

# CVT10 Pro

Fiber Converter



## Specifications

## Change History

Document Version	Release Date	Description
V1.1.1	2025-03-14	Updated the Ethernet port description.
V1.1.0	2024-09-19	<ul style="list-style-type: none"><li>• Added certification information for KC.</li><li>• Improved the optical module description.</li></ul>
V1.0.0	2022-08-01	First release

## Introduction

The CVT10 Pro is fiber converter developed by NovaStar Tech Co., Ltd. (hereinafter referred to as NovaStar). It offers a way to convert optical signals to electrical signals, or electrical signals to optical signals, for connecting the sending card to the LED screen. Delivering a full-duplex, efficient and stable data transmission that is not easily interfered with, this converter is ideal for long-distance transmission.

The CVT10 Pro adopts a dustproof and waterproof design. It can be mounted horizontally in a rack, or mounted onto a scaffold in a suspended way with truss clamps, which is easy, secure and reliable.

## Certifications

CE, FCC, IC, UL, CB, RCM, KC

**If the product does not have the relevant certifications required by the countries or regions where it is to be sold, please contact NovaStar to confirm or address the problem.**

**Otherwise, the customer shall be responsible for the legal risks caused or NovaStar has the right to claim compensation.**

## Features

- Models include the CVT10 Pro-S (single-mode) and the CVT10 Pro-M (multi-mode).
- 2x optical ports support hot-swapping, bandwidth of each up to 10 Gbit/s. (Ships with pre-installed optical modules)

- 10x Gigabit Ethernet ports, bandwidth of each up to 1 Gbit/s
  - The first 8 Ethernet ports are available when connected to the 10G (8b/10b encoding) optical ports of front-end devices.
  - The 10 Ethernet ports are available when connected to the 10.3125G (64b/66b encoding) optical ports of front-end devices.
- 1x type-B USB control port

## Appearance

### Front Panel

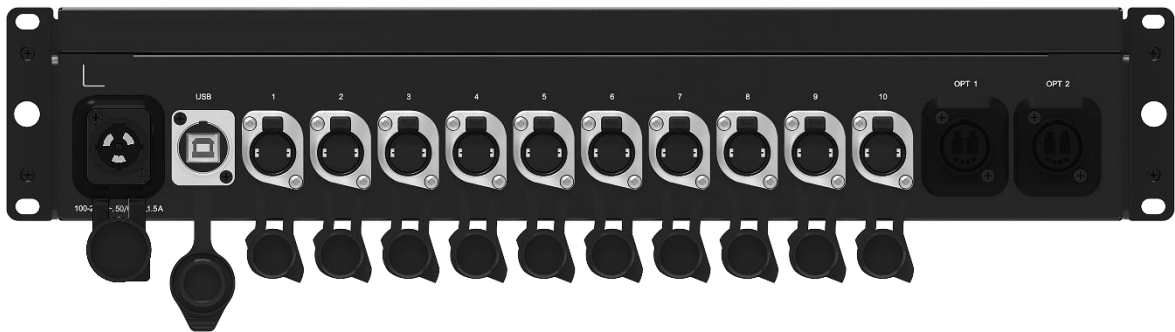


All product pictures shown in this document are for illustration purpose only. Actual product may vary.

Name	Description
PWR	Power indicator Always on: The power supply is normal.
STAT	Running indicator Flashing: The device is functioning normally.
OPT1/OPT2	Optical port indicators Always on: The optical fiber connection is normal.
1-10	Ethernet port indicators Always on: The Ethernet cable connection is normal.
CVT	Working mode indicator Always on: The device is in fiber converter mode. OPT 1 is the

