



Corinex Installation Guide

Corinex Compact Headend
CXP-GPH

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Published by:

Corinex Communications Corp.

900 - 1090 W Georgia Street
Vancouver, B.C. Canada V6E 3V7
Tel.: +1 604 692 0520
Fax: +1 604 694 0061
www.corinex.com

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 **NOTE:** This equipment has been tested and found to comply with the limits for Class B information technology equipment. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference, the end user is advised to take adequate measures.

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Acronyms

Autoconf	Auto configuration
BPL	Broadband over Power Line
CPE	Customer Premise Equipment
DC	Direct Current
ETH	Ethernet
TLS	Transport Layer Security
TSM	Transport Security Model
USM	User Based Security Model

1. General Information

This document is a general description for the following device:

- Corinex Compact Headend (CXP-GPH)

1.1 Included in the delivery of the CXP-GPH

- Corinex Compact Headend (CXP-GPH)
- DC power plug

2. Hardware

2.1 Installation

The CXP-GPH has an integrated DIN rail mounting clip. Mount the device at a DIN rail as shown in the following drawing. The DIN rail has a spring that will automatically close the clip when the router fits to the rail.

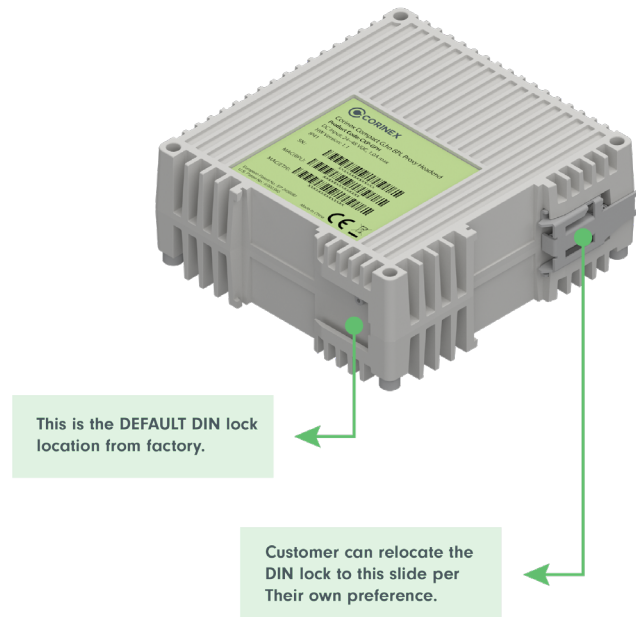


Figure 1: CXP-GPH installation

As figure 1 indicates, the CXP-GPH has two options for mounting the DIN rail. Depending upon the desired orientation of the device, customer can relocate the DIN lock from its default location to the other side. There is a small hexagonal screw which holds the DIN rail clip to the device. Removing this screw will help to take the clip out and move to other side if required. Refer to the following images for instructions on how this is done.

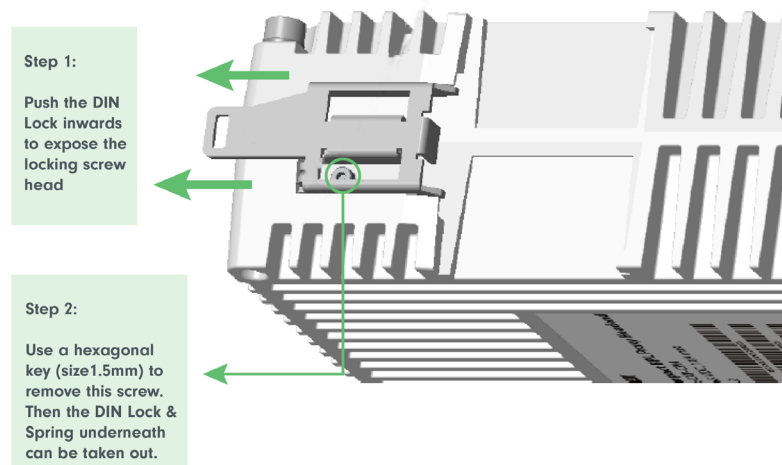


Figure 2: DIN lock installation

2.1.1 Steps to mount onto the DIN Rail

Once the DIN rail clip is attached to the desired slot, the device can be mounted onto the DIN rail in two easy steps. Refer to the images below for instructions.

