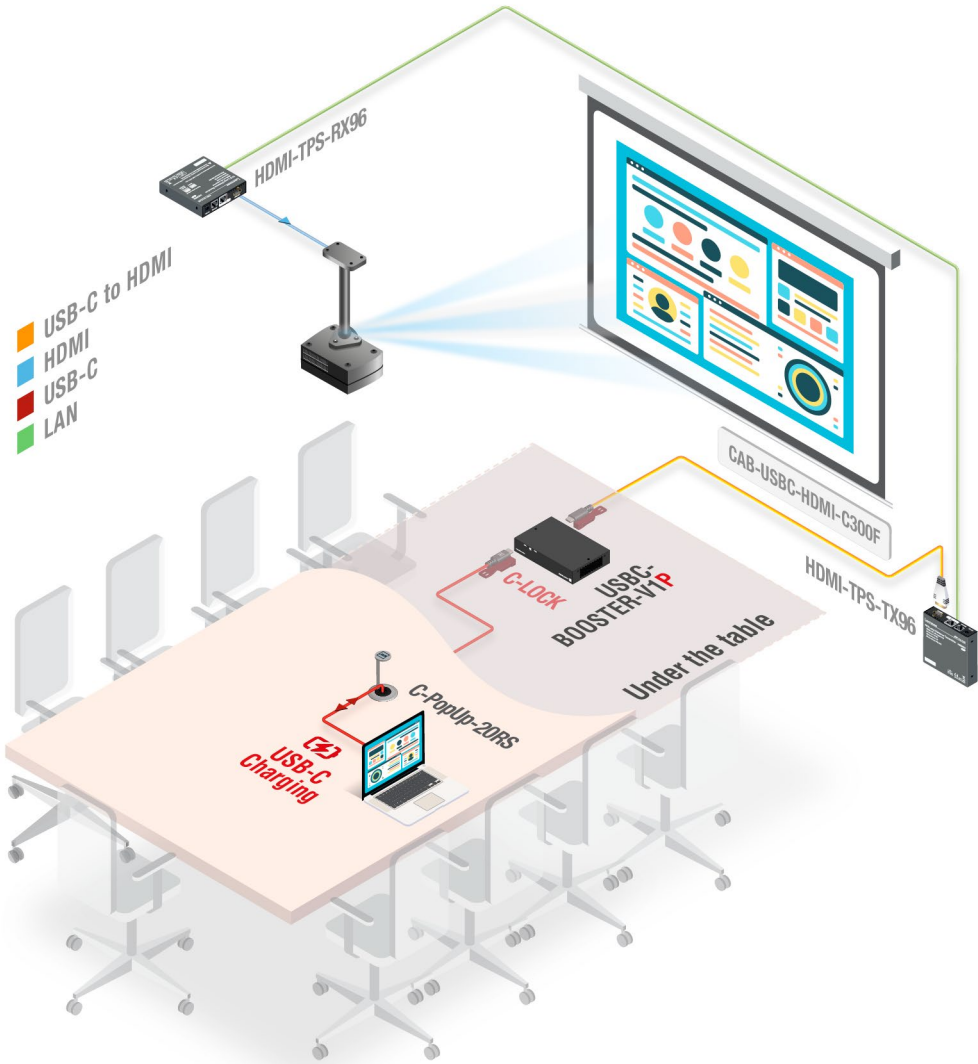


Application diagram for USBC-BOOSTER-V1 device

1.6.2. USBC-BOOSTER-V1P Bundle

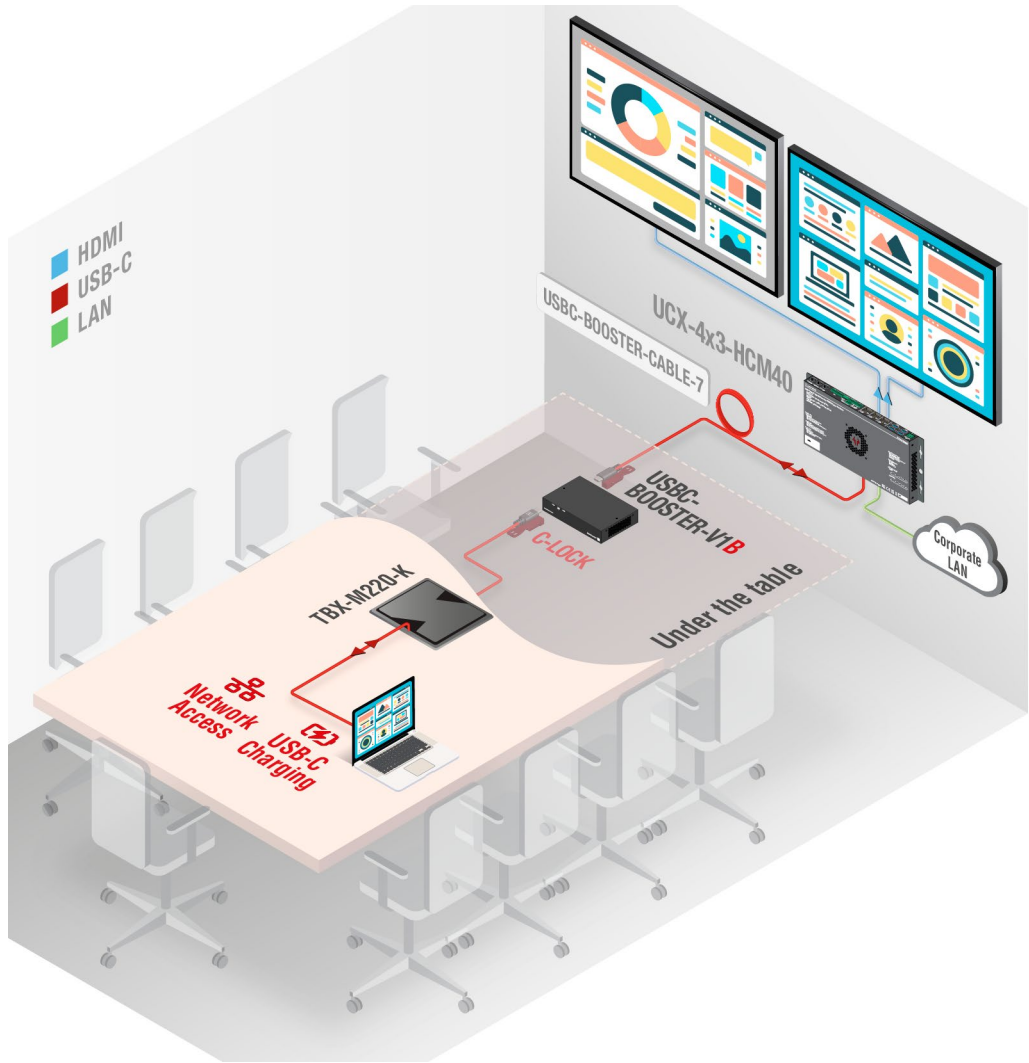


Application diagram 1 for USBC-BOOSTER-V1P (Presentation) Bundle



Application diagram 2 for USBC-BOOSTER-V1P (Presentation) Bundle

1.6.3. USBC-BOOSTER-V1B Bundle



Application diagram for USBC-BOOSTER-V1B (BYOD) Bundle

INFO: For this installation, the source device must support DisplayLink MST technology. See more details about it in the [Supported Technologies](#) section.

