LIGHTWARE
INNOVATIVE, RELIABLE, MADE IN EUROPE.

Quick Start Guide

UCX-4x3-HCM40

Front View
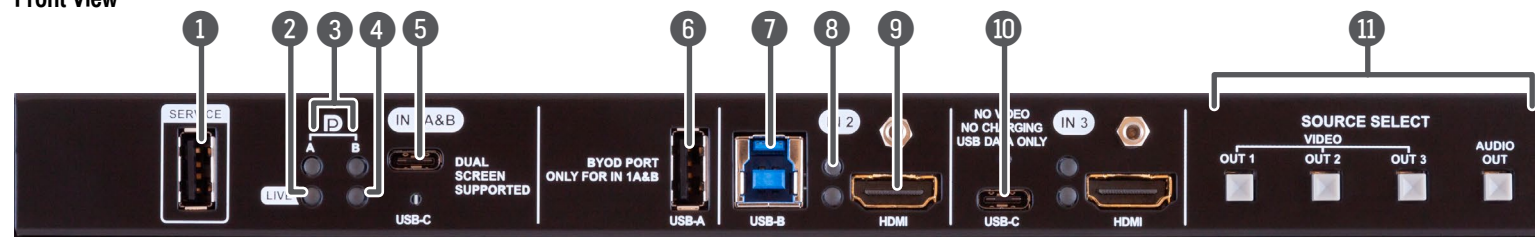
#	Label	Description
1	USB-A port	The SERVICE-labelled USB-A connector is designed for service functions.
2	LIVE LED	See the details in the table on the right.
3	Video Input Status LEDs	LEDs for port 1A and 1B. See the details in the table on the right.
4	USB Status LED	LED for port U1. See the details in the table on the right.
5	USB-C port	AV signal can be transferred up to a resolution of 4K@60Hz 4:4:4 and data speeds up to 5Gbps with remote charging. Use cables certified for USB 3.1 Gen1 (5Gbps) and DisplayPort Alternate mode HBR2 (4x5.4Gbps) applications.
6	USB-A port	A USB-A port for USB data between the BYOD and the Taurus device
7	USB-B port	Upstream port for connecting USB host devices (e.g. computer).
8	USB status LEDs	See the details in the table on the right.
9	HDMI input ports	HDMI input ports for sources. The applied cable shall not be longer than 5m. Use cables certified for HDMI 2.0 (3x6Gbps) applications.
10	USB-C data port	USB-C port for USB data transmission only.
11	Input select buttons	See the details in the Button Functionality section. When LEDs blink three times after pushing the button, they show that the front panel lock is enabled.

Important Safety Instructions
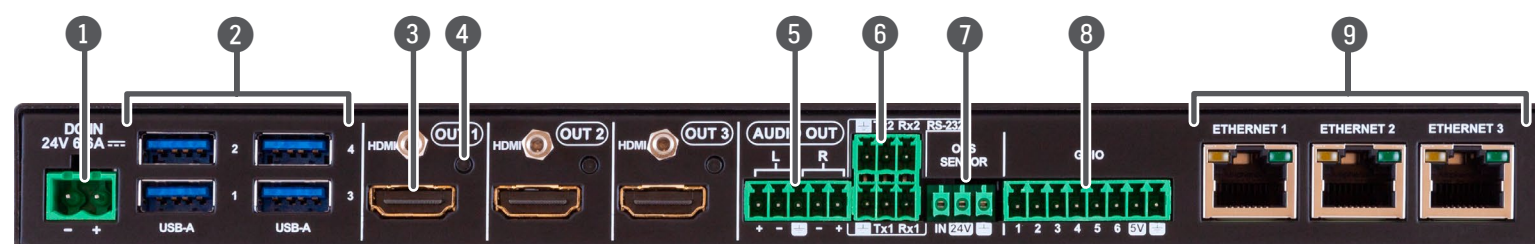
Please read the supplied safety instruction document before using the product and keep it available for future reference.
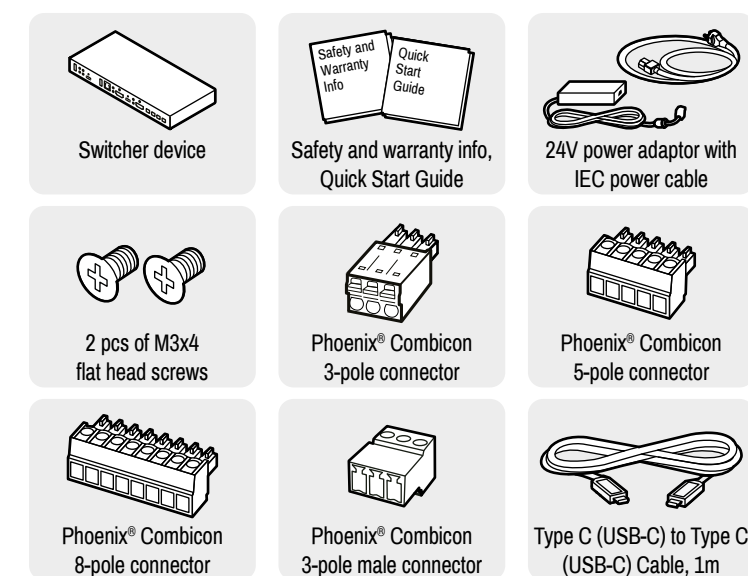
Introduction

