

CVT8-5G

Fiber Converter



Specifications

Change History

Document Version	Release Date	Description
V1.1.0	2026-05-11	<ul style="list-style-type: none"> • Updated the transmission rate. • Updated the insertion loss. • Added the noise level. • Added the IP rating.
V1.0.4	2024-10-08	Update the fiber type and transmission distance for the multi-mode optical module.
V1.0.3	2024-07-05	Added Ethernet cable requirements.
V1.0.2	2024-06-11	Updated the certification information.
V1.0.1	2023-05-18	Updated the operating temperature range.
V1.0.0	2022-07-10	First release.

Introduction

The CVT8-5G fiber converter offers a cost-effective way of conversion between optical signals and electrical signals for video sources to connect the sending card to the LED display. Delivering a full-duplex, efficient and stable data transmission that is not easily interfered with, this converter is ideal for long-distance transmission.

The CVT8-5G hardware design focuses on the practicality and convenience of the on-site installation. It can be mounted horizontally, in a suspended way, or rack mounted, which is easy, secure and reliable. For rack mounting, two CVT8-5G devices, or one CVT8-5G device and a connecting piece can be combined into one assembly that is 1U in width.

Certifications

RoHS, CE, FCC, IC, UL, CB

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 CVT8-5GS (single-mode) and the CVT8-5GM (multi-mode).

- 1x optical port with bandwidth up to 40 Gbps and supports hot-swapping. (Ships with pre-installed optical modules)
- 8x 5G BaseT Ethernet ports, bandwidth of each up to 5 Gbps (supports CAT6 cables up to 100 meters)
- 1x type-B USB control port

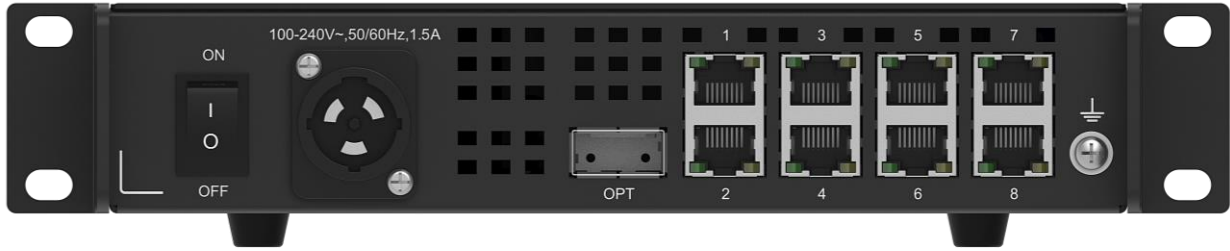
Appearance

Front Panel



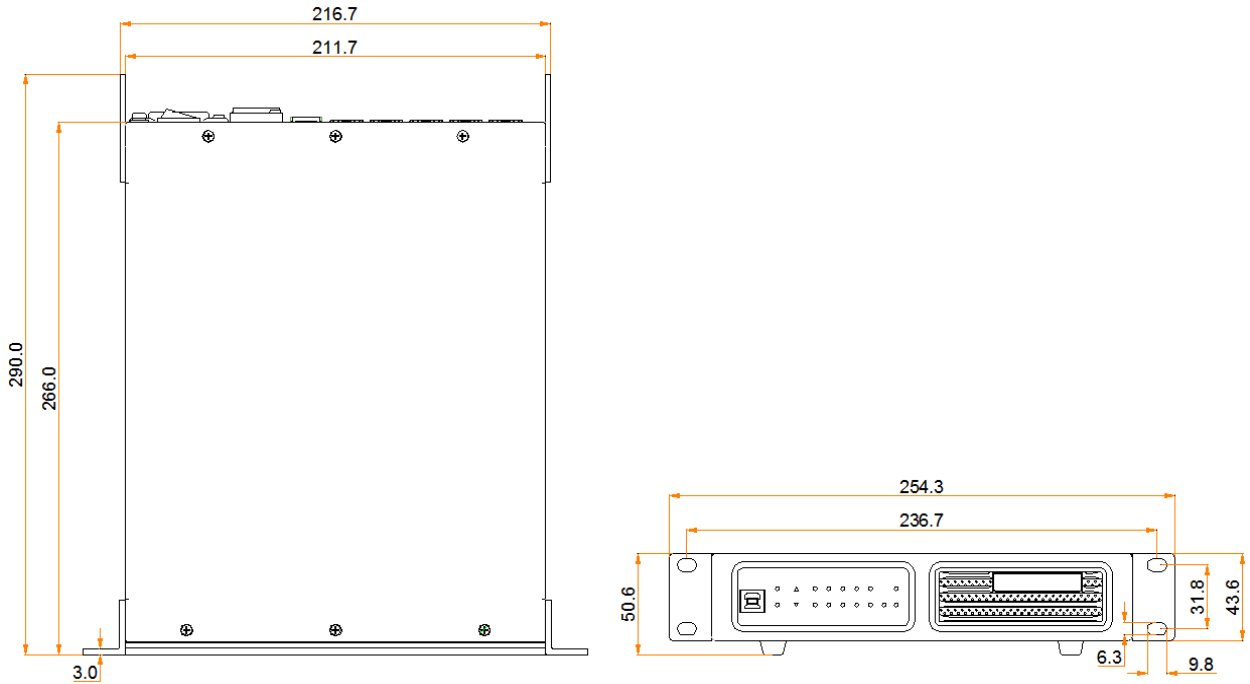
Name	Description
USB	Type-B USB control port Connect to the control computer (NovaLCT V5.4.0 or later) for upgrading the CVT8-5G program, not for cascading.
PWR	Power indicator Always on: The power supply is normal.
STAT	Running indicator Flashing: The device is functioning normally.
OPT1	Optical port indicator Always on: The optical fiber connection is normal.
1-8	Ethernet port indicators Always on: The Ethernet cable connection is normal.