2

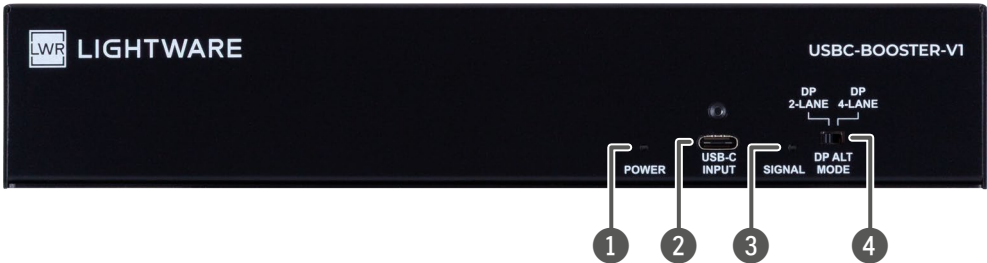
Product Overview

The following sections are about the physical structure of the device, input/output ports and connectors as follows:

▶ Front and Rear View	14
▶ Status LEDs	14

2.1. Front and Rear View

Front View



Rear View



- 1 Power LED** The LED gives immediate feedback about the current power status of the device. See the details about the operation of the LED in the [Status LEDs](#) section (on the right side).
- 2 USB-C input** Displayport 1.2 and USB 3.2 Gen1 connections, AV signal can be transferred up to a resolution of 4K@60Hz 4:4:4 and data speeds up to 5 Gbps with remote charging up to 100W. For more details about the cables, see the [USB Type-C Connectors](#) section.
- 3 Signal LED** The LED gives immediate feedback about the current signal status of the device. See the details about the operation of the LED in the [Status LEDs](#) section (on the right side).
- 4 DP Alt Mode switcher** Physical DP Alt Mode switcher between 2-lane and 4-lane mode. See more details about this operation in the [DisplayPort Switch](#) section.

- 5 USB-C output** Displayport 1.2 and USB 3.2 Gen1 connections, AV signal can be transferred up to a resolution of 4K@60Hz 4:4:4 and data speeds up to 5 Gbps with remote charging up to 15W. For more details about the port, see the [USB Type-C Connectors](#) section.
- 6 AC connector** Standard IEC connector accepting 100-240 V, 50-60 Hz, 1.5-0.6 A. See more details about it in the [AC Power Connection](#) section.

2.2. Status LEDs

POWER		
	off	The device is not powered or out of operation.
	on	The device is powered and ready to use.
SIGNAL		
	off	The device is not powered or out of operation.
	on	Shows active signal presence on USB-C input and successful power delivery (PD) negotiation.

3

Installation

This chapter is about the installation of the device and connecting to other appliances, presenting also the mounting options and further assembly steps:

▶ Mounting Options	16
▶ Connecting Steps	17
▶ C-LOCK Installation	18
▶ Electrical Connections	18

3.1. Mounting Options

Two options are available to mount the USBC-BOOSTER-V1 device:

- under-desk installation with **2 pcs 50mm chipboard screws** (supplied)
- under-desk installation using **UD Mounting Plate F120** (optional accessory) and **2 pcs M3x6 PH or PZ flat head screws** (not supplied).

3.1.1. Under-desk Installation with 50mm Screws



Under-desk installation with the supplied 50mm screws

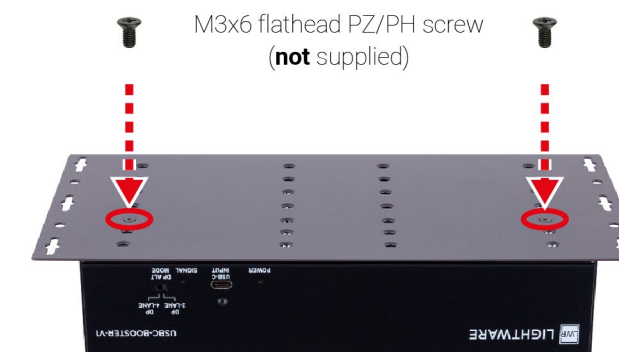
The USBC-BOOSTER-V1 can be installed without any mounting accessory, using only the supplied two pieces 50mm chipboard screws. The enclosure is built with a bushing with metal housing inside, the device can be fastened with the two screws through the bottom holes.