Taurus model UCX-4x3-HCM40 seamlessly extends your BYOD (Bring Your Own Device) device's display to two screens simultaneously, eliminating the hassle of managing multiple cables and cables. Our innovative technology delivers two independent screens through a single USB-C cable, ensuring a clutter-free and streamlined workspace.


Highlighted features:

- Multiple USB 3.1 Gen 1 connectivity for any type of USB device (Camera, speakerphone, touch monitor, USB-HID devices, etc.)
- Multistream DP Alt Mode and DisplayLink supported
- Smart and noiseless cooling system
- CEC available at the HDMI outputs
- Multistream USB-C input connectivity for 4K Video, Audio, Data and Power
- Separate USB 3.1 Host switching laxer for multiple USB hosts and USB devices
- Dedicated secure corporate and room utility Ethernet connectivity
- Supports HDMI 4K signal formats (4K UHD @60Hz RGB 4:4:4, up to 18Gbps)
- USB-C charging up to 100W

Rear View

#	Label	Description
1	DC input	The device can be powered by an external 160W power supply. Connect the output to the 2-pole Phoenix connector.
2	USB-A ports	Downstream port for connecting USB peripherals (e.g. camera, keyboard, multitouch display) with USB 3.1 Gen1 data speed.
3	HDMI output ports	HDMI output ports for connecting sink devices (e.g. displays).
4	Video output status LEDs	See the details in the table on the right.
5	Analog audio port	5-pole Phoenix connector for balanced analog audio output signal. The signal is de-embedded from the selected video signal.
6	RS-232 port	3-pole Phoenix connector for bidirectional RS-232 communication.
7	OCS sensor connector	3-pole Phoenix connector (male) for connecting an occupancy sensor. The port provides 24V output voltage (50mA).
8	GPIO port	8-pole Phoenix connector for configurable general purposes. Max. input/otput voltage is 5V.
9	Configurable Ethernet ports	RJ45 ports for configurable 100Base-T Ethernet communication.

Box Contents

- Switcher device
- Safety and warranty info, Quick Start Guide
- 24V power adaptor with IEC power cable
- 2 pcs of M3x4 flat head screws
- Phoenix® Combicon 3-pole connector
- Phoenix® Combicon 5-pole connector
- Phoenix® Combicon 8-pole connector
- Phoenix® Combicon 3-pole male connector
- Type C (USB-C) to Type C (USB-C) Cable, 1m

⚠ Always use the supplied power supply. Warranty void if damage occurs due to use of a different power source.

