




MSolutions MS-6U1C USB-C Extender Set User Guide

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M Solutions MS-6U1C USB-C Extender Set



Notices

- This M Solutions product contains electrical components that may be damaged by electrical spikes, surges, electric shocks, lightning strikes, etc. The use of surge protection is highly recommended in order to protect and extend the life of your equipment.
- The transmission distances of data over Cat cables are measured using TE CONNECTIVITY 1427071-6 EIA/TIA-568-B termination (T568B) of cables is recommended for optimal performance. To minimize interference of unshielded twisted pairs in the CAT5e/6 cable, do not run the Cat5e/6/6a cabling with or in close parallel proximity to mains power cables.
- Do not substitute or use any other power supply other than the enclosed unit, or an MSolutions approved replacement. Do not disassemble either the Transmitter or Receiver units for any reason. Doing so will void the manufacturer's warranty.
- M Solutions reserves the right to change the specifications of this unit without prior notice. As a result of this, physical representations or graphical elements contained within this user guide may not be accurate.

Introduction

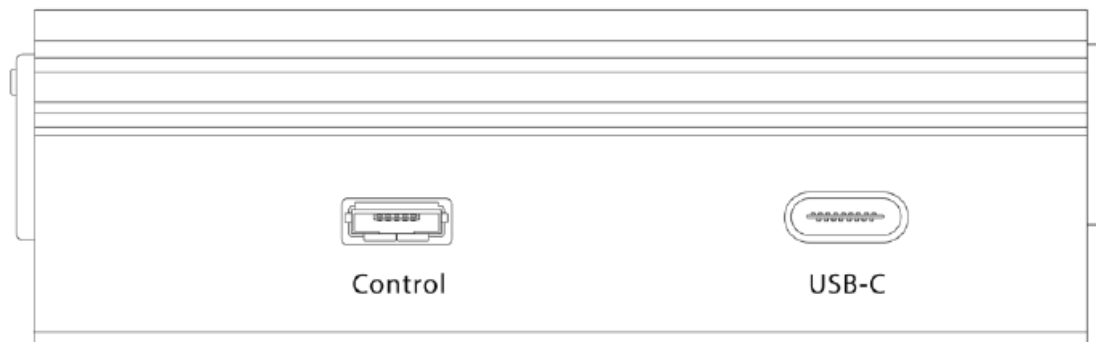
The M Solutions MS-6U1C is an entry-level USB-C extender allowing for a single USB-C data channel to be extended to distances of up to 100m over a single CATx cable infrastructure. The extender features RS-232 serial pass-through and bi-directional 12V PoC (Power over Cable) expanding the capabilities of this extender kit for a variety of commercial uses.

Key Features

- Uncompressed extension of USB data up to 100m over a single CAT
- 1x USB-C channel for up to 320Mbps data connectivity of USB-C devices across the links
- Flexible USB extension for USB-C PTZ cameras, hard drives, laptops, and other USB-C peripherals
- Bi-directional RS-232 serial pass-through
- Bi-directional 12V PoC (Power over Cable)

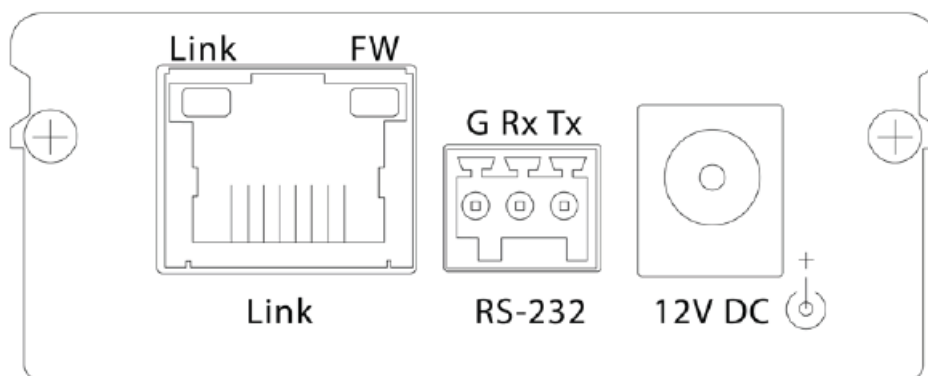
Connectivity Overview – Device

Side panel:



- Control – Micro USB for firmware and control (reserved for future use)
- USB-C – connect USB-C peripheral

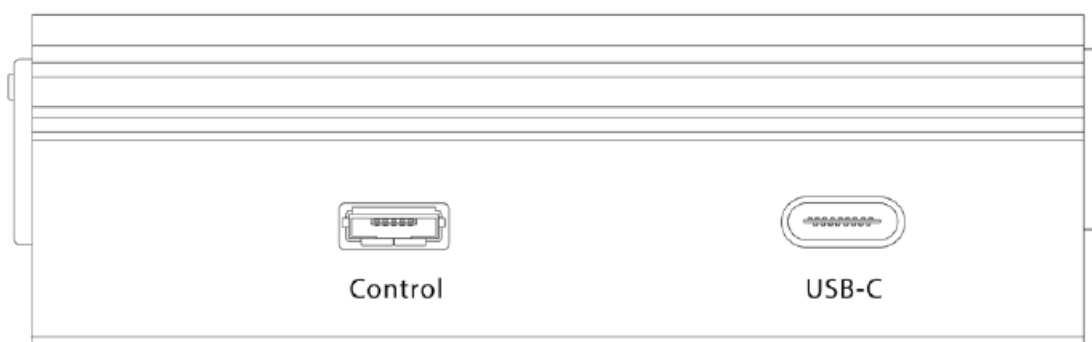
Front panel: (rear panel is blank)