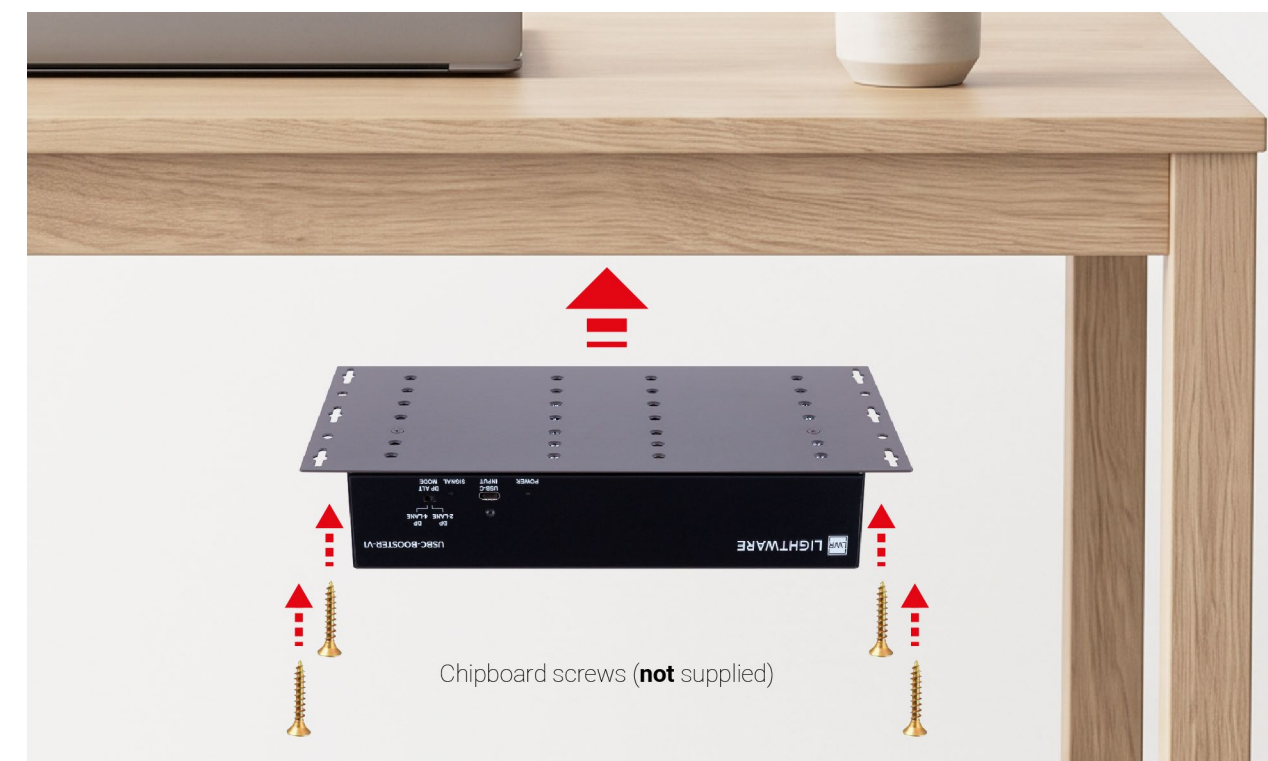
3.1.2. Under-desk Installation with UD Mounting Plate F120

Step 1. Assemble the UD Mounting Plate F120 to the bottom of the Booster with **2 pcs M3x6 flathead PH or PZ screws** (not supplied).

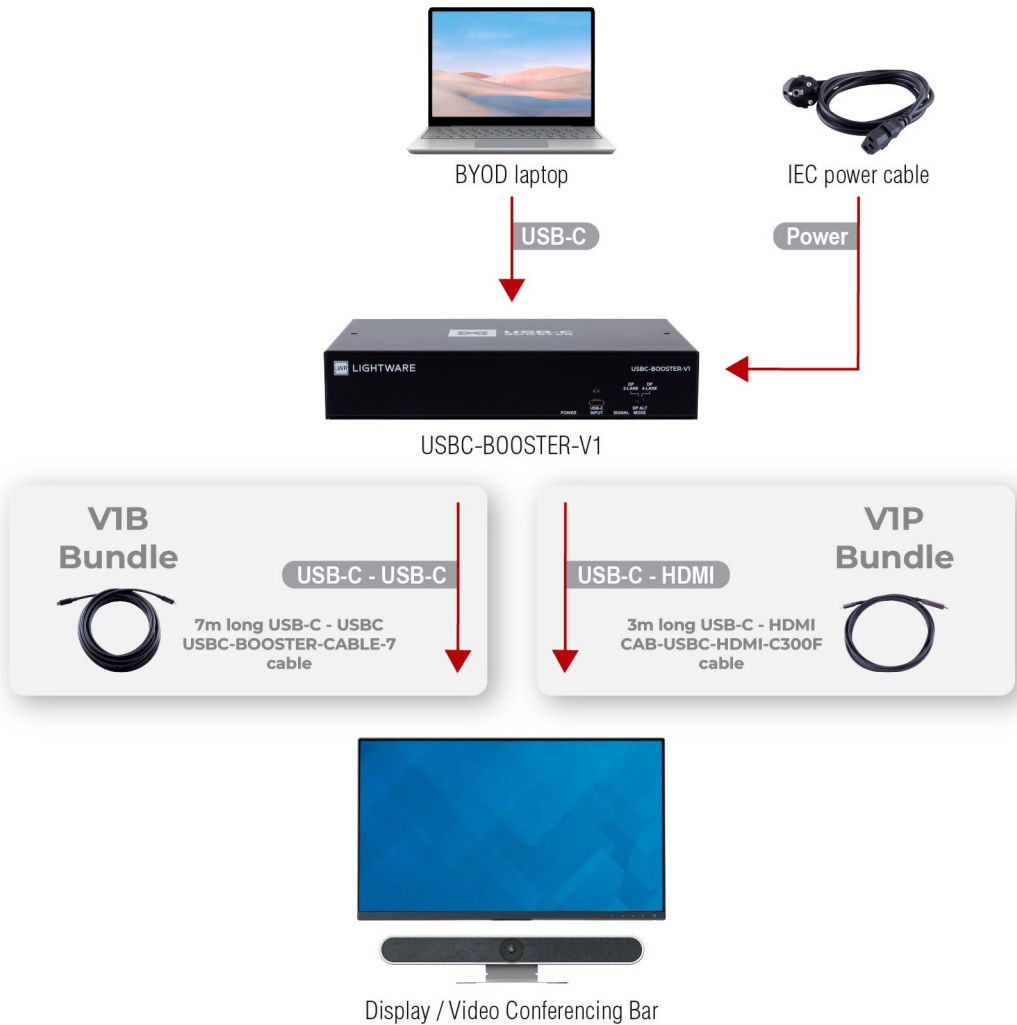
WARNING! Do not use longer screws than 6mm to avoid damage to the inner parts of the device.



Step 2. Fasten the Booster with the UD Mounting Plate F120 to the furniture using **4 pcs chipboard screws** (not supplied).



3.2. Connecting Steps



USB-C

Connect the signal source device (e.g. a BYOD laptop) to the USB-C input port of the Booster with any compatible USB-C cable. The input port is able to send **up to 100W** power. Always use qualified USB-C cables and be sure the installed cable is compatible for charging the source device. See the list of **compatible Lightware-produced cables** in the [Compatible Lightware Cables](#) section.

USB-C - USB-C

V1B Bundle: Connect the sink device (e.g. a display or video conferencing bar) to the USB-C output port of the Booster with the supplied 7 meters USB-C - USB-C cable designed for the Booster (USBC-BOOSTER-CABLE-7). The output port is able to send **up to 15W** power toward the sink device.

See the complete list of **compatible Lightware-produced cables** in the [Compatible Lightware Cables](#) section.