Connecting Steps

UCX-4x3-HCM40

*Two streams
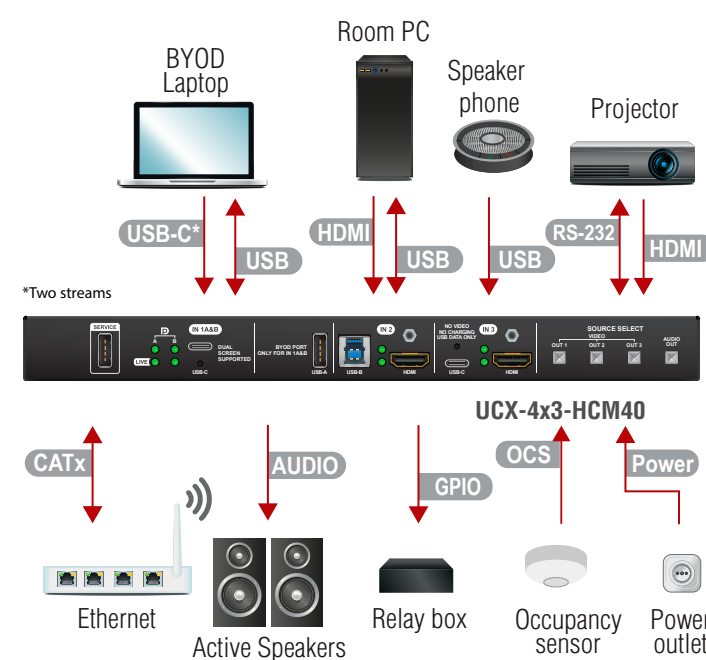
|	
USB-C	Connect a USB-C source (e.g. BYOD laptop) to the USB-C input port. The applied cable shall be certified for USB 3.1 Gen1 (5Gbps) and Displayport Alternate mode HBR2 (4x5.4Gbps) applications.
HDMI	Connect an HDMI source (e.g. BYOD laptop or room PC) to the HDMI input port.
CATx	Connect a device (e.g. BYOD laptop) to an Ethernet port to access the Internet or local network.
USB	**USB Type-A:** Optionally connect the USB device (e.g. Speaker phone). **USB Type-B:** Optionally connect the USB host (e.g. PC).
HDMI	Connect an HDMI sink (e.g projector) to the HDMI output port.
RS-232	Optionally for RS-232 extension: connect a controller/controlled device (e.g. Projector to the RS-232 port).
CATx	Optionally connect an Ethernet port to a Local Network Switch to provide Ethernet connection for device configuration and BYOD internet access.
Audio	Optionally connect an audio device (e.g. active speakers) to the analog audio output port by an audio cable.
GPIO	Optionally connect a device (e.g. Relay box) to the GPIO port.
OCS	Optionally connect an occupancy sensor to the OCS port.
Power	Connect the external power supply to the AC power socket and the switcher unit.

ⓘ Powering the device is recommended as the final step.

Arrangement of the status LEDs

Video Input Status
USB Status

IN 1A Video Input Status → ← IN 1B Video Input Status
LIVE LED → ← USB Status

Front Panel LEDs

Live LED

🟢	blinking	The device is powered on and operational.
◯	off	The device is not powered or out of operation.

Video Input Status LED (the upper one)

→🟢 ◯	on	There is a valid video signal on this port.
→◯ ◯	off	There is no valid video signal on this port.
→🟢 ◯	blink at once	The port is selected by a button press.

USB Status LED (the lower one)

◯ →🟢	on	The USB Host connected and selected.
◯ →◯	off	No USB Host or deselected port.

ⓘ When Dark mode is enabled, no LEDs are lit, even though the device is fully functional.

Further information on the device is available at www.lightware.com. The User's Manual is also available via the QR code below:
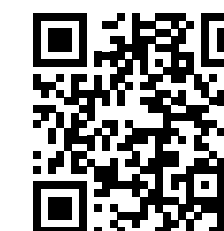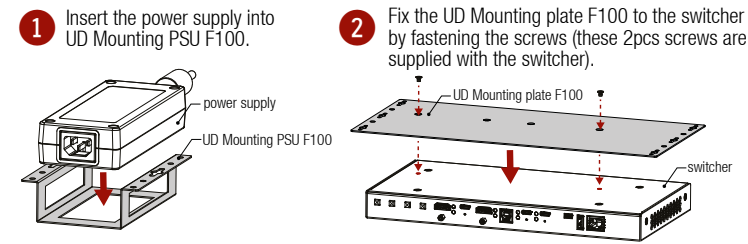