Name	Description
	primary port and OPT 2 is the backup port.
DIS	Reserved

Rear Panel

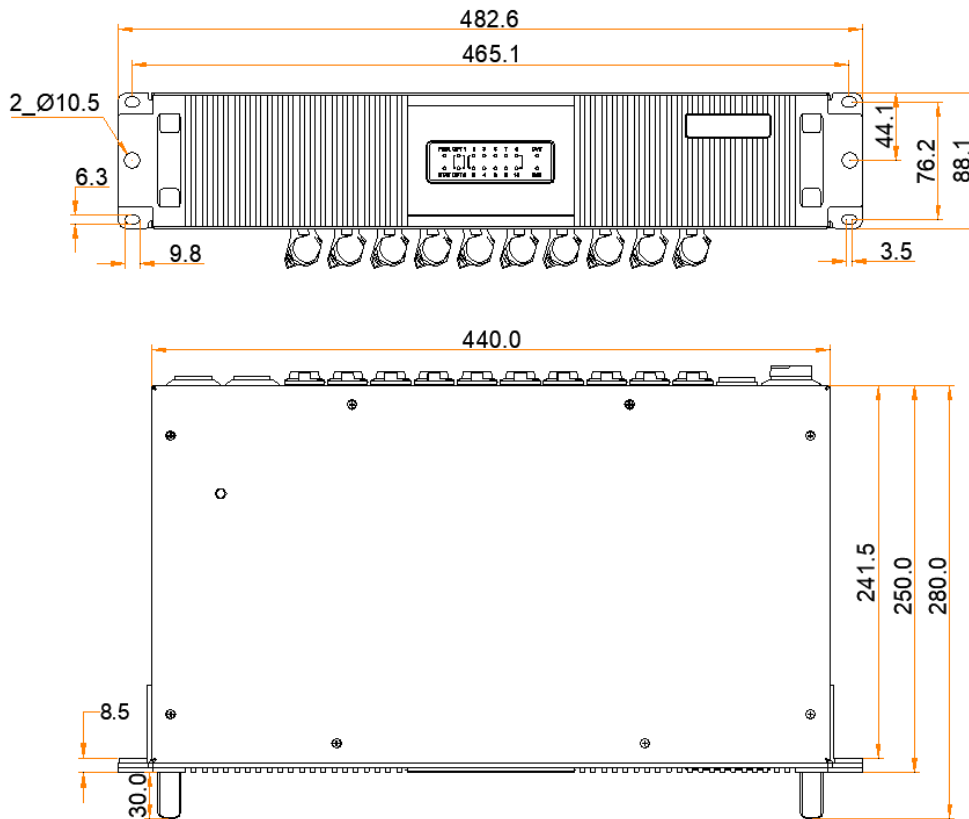


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Name	Description			
100-240V~, 50/60Hz, 1.5A	Power input connector (PowerCON) For the PowerCON connector, users are not allowed to plug in hot. Pour le connecteur PowerCON, les utilisateurs ne sont pas autorisés à se connecter à chaud.			
USB	Type-B USB control port Connect to the control computer (NovaLCT V5.4.0 or later) for upgrading the CVT10 Pro program, not for cascading.			
1-10	Gigabit Ethernet ports			
OPT 1/OPT 2	10G optical ports OPT 1 is the primary port and OPT 2 is the backup port.			
	<table border="1"> <tr> <td>CVT10 Pro-S optical module description:</td> <td>CVT10 Pro-S optical fiber selection:</td> </tr> <tr> <td> <ul style="list-style-type: none"> <li>The optical ports support hot-swapping</li> <li>Transmission rate: 9.95 Gbit/s to 11.3 Gbit/s</li> <li>Wavelength: 1310 nm</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>Model: OS1/OS2</li> <li>Transmission mode: Single-mode twin-core</li> <li>Cable diameter: 9/125 μm</li> <li>Connector type: LC</li> </ul> </td> </tr> </table>	CVT10 Pro-S optical module description:	CVT10 Pro-S optical fiber selection:	<ul style="list-style-type: none"> <li>The optical ports support hot-swapping</li> <li>Transmission rate: 9.95 Gbit/s to 11.3 Gbit/s</li> <li>Wavelength: 1310 nm</li> </ul>
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Name	Description	
	<ul style="list-style-type: none"> <li>• Transmission distance: 10 km</li> </ul>	<ul style="list-style-type: none"> <li>• Insertion loss: ≤ 0.3 dB</li> <li>• Return loss: ≥ 45 dB</li> </ul>
	<p>CVT10 Pro-M optical module description:</p> <ul style="list-style-type: none"> <li>• The optical ports support hot-swapping</li> <li>• Transmission rate: 9.95 Gbit/s to 11.3 Gbit/s</li> <li>• Wavelength: 850 nm</li> <li>• Transmission distance: 300 m</li> </ul>	<p>CVT10 Pro-M optical fiber selection:</p> <ul style="list-style-type: none"> <li>• Model: OM3/OM4</li> <li>• Transmission mode: Multiple-mode twin-core</li> <li>• Cable diameter: 50/125 μm</li> <li>• Connector type: LC</li> <li>• Insertion loss: ≤ 0.2 dB</li> <li>• Return loss: ≥ 45 dB</li> </ul>

## Dimensions

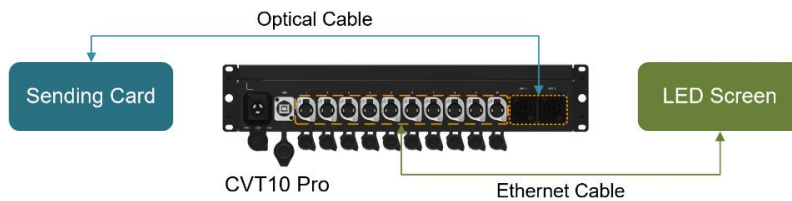


Tolerance: ±0.3 Unit: mm

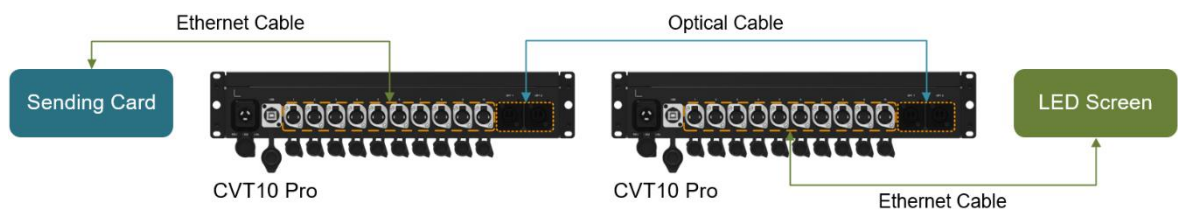
## Applications

The CVT10 Pro is used for long-distance data transmission. Users can choose a networking mode based on whether the sending card has optical ports.