Rear Panel



Name	Description				
100-240V~, 50/60Hz, 1.5A	<p>Power input connector</p> <ul style="list-style-type: none"> • ON: Turn on the power. • OFF: Turn off the power. <p>For the PowerCON connector, users are not allowed to plug in hot.</p> <p>Pour le connecteur PowerCON, les utilisateurs ne sont pas autorisés à se connecter à chaud.</p>				
OPT	<p>40G optical port</p> <table border="1"> <tbody> <tr> <td> <p>CVT8-5GS optical module description:</p> <ul style="list-style-type: none"> • The optical port supports hot-swapping • Transmission rate: 41.25 Gbps • Wavelength: 1310 nm • Transmission distance: 10 km </td> <td> <p>CVT8-5GS optical fiber selection:</p> <ul style="list-style-type: none"> • Model: OS1/OS2 • Transmission mode: Single-mode twin-core • Cable diameter: 9/125 μm • Connector type: LC • Insertion loss: ≤ 10 dB • Return loss: ≥ 45 dB </td> </tr> <tr> <td> <p>CVT8-5GM optical module description:</p> <ul style="list-style-type: none"> • The optical port supports hot-swapping • Transmission rate: 41.25 Gbps • Wavelength: 850 nm • Transmission distance: 100m (OM3), 150m (OM4) </td> <td> <p>CVT8-5GM optical fiber selection:</p> <ul style="list-style-type: none"> • Model: OM3/OM4 • Transmission mode: Multi-mode 8-core • Cable diameter: 50/125 μm • Connector type: MPO • Insertion loss: ≤ 7 dB • Return loss: ≥ 50 dB </td> </tr> </tbody> </table>	<p>CVT8-5GS optical module description:</p> <ul style="list-style-type: none"> • The optical port supports hot-swapping • Transmission rate: 41.25 Gbps • Wavelength: 1310 nm • Transmission distance: 10 km 	<p>CVT8-5GS optical fiber selection:</p> <ul style="list-style-type: none"> • Model: OS1/OS2 • Transmission mode: Single-mode twin-core • Cable diameter: 9/125 μm • Connector type: LC • Insertion loss: ≤ 10 dB • Return loss: ≥ 45 dB 	<p>CVT8-5GM optical module description:</p> <ul style="list-style-type: none"> • The optical port supports hot-swapping • Transmission rate: 41.25 Gbps • Wavelength: 850 nm • Transmission distance: 100m (OM3), 150m (OM4) 	<p>CVT8-5GM optical fiber selection:</p> <ul style="list-style-type: none"> • Model: OM3/OM4 • Transmission mode: Multi-mode 8-core • Cable diameter: 50/125 μm • Connector type: MPO • Insertion loss: ≤ 7 dB • Return loss: ≥ 50 dB
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1-8	<p>5G Gigabit Ethernet ports</p> <ul style="list-style-type: none"> • Solid green: The Ethernet cable connection is normal. • Flashing yellow: There is data transmission. 				

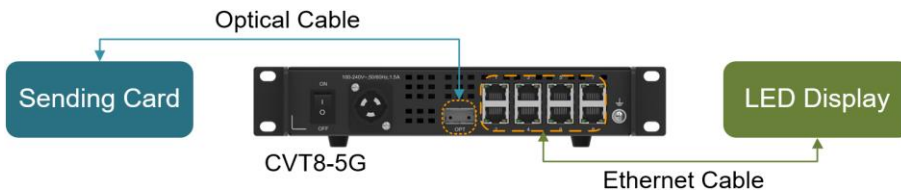
Dimensions



Tolerance: ± 0.3 Unit: mm

Applications

The CVT8-5G is used for long-distance data transmission.