Contact Us

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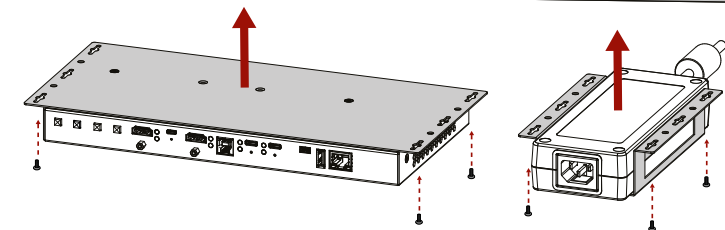Lightware Visual Engineering PLC.

Budapest, Hungary

Doc. ver.: 1.0

19210133

Mounting the Device (with optionally available accessories)

The examples demonstrate the applications of **UD Kit** accessories:

1 Insert the power supply into UD Mounting PSU F100.

2 Fix the UD Mounting plate F100 to the switcher by fastening the screws (these 2pcs screws are supplied with the switcher).

power supply
UD Mounting PSU F100
UD Mounting plate F100
switcher

3 Fix the UD-Kits under the desk by fastening the screws.

⚠ *UD-Mounting plate F100 and UD Mounting PSU F100 do not contain the fixing screws, they can be purchased from the local hardware store. 2x4pcs M3-M5 metric or wood screws needed, M3 size is recommended.*

⚠ *To ensure the correct ventilation and avoid overheating, insert the switcher face down to the UD KIT to keep the ventilation holes free.*

ℹ *For more mounting options and accessories please see the Mounting Assembly Guide on www.lightware.com.*

Factory Default Settings

To restore factory default values, do the following steps: Make sure the switcher is powered off. Press and keep pressing the **VIDEO OUT2** button. Power on the switcher while the **VIDEO OUT2** button is being pressed for 10 seconds. The device restores the factory default settings and reboots.

IP address	Dynamic (DHCP is enabled)
Hostname	lightware-<serialno>
Video crosspoint setting	I1A to O1; I1B to O2, I2 to O3
HDCP mode (in)	HDCP 2.2
HDCP mode (out)	Auto
Signal type	Auto
Emulated EDID	F47 - (Universal HDMI with PCM audio)
Audio crosspoint setting	I1 to O4
Analog audio output levels	Volume (dB): 0.00; Balance:0 (center)
Video Autoselect	Disabled
Audio Autoselect	Follow video O1
USB-C power limit	100W (Only on IN1)
DP Alternate mode policy	Auto
Port power role	Dual Role
USB Autoselect	Follow video O1
D1-D4 power 5V mode	Auto
RS-232 port setting	9600 BAUD, 8, N, 1
RS-232 serial over IP	Enabled
HTTP, HTTPS	Enabled
HTTP, HTTPS authentication	Disabled
LARA	Disabled

GPIO (General Purpose Input/Output Ports)

The device has seven GPIO pins that operate at TTL digital signal levels and can be set to high or low level (Push-Pull). The direction of the pins can be input or output (adjustable). The signal levels are the following:

	Input voltage (V)	Output voltage (V)	Max. current (mA)
Logic low level	0 - 0.8	0 - 0.5	30
Logic high level	2 -5	4.5 - 5	18

Plug pin assignment **1-6**: Configurable, **7**: 5V (max. 500 mA); **8**: Ground

The recommended cable for the connectors is the AWG24 (0.2 mm² diameter) or the generally used 'alarm cable' with 4x0.22 mm² wires.

