

User manual XPL Rail 2M – E1200

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Your XPL Rail 2M – E1200

Thank you very much for your trust. We are happy that you have chosen an XPL Rail device. With only a few steps your device is ready for use and can perform your communication applications.

Notes regarding this manual

Please read this manual carefully before commissioning your XPL Rail device. Keep this manual for later reference.

Please note that product pictures might differ due to a change of our company name and logo.

The manual is to be considered as a part of the device and has to be passed together with it if you hand it to other persons. Used Symbols:



Attention! A hazard is pointed out.

Proper Use

The device is connected to the mains supply network. The applicable standards and guidelines of the specific country are to be fulfilled while planning and installing. The device may only be operated in 230V/50Hz and 110V/60Hz mains circuits. Only electrically qualified persons are allowed to work on mains circuits. The usual regulations for prevention of accidents are to be followed. To prevent electrical shock you have to disconnect mains from the circuit you are working on. Not following those installation instructions may lead to fire or danger for life.

Do only operate the device indoor and prevent the influence of moisture, dust as well as sun- and other head radiation. Only load the device up to the specified limits. Exceeding those limits may damage the device and can lead to fire or danger for life.

The device may not be opened by the user. Opening the device exposes you to the danger of electric shock.

The device is free of maintenance for the operator. In the case the device is damaged disconnect it from its supply and hand it over to trained service staff.

A damage may be:

- the power cord is damaged
- the device had contact to moisture
- the device does not operate after correct installation
- the case of the device is broken

For electrical connection to the device terminals please note the specified lead types and stripping lengths in the datasheet.



Please note the regulatory requirements for installations in distribution boards.

in-tech smart charging on the Internet

More information about our products and about Powerline Communication can be found on our website www.smartcharging.in-tech.com.

On the product page for your device you can find product description, documentation as well as updated firmware.

If you have further ideas about our products please contact us via E-Mail at smartcharging@in-tech.com.

Function

- persistent storage of configuration
- support for multiple standard network protocols (DNS, DHCP, AutoIP, TCP/IP, HTTP, IGMP, ICMP, IPv4-Multicast, UPnP)
- simple mounting on standard DIN rails
- encrypted communication via powerline (HomePlug AV2)
- Button for easy encryption setup and resetting the device to factory defaults

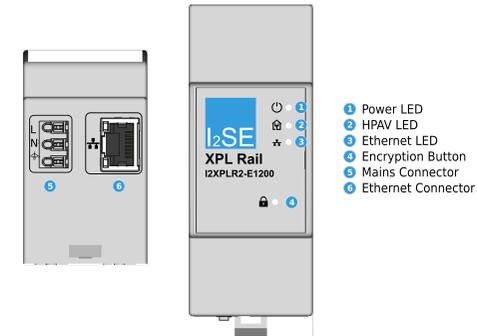


Figure 1: Control Elements and Connectors

Installation

Important safety instructions

The following safety instructions must be read carefully and clearly understood prior to the assembly of the device. Please keep these safety instructions for future reference.



- The installation and assembly may only be carried out by a qualified electrician.



- This device, which is supplied with mains power, has to be secured by means of a max. B16A circuit breaker.

- This device is designed for installation on DIN rails which provide fire protection as per DIN EN 60950-1.
- The device may only be installed in dry areas.
- Do not insert any objects in the slots and openings on the housing.
- Make sure that the device is not exposed to heat sources which may lead to overheating.
- Ensure adequate ventilation at the site of installation.
- The device may only be connected in the range of overvoltage category 2 or lower.
- The device may not be opened by the user. The interior of the housing does not contain any parts to be maintained.
- Do not operate the device in supply networks which do not comply with the specifications on the type plate.

Installation of the device

Place the DIN rail mounted device on the DIN rail and snap it. Make sure that the catch spring is completely snapped in and the device is firmly attached to the rail.

Strip the wire ends of the mains supply line to a length of 9 mm without damaging the plain core. Please observe the allowed line cross-sections.

Wire the mains supply with the mains voltage and the Ethernet in accordance with the following circuit diagrams.