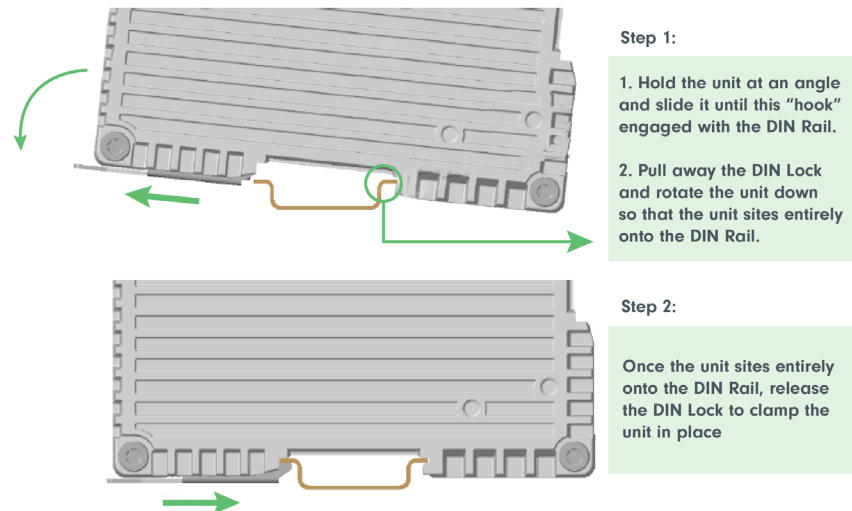


Figure 3: DIN rail mounting

Optionally DIN rail stoppers can be installed to make sure that the device doesn't slide from its location.

2.1.2 Steps to unmount the device from the DIN Rail

For unmounting the CXP-GPH, use a screwdriver with a long metal point and open the DIN rail clip as shown in figure 4. Then push the device up to remove it from the DIN rail.

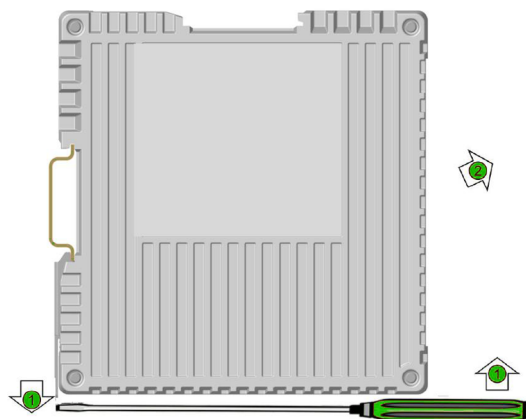


Figure 4: Unmount from DIN rail

2.2 Grounding

To ensure the device is working properly and safely, proper grounding should be provided during the installation. CXP-GPH is designed in such a way that grounding of the DIN rail will in turn ground the CXP-GPH device too.

2.3 Status of the LEDs

CXP-GPH has 6 LEDs on the front including the 2 standard Ethernet port LEDs. These LEDs show the real-time operational status of the device. All LEDs are clearly marked on the casing:

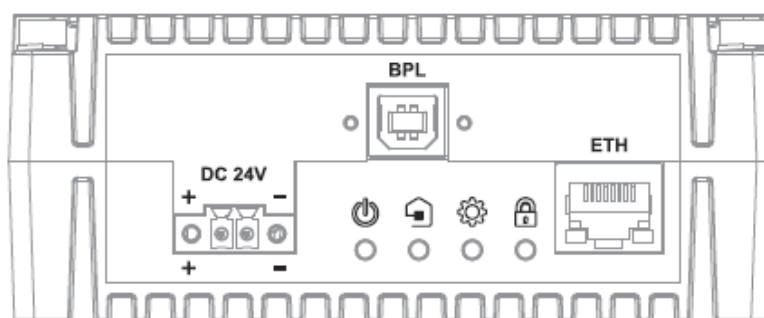


Figure 5: CXP-GPH LEDs

All LEDs except for the ones corresponding to the Ethernet port are of a single colour; green when turned on.



Power

Function: Shows the DC power supply and device auto-configuration status.

Different statuses are shown below:

LED Status	ON	OFF	Fast Flashes	Slow Flashes
Function	DC power is ON and autoconf is finished, or DC power is ON and the device is using NVRAM settings.	DC power is off.	N/A	N/A



BPL Link

Function: Shows the BPL link status

Different statuses are shown below:

LED Status	ON	OFF	Fast flashes	Slow flashes
Function	BPL link established	No BPL link	BPL link activity	N/A



System Status

Function: Shows general system status

Different statuses are shown below:

LED Status	ON	OFF	Fast flashes	Slow flashes
Function	All processes are running, and System autoconf is done or Using NVRAM configuration	System is booting, or waiting for system check	System check or upgrade failed. System and BPL chip upgrade successful when in syncs with Secure Link LED	N/A



Secure Link

Function: Secure link indication

Different statuses are shown below:

LED Status	ON	OFF	Fast flashes	Slow flashes
Function	USM: Last received SNMP message successful. TSM: Persistent TLS link established.	USM: Last received SNMP message failed. TSM: Persistent TLS link not established yet.	System upgrade successful when in sync with System Status LED	N/A



Ethernet Port

There are two LEDs for the Ethernet port, the left one is Green and the right one is Yellow.

