FireNEX™-CAT6

5Gbps USB-C Repeater over CAT6

Data Sheet

Introduction

FireNEX-CAT6 is an innovative USB-C extension solution designed for superior performance and reliability. With fast 5Gbps USB data transfer and robust USB Power Delivery (PD) support, FireNEX-CAT6 extends both data and power up to 90 meters using a single CAT 6a/7 cable.

Due to its advanced USB PD capabilities, FireNEX-CAT6 delivers up to 27W of power over the CAT 6a/7 cable, supporting various USB PD profiles including 5V, 9V, 12V, 20V. This makes it the ideal extension solution for the high power USB bus-powered device over long distances, such as PTZ camera, portable display, 3D cameras, and more.

FireNEX-CAT6 ensures a secure and stable connection with its durable metal casing and USB-IF standard screw-locking ports. Additionally, the RS-232 serial pass-through enhances its versatility, making it the preferred choice for professionals and enthusiasts who are seeking reliable USB-C extension solutions over popular connection media like a CAT cable.

Features

- Extend USB-C data and power over CAT 6a/7 Ethernet cable up to 90m (300 ft.)
- Support USB 3.2 Gen 1 (USB 3.0) data rate up to 5Gbps
- USB 2.0/1.1 Backward Compatible
- Isochronous USB Support
- Deliver power over CAT cable to the USB-C device port up to 27W
  with support of USB PD charging, including 5V, 9V, 12V, 20V
- Bi-directional RS-232 serial pass through
- Durable Metal Enclosure
- USB-IF standard USB-C locking port
- Plug and Play for Windows, macOS, Linux, Chrome OS Support

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Included in the Box

1x FireNEX-CAT6 Local Unit
1x FireNEX-CAT6 Remote Unit
1x 36V DC Power Adapter (US)
1x USB 3.2 A to C Cable, 1m
2x RS232 3-Pin Header
1x FireNEX-CAT6 Manual

Product Images

Mounting Options

Surface Mount   **Panel Mount**   **Side Mount**
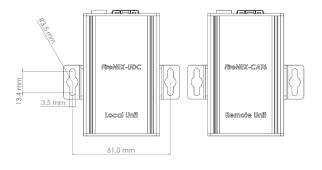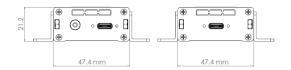*(works with common
DIN rail bracket)*

Specification

RANGE

Max. Extension	90m (300 ft.)

DATA RATE

USB 3.2 Gen 1 (USB 3.0)	5 Gb/s
USB 2.0/1.1	Backward Compatible
USB Transfer Type	Bulk / Isochronous / Control / Interrupt
USB Hub Tier Count	1

LOCAL UNIT

Dimensions	77 x 45 x 21 mm
Weight	93g
Enclosure Material	Anodized Aluminum
Upstream USB Port	1x USB-C to Host with Locking
Link Connector	RJ45
Power Input	36V / 1A DC
Power Plug	2.1 x 5.5 x 10mm Center positive
Mated RS-232 Header	3-Pin Phoenix 1881338

REMOTE UNIT

Dimensions	77 x 45 x 21 mm
Weight	87g
Enclosure Material	Anodized Aluminum
Downstream USB Port	1x USB-C to Device with Locking
PD Profile	5V, 9V, 12V, 20V up to 27W
Link Connector	RJ45
Power Source	Power over CAT Cable
Mated RS-232 Header	3-Pin Phoenix 1881338

COMPATIBLE CAT Cable

Length	90m (300 ft.) Max.
Type	Shielded or Foiled Twisted Pair (S/FTP or F/FTP) CAT 6a/7 cable
Wiring	T568A or T568B

POWER SUPPLY

AC Power Plug Type	US
Power Input	100-240V AC, 50/60Hz
Power Output	36V / 1A DC

ENVRIONMENTAL

Operating Temperature	0°C to 50 °C (14°F to 185°F)
Operating Humidity	20% to 80% relative humidity, non-condensing

COMPLIANCE AND COMPATIBLITY

EMC	FCC, CE
Environmental	RoHS 2 & 3, REACH

SUPPORT

Manufacturer Warranty	1-year

Dimension

FAQ

1. **Q: Does FireNEX-CAT6 support DP Alt Mode?**
   A: No, FireNEX-CAT6 transfers USB 5Gbps data and power.

2. **Q: How many USB hub tiers does FireNEX-CAT6 consist?**
   A: FireNEX-CAT6 consists of one USB hub.

3. **Q: Is FireNEX-CAT6 backward compatible with USB 2.0/1.1 peripherals?**
   A: Yes, FireNEX-CAT6 is backward compatible with USB 2.0/1.1 protocols.

4. **Q: Does FireNEX-CAT6 support isochronous USB data transfer?**
   A: Yes, FireNEX-CAT6 supports isochronous USB data transfer.

5. **Q: Do the USB-C ports of FireNEX-CAT6 support flippable plug-in?**
   A: Yes, both upstream and downstream USB-C ports support flipped plug-in.

6. **Q: Can I use Unshielded Twisted Pair (UTP) CAT6a cable with FireNEX-CAT6?**
   A: No, It's recommended to use with a shielded (S/FTP or F/FTP) CAT 6a or 7 cable with FireNEX-CAT6.

Accessories

USB-A to USB-C Cable	https://newnex.com/usb-type-c-cables-legacy.php
USB-C to Micro B Cable	https://newnex.com/usb-type-c-cables-legacy.php#Micro-USB-to-USB-C
USB-C to B Cable	https://newnex.com/usb-type-c-cables-legacy.php#USB-B-to-USB-C
USB-C to USB-C Cables	https://newnex.com/usb-type-c-cables.php