USB-C - HDMI

V1P Bundle: Connect the sink device (e.g. a display or video conferencing bar) to the USB-C output port of the Booster with the supplied 3 meters USB-C - HDMI cable (CAB-USBC-HDMI-C300F).

See the complete list of **compatible Lightware-produced cables** in the [Compatible Lightware Cables](#) section.

Power

Connect the Booster to the power outlet with the IEC power cable. Powering on the devices is recommended to do as the final step during the installation.

3.3. C-LOCK Installation

The Booster is supplied with 4 pcs C-LOCK tools what is purposed to fasten the USB-C cables to the ports, which are built with flange.

Installation Steps:

- Step 1.** Connect the USB-C cable to the Booster.
- Step 2.** Place the C-LOCK to the top of the USB-C cable connector. Align the screw-mounted end of the C-LOCK against the end of the cable sheath.
- Step 3.** Screw in the C-LOCK using a PH1 screwdriver.
- Step 4.** Fasten the C-LOCK and the cable using two cable ties (supplied).



3.4. Electrical Connections

3.4.1. AC Power Connection

Standard IEC Connector

USBC-BOOSTER-V1 contains standard IEC power connector and work with 100 V to 240 V AC, 50 to 60 Hz power sources.

Connect the power cord to the AC input connector; the extender is immediately powered on.

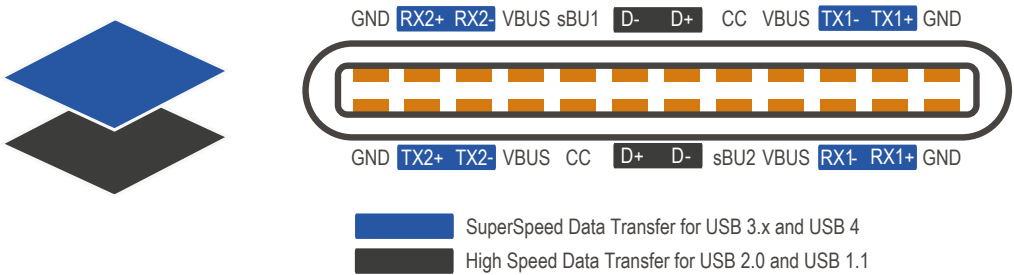


3.4.2. USB Type-C Connectors

 The device is supplied with USB 3.2 Gen1 (max. 5 Gbps data speed) USB C-type ports for audio/video, USB data and Ethernet transmission. It provides power delivery up to 100W on the input port and up to 15W on the output port. The USB-C connector has a symmetrical plug and pin layout.



ATTENTION: USB 2.x and 3.x data transfer happens on two independent layers simultaneously.



The pinout of the USB-C connector viewed from the PCB side

4

Device Concept

The following chapter describes the features of the USBC-BOOSTER-V1 with few real-life examples.

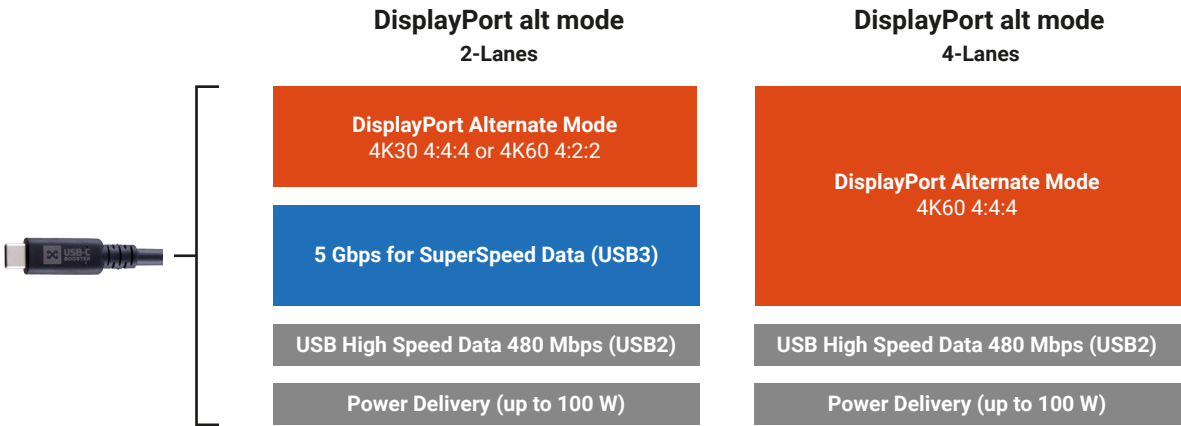
- ▶ DisplayPort Switch 20
- ▶ Presented USB Tiers in the Topology 22

4.1. DisplayPort Switch

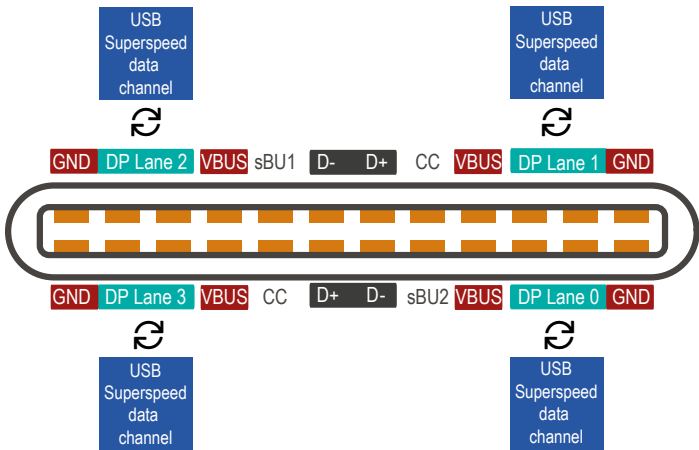
4.1.1. DP Alt Mode

The Booster is able to transmit signal in DP 2-lane and DP 4-lane modes as well. The device is built with a physical switch for selecting the chosen mode.

The following drawing describes the differences between the USB-C operating modes in the USB-C interface:



Differences between the USB-C operating modes



Pinout and data lanes of the USB-C port viewed from the PCB side

4.1.2. Supported Technologies

2-lane vs 4-lane Modes

The table below shows the correlation of the video resolution and the assigned lanes:

DisplayPort Alternate Mode (uncompressed signal, 4:4:4 color sampling)				
Data Rate and DisplayPort Standard	2-Lane DP		4-Lane DP	
	Bandwidth	Display esolutions	Bandwidth	Display Resolutions
HBR1 (DP 1.0 / 1.1)	5.4 Gbps	1 × FullHD	10.8 Gbps	1× 4K@30 Hz
HBR2 (DP 1.2)	10.8 Gbps	1× 4K@30 Hz	21.6 Gbps	1 × 4K@60 Hz

INFO: The USBC-BOOSTER-V1 does not support HBR3 data rate.