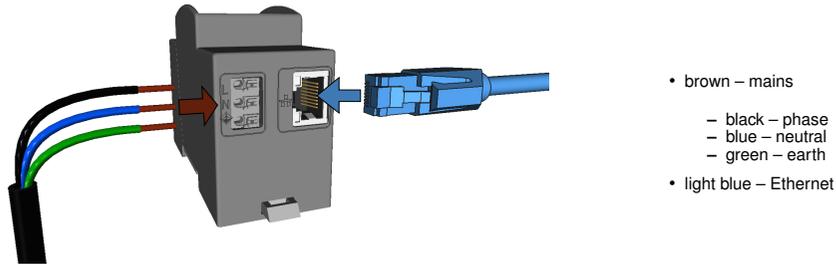


Figure 2: Device connection

After the electrical connection has been established the power can be switched on.

Putting into service

In delivery state the XPL Rail device is ready-to-use. But its Powerline Encryption uses a standard password. You should change it.

Follow the steps as described in **Putting into service the Powerline connection by means of push button method** or **Putting into service the Powerline connection using software**. Both methods have advantages and disadvantages. The first method is recommended if the in-tech smart charging PLConfig tool is not (yet) installed or can or shall not be used. If the software is ready-to-use, it is recommended to use it as it can graphically represent the Powerline network. Furthermore, the user can get a better understanding of the Powerline network.

By default, HomeplugAV-compatible individual devices supplied are encrypted with the standard password HomePlugAV. Thus, these individual devices can be immediately combined with HomeplugAV-compatible devices of other manufacturers which have this standard password as well. The disadvantage of this standard password is that it does not provide any confidentiality and it enables a crosstalk between network packages, for example, in apartment buildings. It is strongly recommended to configure an individual encryption for the own Powerline network. Please read the instruction of your Powerline Ethernet adapter for further information.

Putting into service the Powerline connection by means of the push button method

The connection between the XPL Rail and another Powerline device is established as follows:

1. Push the Encryption Button on the front panel of the XPL Rail Device for 7 to 10 seconds. A potential already stored Powerline password will be deleted. The device will generate a random password and stores it internally.
2. In order to start the coupling process, press the Encryption Button on the XPL Rail Device again. The HPAV LED starts to blink. Also press the Encryption Key on the device which should connect with the XPL Rail. Depending on the manufacturer, this pushbutton can have different names. Please read the operating instruction of your Powerline Device. Usually, this process is indicated by means of a flashing LED.
3. It may take up to one minute until the joining to the Powerline network is completed. After successfully joining the Powerline network the HPAV LED should be permanently lit green.

Notes:

- the time between pressing the encryption button on the "Adder" and the "Joiner" may not exceed 2 minutes
- the device whose encryption button is pressed first is called "Adder"
- the device whose encryption button is pressed second is called "Joiner"
- the joiner joins the adders network
- Furthermore, it is only possible to add one single device to the Powerline network at a time. This process is to be repeated if several XPL rails are to be put into service.

Putting into service the Powerline connection using software

You can also add the device by means of DAK (Device Access Key, often also called device password or security ID) to an existing Powerline network or couple it with a Powerline Ethernet adapter. The DAK is indicated on the device label of the XPL Rail. It consists of 4 x 4 letters, separated by hyphens, for example: AAAA-BBBB-CCCC-DDDD. Note this DAK and install the device in the power grid.



Figure 3: Example label for XPL Rail 2M - E1200

After the device has been put into service, you can add the device to the existing Powerline network using the in-tech smart charging software PLConfig. In doing so, the DAK is to be entered. Please refer to the documentation of PLConfig about this process.

LED States

The device has 3 LEDs to visualize the device state, see Figure 1 point 1, 2 and 3.

LED	Mode	Meaning
Power LED	steady on	Power on
	steady off	Power off
HPAV LED	steady on	PLC Connected
	steady off	PLC Disconnected
Ethernet LED	steady on	Ethernet Cable connected but no Ethernet traffic
	60/60 ms pulse	Ethernet Cable connected and Ethernet Traffic
	steady off	Ethernet Disconnected

While the device is starting all LEDs will blink together in a 60 ms on/off pulse.

Push Button

The device has a push button that is used to initiate different actions.

Actuation time [seconds]	Initiated function
0 - 1	none
1 - 3	Push Button Simple Connect
3 - 7	none
7 - 10	Assign a random network security key
10 - 12	none
12 - 15	reset the device to factory settings
>15	none

Maintenance and Cleaning

The device does not need maintenance. If it is defective and needs to be repaired send it back to your seller or the manufacturer.

Technical Data and Legal Notes

All technical data is documented in the datasheet.

Disposal



Do not dispose off the device in the domestic waste. Electronic devices need to be disposed off according to local laws.