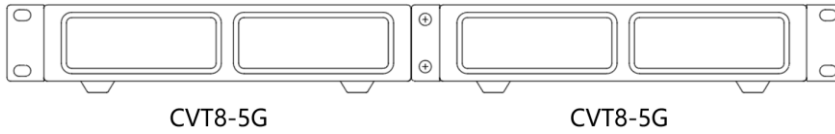
Assembling Effect Diagram

A single CVT8-5G device is half-1U in width. Two CVT8-5G devices, or one CVT8-5G device and a connecting piece can be combined into one assembly that is 1U in width. The assembly can be mounted in a standard 19-inch rack capable of withstanding at least four times the total weight of the mounted equipment. Four M5 screws should be used to fix the assembly.

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

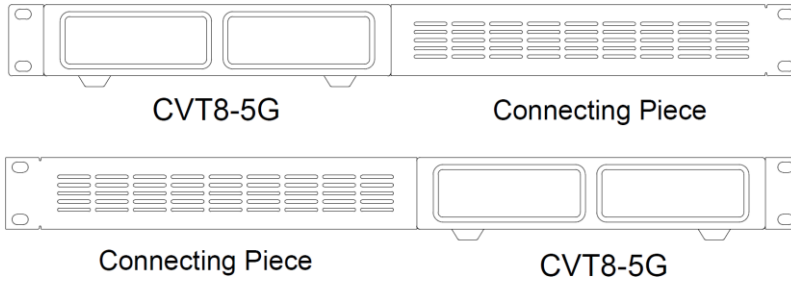
Attention: L'équipement doit être installé dans un endroit à accès restreint.

Assembly of Two CVT8-5G



Assembly of a CVT8-5G and a Connecting Piece

The connecting piece can be assembled to the right or left side of the CVT8-5G.



Specifications

Electrical Specifications	Power input	100-240V~, 50/60 Hz, 1.5 A
	Rated power consumption	33 W
Operating Environment	Temperature	-20°C to +45°C
	Humidity	10% 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	254.3 mm × 50.6 mm × 290.0 mm
	Net weight	2.26 kg Note: It is the weight of a single product only.
	Gross weight	3.26 kg Note: It is the total weight of the product, accessories and packing materials packed according to the packing specifications.
Packing Information	Outer box	387.0 mm × 173.0 mm × 359.0 mm, kraft paper box
	Packing box	362.0 mm × 141.0 mm × 331.0 mm, kraft paper box

	Accessories	<ul style="list-style-type: none"> • 1x Power cord, 1x USB cable • 2x 40G optical modules (one for the controller) • 1x Supporting bracket A (with nuts), 1x Supporting bracket B (without nuts) • 1x Connecting piece • 12x M3*8 screws • 1x Assembling diagram • 1x Certificate of Approval
Noise Level (typical at 2 5°C/77°F)	36 dB	
IP Rating	IP20	Please prevent the product from water intrusion and do not wet or wash the product.

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

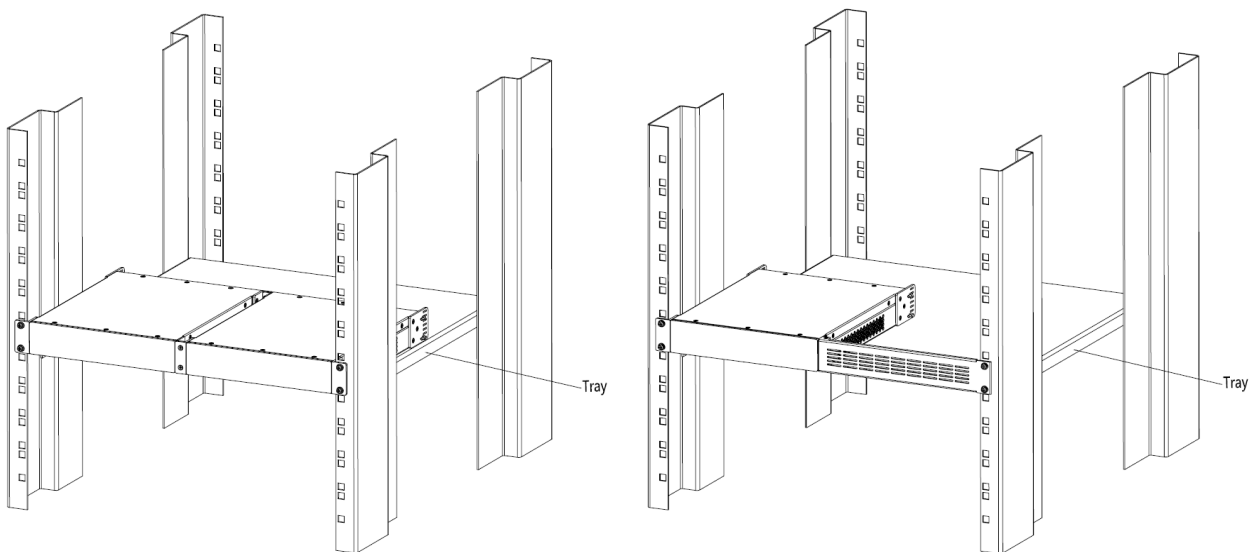
Notes and Cautions

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 9kg 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).

FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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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