DSC (Display Stream Compression)

The Booster supports **Display Stream Compression (DSC)**, which is a technology that can help transmitting good quality video stream even in case of bandwidth limitations. It can transmit high quality video streams over 2 lanes, allowing the remaining 2 lanes to transmit USB 3.x data.

DSC decoding latency is less than 1 ms, allowing for a visually lossless transmission.

ATTENTION: DSC is only available if the **source** and the **sink both support** the functionality.

DisplayLink MST (Multi-Stream Transport)

A single source of AV signal can be transmitted to multiple sink devices uses software-based splitting technology. **It is not equal to the DisplayPort MST technology, which is not supported by the Booster.**

ATTENTION: DisplayLink MST is only available is the **source** and the **sink both support** the functionality.

DisplayPort vs DisplayLink

DEFINITION: **DisplayPort** is a direct hardware video connection from your computer's graphics card, while DisplayLink is a software-driven technology that sends compressed video data over standard USB connections.

DEFINITION: **DisplayLink**: A software- and hardware-compressed video solution. It uses a special internal chip inside the dock or adapter. It sends compressed video data over standard USB connections (USB-A or USB-C). It requires installing software drivers.

The USBC-BOOSTER-V1 supports DisplayLink (DL) and DisplayLink (DL) MST technologies but **does not support DisplayPort (DP) MST**. DL MST is a software-based transmission technology using the USB3 layer what provides signal transmission to multiply displays which supports the technology. The main requirement for the successful transmission is that the source and the sink must be capable to DL MST technology.

4.1.3. Application Examples

The DP alt mode selection depends on the requirement of the actual application. The features of the sink device determine which DP alt mode shall be chosen. The following table shows what applications require 2-lane or 4-lane mode in the USBC-BOOSTER-V1:

Application example Sink capability	Required DP Alt Mode setting	
	2-lane mode	4-lane mode
Videobar with USB3 camera	✓	✗
4K30 4:4:4 display	✓	✓
4K60 4:2:2 display	✓	✓
4K30 4:4:4 display with USB3 HUB	✓	✗
4K60 4:2:2 display with USB3 HUB	✓	✗
2x 4K60 DisplayLink MST display (USB3 connection)	✓	✗
2x 4K60 with UCX-4x3-HCM40 switcher	✓	✗
4K60 4:4:4 display (without USB3 HUB)	✗	✓
Display with adjustable DP alt modes - 2-lane mode	✓	✗
Display with adjustable DP alt modes - 4-lane mode	✗	✓
Display with a Cisco Room Bar with USB2 connection	✓	✓
Display with a Cisco Room Bar with USB3 connection	✓	✗
USB-C to HDMI cable on the output (sink) side of the Booster	✗	✓

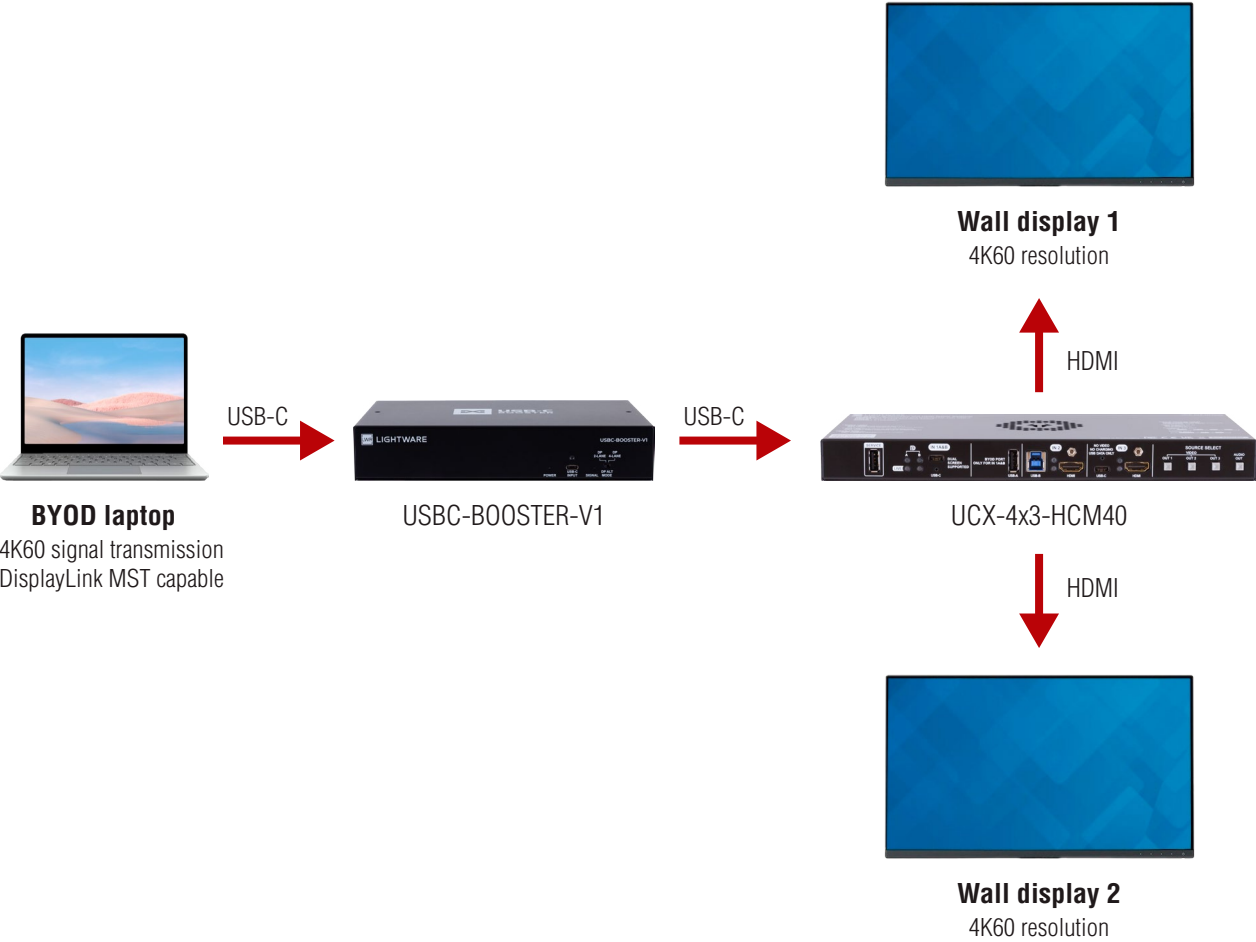
INFO: The **USB2 layer** will always be available in both 2-lane and 4-lane mode.