ℹ *The maximum total current for the six GPIO pins is 180 mA, the max. supported input/output voltage is 5V.*

RS-232

The switcher provides a 3-pole Phoenix® connector for bi-directional serial communication. The signal levels are the following:

	Output voltage (V)
Logic low level	3 - 15
Logic high level	-15 - 3

Plug pin assignment: **1**: Ground, **2**: TX data, **3**: RX data

AV Port Diagram (UCX-4x3-HC40)

USB-C in I1 → USB-C to HDMI converter → 1A video
USB-C to HDMI converter → 1B video
HDMI in I2
HDMI in I3
Welcome screen I4
→ HDMI out O1
→ HDMI out O1
→ HDMI out O1
Audio de-embedder → De-embedded audio → D/A converter → Analog audio → Analog audio out

USB Port Diagram (UCX-4x3-HC40)

USB Service — USB 2.0 — CPU
500 mA
USB Host 2. — USB 2.0 — USB 2.0 hub+ Ethernet bridge — USB-C (5 Gbps) — SuperSpeed MUX
up to 100W
USB Host 3.
USB Host 4. — USB-C (5 Gbps) — SuperSpeed MUX
USB 3.1 Gen1 Hub
USB 3.1 Gen1 (5 Gbps) — USB 2.0 — USB Device 1 — 1000 mA
USB 3.1 Gen1 (5 Gbps) — USB 2.0 — USB Device 2. — 1000 mA
USB 3.1 Gen1 (5 Gbps) — USB 2.0 — USB Device 3. — 1000 mA
USB 3.1 Gen1 (5 Gbps) — USB 2.0 — USB Device 4. — 1000 mA

ℹ *Depending on the usage, the Ethernet bridge can use either the USB 2.0 (100Mbps) and the USB 3.1 (1Gbps) data channels as well.*

OCS (Occupancy) Sensor

The switcher is supplied with a 3-pole Phoenix® connector (male), which is for connecting an OCS sensor.

Plug pin assignment: **1**: Configurable; **2**: 24V (max. 50 mA); **3**: Ground

The signal levels for the **Pin 1**	Input voltage (V)	Max. current (mA)
Logic low level	0 - 0.8	30
Logic high level	2 -5	18

⚠ *The occupancy sensor connector and the GPIO port are not compatible with each other because of the voltage level difference, please do not connect them directly.*
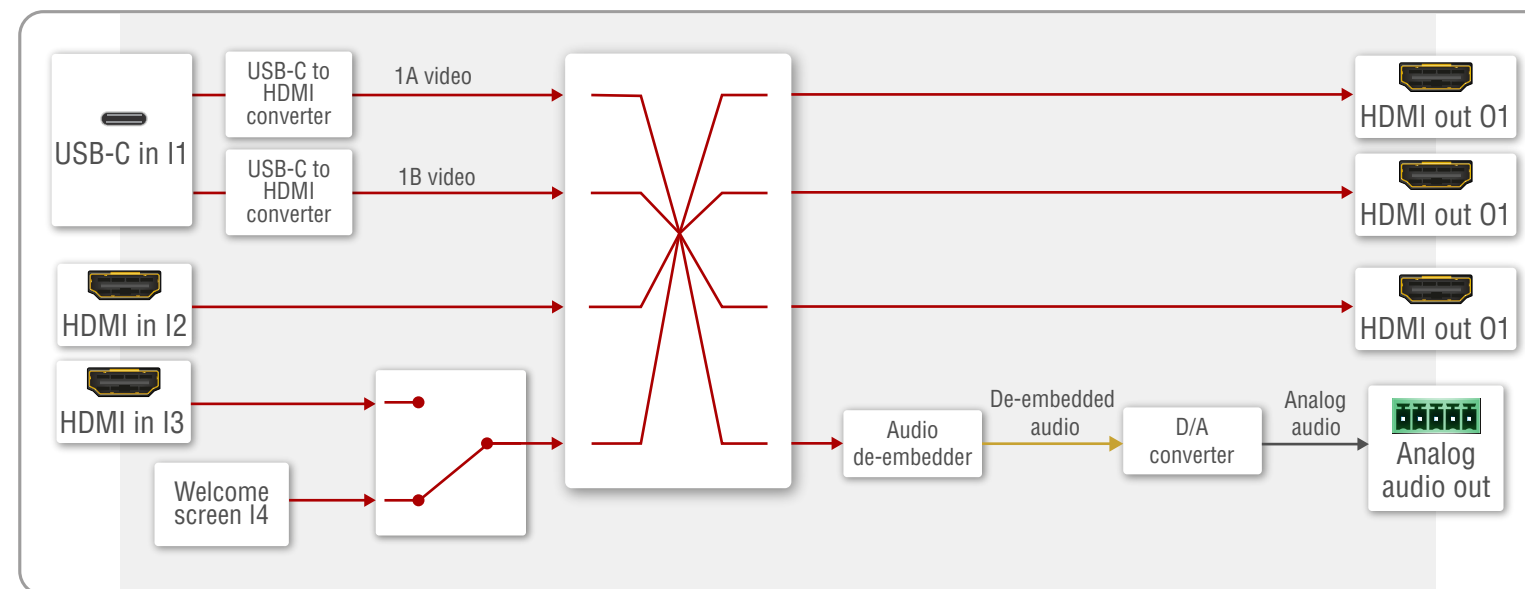
Setting a Dynamic IP Address (DHCP)