- CATx Link – connect to Cat cable from receiver
- RS-232 – use supplied 3-pin phoenix connector to connect to the serial device
- Power – connect to 12V/2A DC power supply

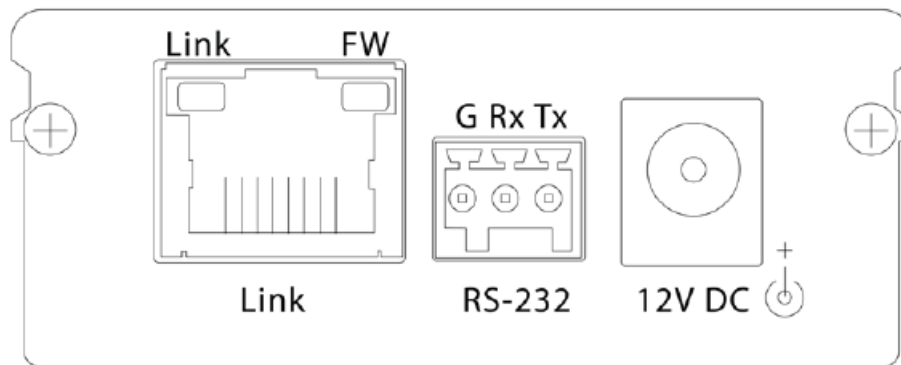
Connectivity Overview – Host

Side panel:



- Control – Micro USB for firmware and control (reserved for future use)
- USB-C – connect the USB-C host

Front panel: (rear panel is blank)



- CATx Link – connect to Cat cable from receiver
- RS-232 – use supplied 3-pin phoenix connector to connect to the serial device
- Power – connect to 12V/2A DC power supply

Understanding the LED's

This M Solutions extender set includes status LED indicators on both the Host and Device products to show active connections and to further help integrators diagnose potential problems with the associated cabling. The RJ45 Link connections on both the host and device units have orange and green LEDs.

- The orange LED indicates that the unit is receiving power. The LED will blink continuously when there is a link to the unit on the opposing side of the cable.
- The green LED indicates that the unit is communicating with the unit attached to the far side of the link over the Cat cable.

Cat Cabling for Extenders

It is important that the interconnecting Cat cable between the M Solutions products is terminated using the correct RJ45 pin configuration. The link Cat cable must be a 'straight' (pin-to-pin) Cat cable and it is advised that this is wired to the T568B wiring standard as this format is less prone to EMI (Electro-Magnetic Interference).

When installing Cat cables it is advised that the best possible Cat cable quality possible is used. M Solutions recommends using a Cat6 (or higher) cable for installations, especially when running over longer distances, in areas of high EMI, or with high data rate signal distribution.

USB

This KVM extender allows for USB-C peripherals including cameras, touch screens, smart boards, hard drives, games controllers, USB audio devices, printers, scanners, and HID's (mouse or keyboard) to be distributed over a distance of up to 100m to a USB-C host device on the far side of the link.

The extender supports transparent true plug-and-play USB pass-through without the requirement of software or driver son the extender kit.

A maximum combined data transfer of 320Mbps can be achieved over the link.

The Micro-USB connections on both Host and Device units are utilized for firmware updating and are reserved for future CloudOS control.

Note: the USB-C connectivity does not support high-bandwidth video data from a laptop/tablet to a display due to

the limitation of available bandwidth.

RS-232 Control

The MS-6U1C can distribute bi-directional serial commands between the transmitter and receiver to allow for control commands to be sent alongside USB KVM.

Each unit is fitted with a 3-pin phoenix connector block that will need the serial TX, RX, and Ground pins terminating for serial pass-through. The link has the ability to transparently send any type of serial data as both pieces of equipment are able to communicate using the same baud rate, stopgap, and parity.