Example for 4-lane Application



Examples for 2-lane Application





2-lane mode example for 2x 4K60 wall display with a UCX-4x3-HCM40 dualscreen switcher application

4.2. Presented USB Tiers in the Topology

USB tiers count presented by the USBC-BOOSTER-V1 out of the total available 7 tiers.

Layer	Presented USB tiers
USB2 layer	1
USB3 layer	1

INFO: Using **active USB-C cables** on the output side might add **extra USB tiers** to the topology.

5

Troubleshooting

Usually, if the system seems not to transport the signal as expected, the best strategy for troubleshooting is to check signal integrity through the whole signal chain starting from source side and moving forward to receiver end. The following sections are available in the chapter:

- ▶ Error Cases 24
- ▶ How to Speed Up the Troubleshooting Process 25

5.1. Error Cases

At first, check front panel LEDs and take the necessary steps according to their states. For more information about status LEDs, refer to the [Status LEDs](#) section.

Legend

-  Link to connections/cabling section.
-  Link to device operation section.

Symptom	Root cause	Action	Refer to
Audio / Video signal			
No picture on the video output	Device or devices are not powered properly	Check the source, the Booster and the sink devices if they are properly powered; try to unplug and reconnect them.	 3.4.1
	Cable connection problem	Cables must fit very well, check all the connectors (USB-C cables or USB-C-HDMI converter cables).	 3.2
	Applied USB-C cable is too long.	Check the maximum cable extension values for USB-C cables.	 6.3
Black picture on the video output	Sink requires 2-lane mode, the DP Alt mode setting is incorrect.	Set the DP Alt Mode switcher from 4-lane to 2-lane mode.	 4.1
Sink displays 4K30 instead of 4K60	Sink requires 4-lane mode, the DP Alt mode setting is incorrect.	Set the DP Alt Mode switcher from 2-lane to 4-lane mode.	 4.1
The BYOD laptop is not charging	Booster are not powered	Check the Booster if it is properly powered, try to unplug and reconnect it. The signal transmission can be working without powering on the Booster.	 3.4.1
	Applied USB-C cable is too long.	Check the maximum cable extension values for USB-C cables.	 6.3
No USB2 connection on the sink side	Applied USB-C cable is too long.	Check the maximum cable extension values for USB-C cables.	 6.3
	Too much presented USB tiers in the topology.	Check the maximum USB tier count in the system.	

Symptom	Root cause	Action	Refer to
No USB3 connection on the sink side	Applied USB-C cable is too long.	Check the maximum cable extension values for USB-C cables.	 6.3
	Sink requires 2-lane mode, the DP Alt mode setting is incorrect.	Set the DP Alt Mode switcher from 4-lane to 2-lane mode.	 4.1
	USB3 capability problem or the sink requires 2-lane DP alt mode	Check the USB3 capability of the connected device or the 2-lane / 4-lane mode if it changeable. Correct setting: 2-lane mode.	
No picture on none of the two connected sinks	The source is required to be DisplayLink-capable	Install DisplayLink driver / software to the source device.	 4.1.2
	The sink is required to be DisplayLink MST-capable	Check the sink device if it is capable to accept DisplayLink signals.	 4.1.2
	The transmitted signal is DisplayPort MST.	The Booster does not support DP MST technology.	 4.1.2
Mirrored pictures on the sink devices instead of extended (multistream setting)	No DisplayLink software is installed on the MacBook.	Install macOS-compatible DisplayLink software.	 4.1.2
	Incorrect MST Video policy is set in the UCX-4x3-HCM40 switcher.	Set to Auto or DisplayLink.	

5.2. How to Speed Up the Troubleshooting Process

Lightware's technical support team is always working hard to provide the fastest support possible. Our team's response time is one of the best in the industry, and in the toughest of cases we can directly consult with the hardware or software engineer who designed the product, to get the information from the most reliable source.

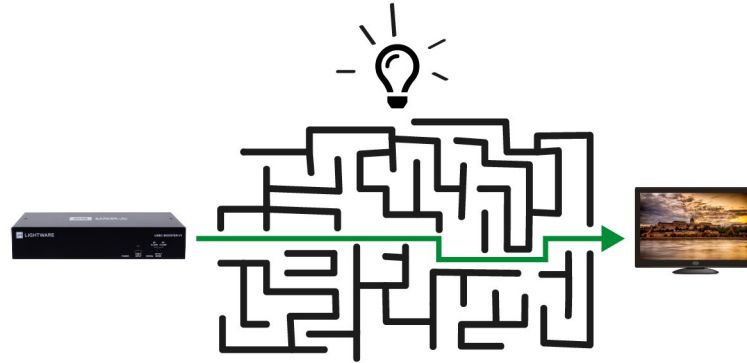
However, the troubleshooting process can be even faster... with your help.

There are certain pieces of information that push us in the right direction to finding the root cause of the problem. If we receive most of this information in the first e-mail, or it is gathered at the time when you call us, then there is a pretty high chance that we will be able to respond with the final solution right away.

This information is the following:

- Schematic (a pdf version is preferred, but a hand drawing is sufficient).
- Serial number(s) of the device(s) (it is either printed somewhere on the box or you can query it in the Device Controller software or on the built-in website).
- Firmware versions of the devices (please note that there may be multiple CPUs or controllers in the device and we need to know all of their firmware versions, a screenshot is the best option).
- Cable lengths and types.
- Patch panels, gender changers or anything else in the signal path that can affect the transmission.
- Signal type (resolution, refresh rate, color space, deep color).
- Emulated EDID(s) (please save them as a file and send it to us).
- Actions to take in order to re-create the problem (if we cannot reproduce the problem, it is hard for us to find the cause).
- Photo or video about the problem (for example: "image noise" can mean many different things, it's better if we see it too).
- Error logs from the Device Controller software.
- In the case of Event Manager issue, the event file and/or backup file from the Device Controller software.

The more of the above information you can give us, the better. Please send this information to the Lightware Support Team (support@lightware.com) to speed up the troubleshooting process.



6

Appendix

Tables, drawings, guides, technical details and the hashtag keyword list as follows:

▶ Specification	27
▶ Mechanical Drawings	29
▶ Maximum Extension Distances	29
▶ Further Document Information	30
▶ Limited Warranty Statement	30

6.1. Specification

INFO: Specifications are subject to change without notice.