- LED 1 – Green – ETH Link

LED Status	ON	OFF	Flashes
Function	Ethernet Link established	No Ethernet Link	N/A

- LED 2 – Yellow – ETH Speed and Activity

LED Status	OFF	ON	Flashes
Function	10 Mbps connection established or auto negotiation failed	100 Mbps connection established	100 Mbps Ethernet activity

2.4 Connectors

CXP-GPH has 3 connector ports. These are marked on the casing:

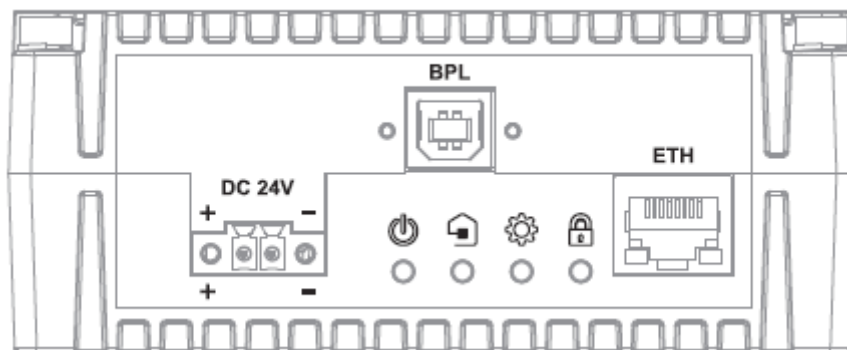


Figure 6: CXP-GPH Connectors



DC 24V port: DC 24-48 Nominal Voltage Power connection. The negative (-) and positive (+) polarities are marked on the casing. The maximum current rating is 1A, when using 24V, as described on the label.



BPL port: USB port (type B-like, screw mount) for providing BPL access on the power line via the external coupler. Optional accessory of 1+1 external coupler utilizes a specially designed RF cable to provide matched impedance of the BPL signal transmission.



ETH port: Ethernet port is rated for 10/100 Fast Ethernet with MDIX functionality.

3. Software and Initial Setup

The CXP-GPH runs on a Linux operating system. All these devices are configured as CPEs by default. To change their modes, auto-configuration mechanism can be used which involves provisioning using the Corinex GridValue system. For more details of this procedure, refer to the user guide of CXP-GPH.

4. Commissioning

4.1 Installation

Mount the proxy device properly onto a DIN rail. Connect the proxy device to the router using an Ethernet cable.

4.2 Powering up the device

This device has no power switch. To power it on, just connect DC power (24 to 48V) to the DC power port.

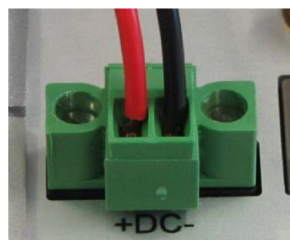


Figure 7: DC power plug

Make sure to connect the positive terminal to '+' and the negative terminal to '-' as marked on the front plate. Proper grounding should be provided to ensure safe operation of the device. The DC power supply should be a minimum of 1.0A current. This is the maximum current requirement of CXP-GPH.

4.3 BPL Coupling

External coupler can be used to inject the BPL signal into the power line. External couplers such as Corinex Power Line BPL coupler (E.g. CXZ-CXP-GH3 or CXZ-CXP-GH4) is required to perform this operation. CXP-GPH is IP41 rated thus the devices should be enclosed in cabinet to prevent direct exposure to sunlight, rain, running water, etc.

Figure 8 shows a CXP-GPH proxy device, connected to CXZ-CXP-GH3 coupler.

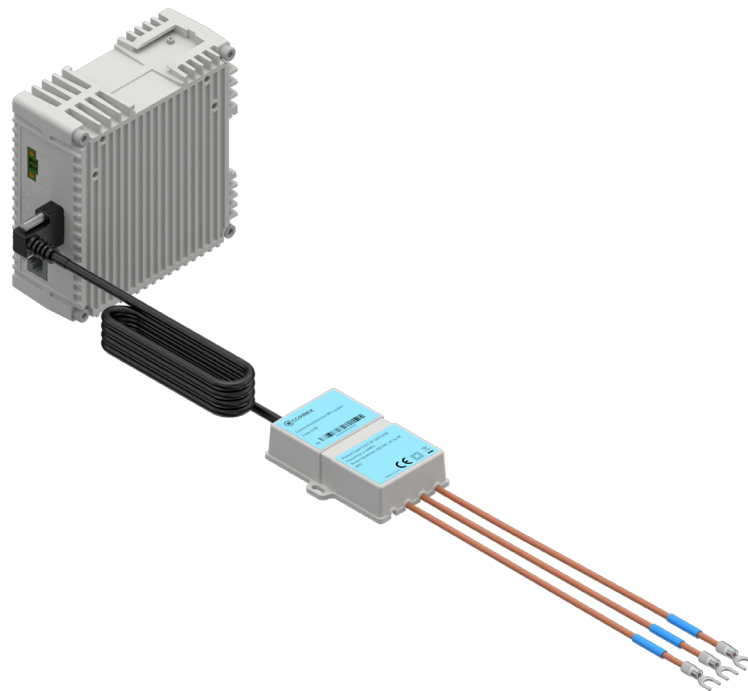


Figure 8: BPL coupling

For more details on how to perform the coupling to the power line, refer the [Corinex BPL coupling user manual](#).