1. Keep the **Audio out** button pressed for 5 seconds; all front panel LEDs start to blink.

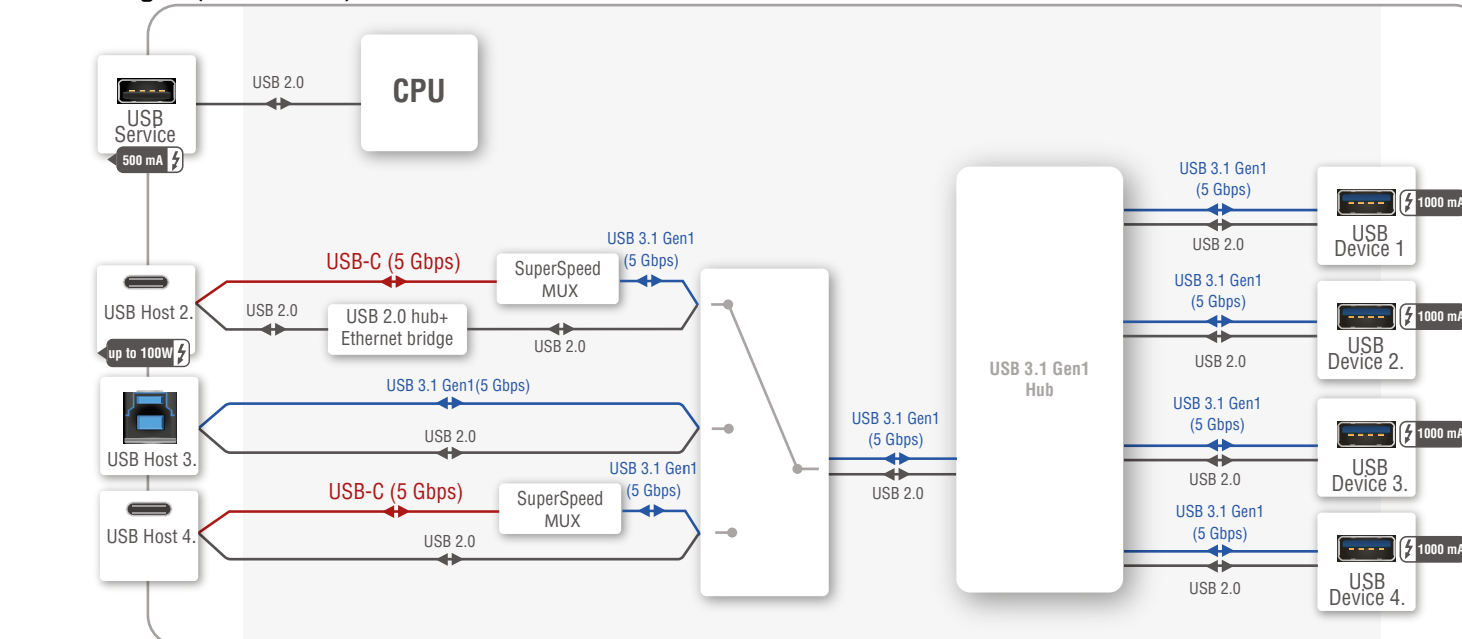2. Release the button, then press it 3 times quickly. DHCP is now enabled.
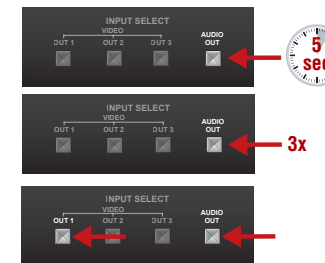
Lock / Unlock Buttons

Press the **VIDEO OUT1** and **AUDIO OUT** buttons together (within 100 ms) to disable/enable front panel buttons; front panel LEDs blink 4 times when locking / unlocking.