6.1.1. USBC-BOOSTER-V1

General

Compliance	CE, UKCA
EMC (emission)	EN 55032:2015+A1:2020
EMC (immunity)	EN 55035:2017+A11:2020
RoHS	EN 63000:2018
Electrical safety	EN 62368-1:2024
Warranty	3 years
Cooling	Passive
Operating temperature	0 to +50°C (+32 to +122°F)
Storage temperature	-40° to +85°C (-40° to +185°F)
Operating humidity	10% to 90%, non-condensing

Power Supply

AC power connector	IEC C14 receptacle
Power source	100-240 V AC, 50-60 Hz
Supplied power	1.5 - 0.6 A
Power consumption (max)	120 W
Heat dissipation (max)	409.5 BTU/h

Enclosure

Enclosure material	1 mm steel
Dimensions in mm	221 W x 142 D x 42.5 H
Dimensions in inch	8.7 W x 5.6 D x 1.7 H
Weight	1076 g (2.37 lbs)

Input Port

USB-C Input

Connector type	24-pole USB type C receptacle with flange
AV standard	DP 1.2a
HDCP compliance	HDCP 1.4, HDCP 2.2
Color space	RGB, YCbCr
DisplayPort alternate mode	Yes, HBR2 (up to 4096×2160@60Hz at RGB 4:4:4), supports 2-lane/4-lane mode
Audio formats	all formats in line with DP 1.2a standard
USB 3.2 data speed	5 Gbps
USB 2.0 data speed	480 Mbps
Power delivery	USB PD 3.1, up to 100W (20V, 5A)

Output Port

USB-C Output

Connector type	24-pole USB type C receptacle with flange
AV standard	DP 1.2a
HDCP compliance	HDCP 1.4, HDCP 2.2
Color space	RGB, YCbCr
DisplayPort alternate mode	Yes, HBR2 (up to 4096×2160@60Hz at RGB 4:4:4), supports 2-lane/4-lane mode
Audio formats	all formats in line with DP 1.2a standard
USB 3.2 data speed	5 Gbps
USB 2.0 data speed	480 Mbps
Power delivery	USB PD 3.1, up to 15W (5V, 3A)

USB Tiers

Presented USB tiers - USB2 layer	1
Presented USB tiers - USB3 layer	1

6.1.2. USBC-BOOSTER-CABLE-7 (for V1B Bundle)

General

Compliance	CE, UKCA RoHS, REACH (EC 1907/2006)
Operating temperature	-10 to +60°C (+50 to +140°F)
Operating humidity	10% to 90%, non-condensing

Interface

Connectors	2 × USB Type-C male
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Physical Parameters

Length	7 m (22.96 ft)
Cable diameter	5.3 mm (0.21 in)
Jacket material	TPE
Wire material	Copper, 28 AWG
Mold material	PVC
Pin coating	Gold-plated
Bending radius	21.2 mm
Pulling force	4 kg
Compliance	RoHS
Color	Black

Technical Parameters

Maximum data speed	10 Gbps (5 Gbps/lane)
Data type	USB 3.2 Gen 1×2, USB 2.0, USB 1.1
eMarker chip	Yes
Displayport alternate mode	Yes, HBR2, 2-4-lane
Video format	Up to 4096×2160@60Hz at RGB 4:4:4 and 5120×2160@30Hz at RGB 4:4:4
Number of USB3 tier	0
Number of USB2 tier	0
Rated voltage	20 V
Rated current	3 A
Flammability	VW-1

6.1.3. CAB-USBC-HDMI-C300F (for V1P Bundle)

General

Compliance	CE, UKCA RoHS, REACH (EC 1907/2006)
Operating temperature	0 to +60°C (+32 to +140°F)
Operating humidity	10% to 90%, non-condensing

Interface

Connectors	1 × USB Type-C male 1 × HDMI Type-A male
------------	---

Physical Parameters

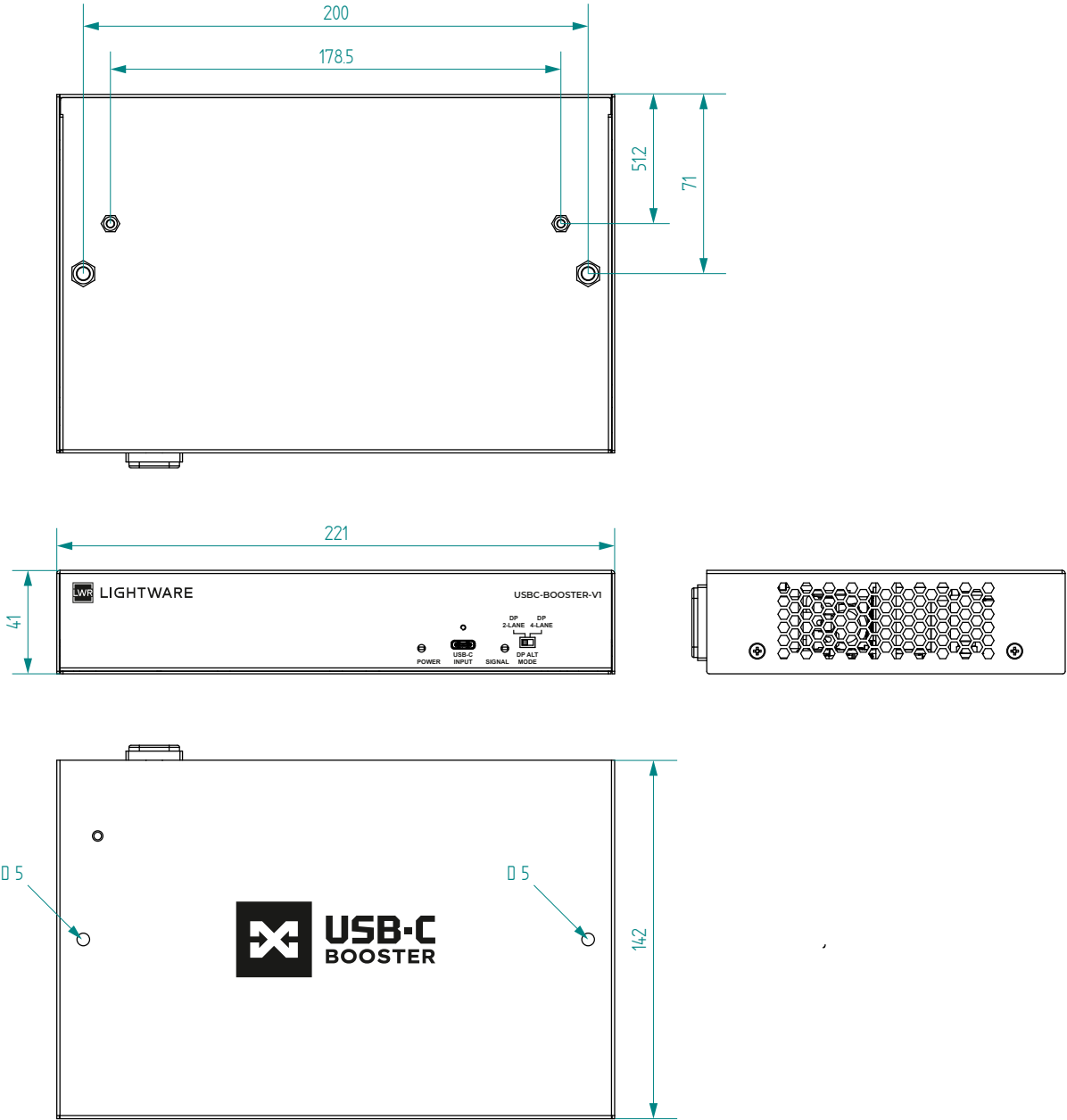
Length	3 m (9.84 ft)
Cable diameter	4.9 mm (0.19 in)
Jacket material	TPE
Wire material	Copper
Mold material	Aluminum
Pin coating	Gold-plated
Bending radius	40 mm (1.57 inches)
Color	Black