Power

The MS-6U1C uses bi-directional PoC (Power over Cable) to provide power from either the Host or Device unit to the far side of the link over the Cat cable. Please only use the supplied 12V/2A DCb PSU supplied with the M Solutions MS-6U1C to power the unit

Specifications

Device

- USB-C connectivity: 1 x USB-C (female) – peripheral
- USB control: 1 x Micro USB (female)
- RS-232 connectivity: 1 x 3-pin phoenix connector, block included
- Power supply (PoC): 1x 12V/2A DC
- Individual unit dimensions (W x D x H): 60 x 84 x 25mm
- Individual unit weight: 0.2kg
- Operating temperature: 32°F to 104°F (0°C to 40°C)
- Storage temperature: -4°F to 140°F (-20°C to 60°C)
- Operating humidity: 0-80% noncondensing

Host

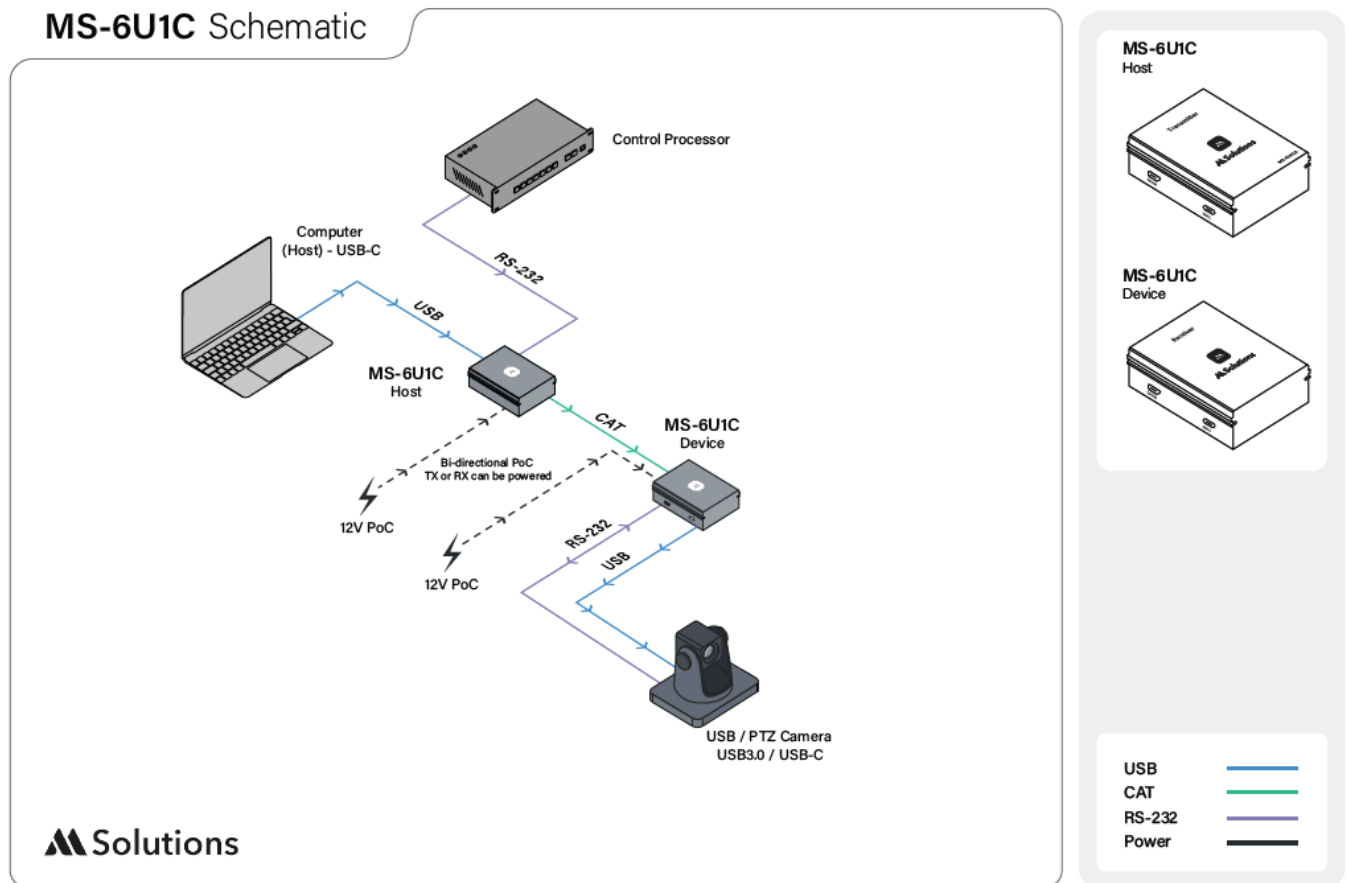
- USB-C connectivity: 1 x USB-C (female) – host
- USB control: 1 x Micro USB (female)
- RS-232 connectivity: 1x 3-pin phoenix connector, block included
- Power supply (PoC): 1x 12V/2A DC
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- Operating humidity: 0-80% non-condensing

Package Contents


- 1 x MST-6U1C (host)
- 1 x MSR-6U1C (device)
- 1 x 12V / 2A DC power supply with US, UK, and EU clips

- 1 x USB-C (male) to USB-A (female) cable
- 2 x 3-pin phoenix connector blocks
- 2 x Surface mounting brackets

Schematic



Documents / Resources

<p>MSolutions</p> <p>User Guide</p> <p>MS-6U1C USB-C Extender Set - up to 100m, PoC, RS-232 pass through</p> 	<p>MSolutions MS-6U1C USB-C Extender Set [pdf] User Guide</p> <p>MS-6U1C, USB-C Extender Set, MS-6U1C USB-C Extender Set</p>
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References

- [MSolutions - Pro AV Solutions, HDBaseT Products and Tools!](#)