Audio Cable Wiring Guide

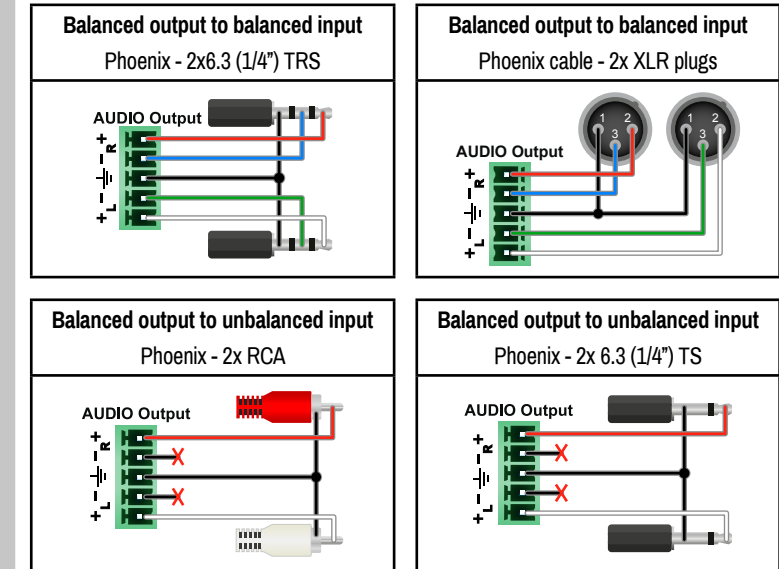The Taurus UCX series is built with a 5-pole Phoenix® output connector. See a few examples below of the most common assembling cases.

Balanced output to balanced input
Phoenix - 2x6.3 (1/4") TRS
AUDIO Output

Balanced output to balanced input
Phoenix cable - 2x XLR plugs
AUDIO Output

Balanced output to unbalanced input
Phoenix - 2x RCA
AUDIO Output

Balanced output to unbalanced input
Phoenix - 2x 6.3 (1/4") TS
AUDIO Output

Software Control – Using Lightware Device Controller (LDC)

The device can be controlled from a computer using the Lightware Device Controller software. The application is available at www.lightware.com, install it on a Windows PC or a macOS and connect to the device via LAN.

Firmware Update

Lightware Device Updater2 (LDU2) is an easy and comfortable way to keep your device up-to-date. Establish the connection via Ethernet. Download and install the LDU2 software from the company's website www.lightware.com, where you can find the latest firmware package as well.

LARA - Lightware Advanced Room Automation

LARA is a room automation platform designed to make setting up meeting rooms for easy and quick use possible. It connects the services and devices in the rooms with rules that can be customized to best suit the needs of the user. For more information, please see lightware.com/lara.

Button functionality

Push the **OUT1** button to set the video input to the HDMI OUT1 port.

Push the **OUT2** button to set the video input to the HDMI OUT2 port.

Push the **OUT3** button to set the video input to the HDMI OUT3 port.

Push the **AUDIO OUT** button to set the audio source of the analog audio output.

The sequence is the following for the video switching:

1 USB-C IN 1A → **2** USB-C IN 1B → **3** HDMI IN 2 → **4** HDMI IN 3
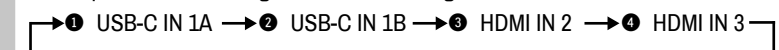
The sequence is the following for the audio switching:

1 USB-C IN 1A & 1B → **2** HDMI IN 2 → **3** HDMI IN 3