### The Sending Card Has Optical Ports



### The Sending Card Has No Optical Ports



## Specifications

Electrical Specifications	Power supply	100-240V~, 50/60Hz, 1.5A
	Rated power consumption	22 W
Operating Environment	Temperature	-20°C to +55°C
	Humidity	0% RH to 80% RH, non-condensing
Storage Environment	Temperature	-20°C to +70°C
	Humidity	10% RH to 95% RH, non-condensing
Physical Specifications	Dimensions	482.6 mm × 88.1 mm × 280.0 mm
	Net weight	5.9 kg
	Gross weight	7.8 kg Note: It is the total weight of the product, accessories, and packing materials packed

		according to the packing specifications.
Packing Information	Carrying case	535.0 mm × 199.0 mm × 430.0 mm, white cardboard box
	Packing box	550.0 mm × 440.0 mm × 215.0 mm, kraft paper box
	Accessories	<ul style="list-style-type: none"> <li>• 1x Power cord</li> <li>• 1x USB cable</li> <li>• 1x Certificate of Approval</li> </ul>

The amount of power consumption may vary depending on various factors such as product settings, usage, and environment.

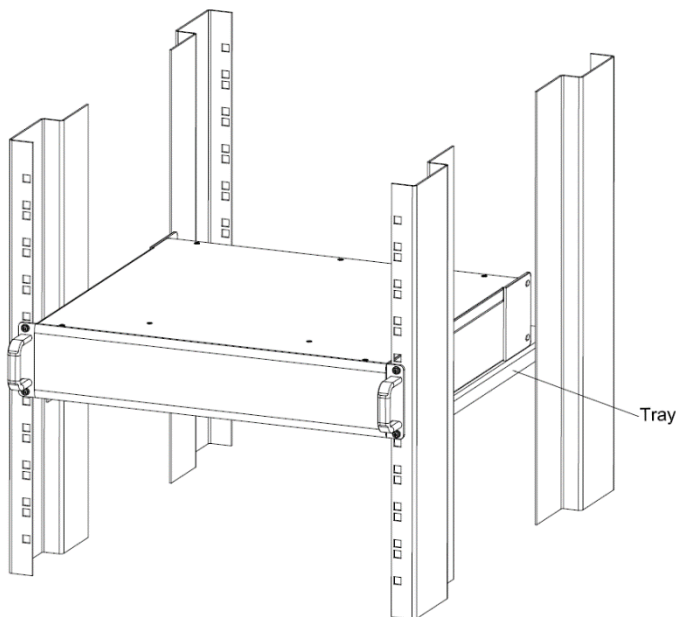
## Notes and Cautions

### Notes for Installation

Caution: The equipment must be installed in a restricted access location.

Attention: L'équipement doit être installé dans un endroit à accès restreint.

When the product needs to be installed on the rack, 4 screws at least M5\*12 should be used to fix it. The rack for installation shall bear at least 25kg weight.

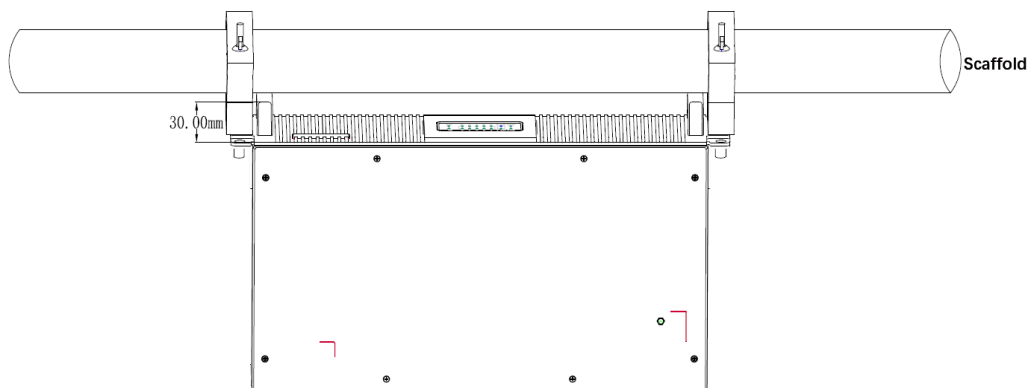


- Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient.

Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature ( $T_{ma}$ ) specified by the manufacturer.

- Reduced Air Flow – Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- Mechanical Loading – Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- Circuit Overloading – Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- Reliable Earthing – Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

When mounting the product in a suspended way, use  $\phi 10\text{mm}$  bolts for the truss clamps.



## Others

This is Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.



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