Technical Parameters

Maximum data speed	18 Gbps
Video format	Up to 4096×2160@60Hz at RGB 4:4:4 and 5120×2160@30Hz at RGB 4:4:4
Control signal	HDCP 2.3, EDID, DDC, DisplayID
Audio support	Yes
Displayport alternate mode	Yes
Power	No external power required
Operating temperature	0 °C to +60 °C

6.2. Mechanical Drawings

The following drawings present the physical dimensions of the USBC-BOOSTER-V1. Dimensions are in mm.



6.3. Maximum Extension Distances

Lightware highly recommends using qualified and extensively tested Lightware produced cables connecting both the source and sink devices to the Booster. See the list in the [Compatible Lightware Cables](#) section.

Input side 100W charging	Output side 15W charging	
	Passive USB-C cable	Active USB-C cable
5m (16.4 feet)	5m (16.4 feet) 7m (23 feet) only with the USBC-BOOSTER-CABLE-7	10m (32.8 feet)

6.4. Further Document Information

Symbol Legend

The following symbols and markings are used in the document:

-  **WARNING! Safety-related information that is highly recommended to read and keep in every case!**
-  **ATTENTION:** Useful information for performing a successful procedure; it is recommended to read.
-  **DIFFERENCE:** Feature or function that is available with a specific firmware/hardware version or product variant.
-  **INFO:** A notice, which contains additional information. Procedure can be successful without reading it.
-  **DEFINITION:** The short description of a feature or a function.
-  **TIPS AND TRICKS:** Ideas that you may have not known yet, but can be useful.

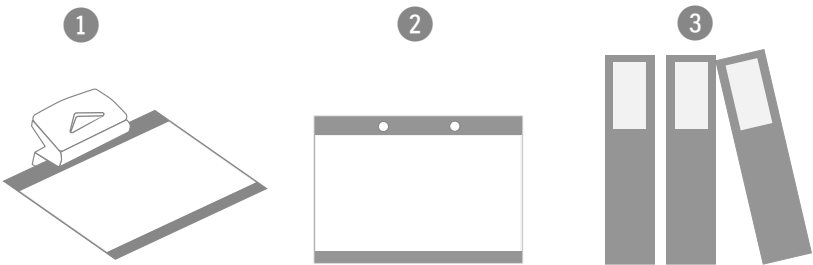
Navigation Buttons

Buttons in the PDF version	Buttons in the HTML version
 Navigate to the Table of Contents .	 Open the main Table of Contents .
 Go back to the previous page . If you clicked on a link previously, you can go back to the source page by pressing the button.	 Navigate to the Online User Manuals webpage.
 Navigate to the Bookmark page .	 Navigate to the Bookmark page in this User Manual.
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- Page size: A4
- Output size: Fit to page or Match page size
- Orientation: Landscape



TIPS AND TRICKS: Thanks to the size of the original page, a border around the content (gray on the second picture below) makes it possible to organize the pages better. After punching holes in the printed pages, they can easily be placed into a ring folder.

6.5. Limited Warranty Statement

1. Lightware Visual Engineering PLC (Lightware) warrants to all trade and end user customers that any Lightware product purchased will be free from manufacturing defects in both material and workmanship for three (3) years from purchase unless stated otherwise below. The warranty period will begin on the latest possible date where proof of purchase/delivery can be provided by the customer. In the event that no proof can be provided (empty 'Date of purchase' field or a copy of invoice), the warranty period will begin from the point of delivery from Lightware.
 - 1.1. 25G and MODEX product series will be subject to a seven (7) year warranty period under the same terms as outlined in this document.
 - 1.2. If during the first three (3) months of purchase, the customer is unhappy with any aspect of a Lightware product, Lightware will accept a return for full credit.
 - 1.3. Any product that fails in the first six (6) months of the warranty period will automatically be eligible for replacement and advanced replacement where available. Any replacements provided will be warranted for the remainder of the original unit's warranty period.
 - 1.4. Product failures from six (6) months to the end of the warranty period will either be repaired or replaced at the discretion of Lightware. If Lightware chooses to replace the product, then the replacement will be warranted for the remainder of the original unit's warranty period.
2. The above-stated warranty and procedures will not apply to any product that has been:
 - 2.1. Modified, repaired or altered by anyone other than a certified Lightware engineer unless expressly agreed beforehand.
 - 2.2. Used in any application other than that for which it was intended.
 - 2.3. Subjected to any mechanical or electrical abuse or accidental damage.
 - 2.4. Any costs incurred for repair/replacement of goods that fall into the categories above (2.1., 2.2., 2.3.) will be borne by the customer at a pre-agreed figure.
3. All products to be returned to Lightware require a return material authorization number (RMA) prior to shipment, and this number must be clearly marked on the box. If an RMA number is not obtained or is not clearly marked on the box, Lightware will refuse the shipment.
 - 3.1. The customer will be responsible for in-bound, and Lightware will be responsible for out-bound shipping costs.
 - 3.2. Newly repaired or replaced products will be warranted to the end of the originally purchased product's warranty period.