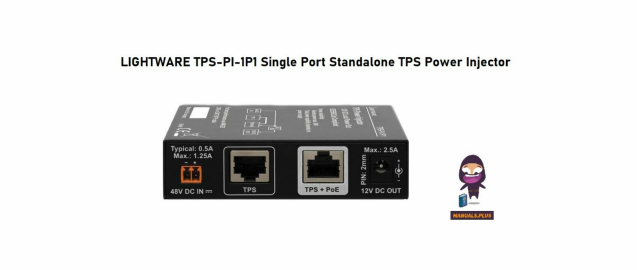
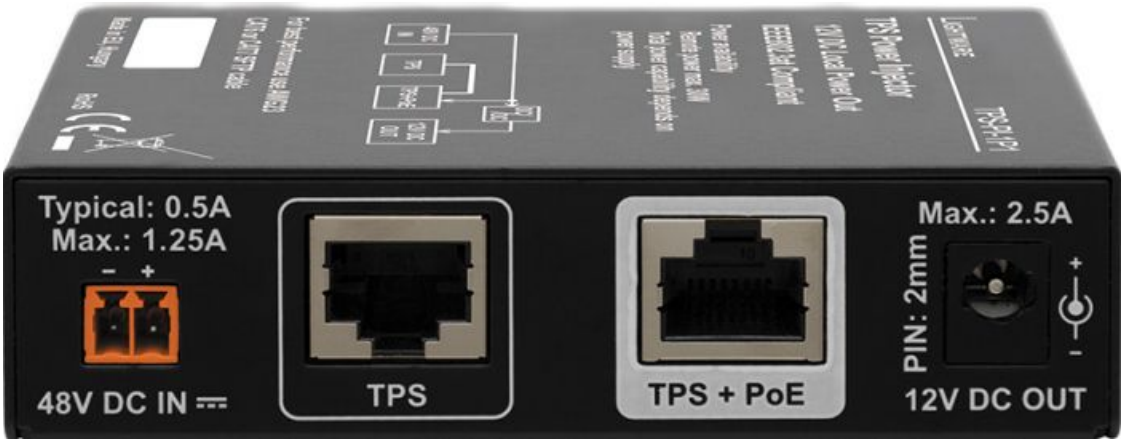


LIGHTWARE TPS-PI-1P1 Single Port Standalone TPS Power Injector User Guide

Contents

LIGHTWARE TPS-PI-1P1 Single Port Standalone TPS Power Injector



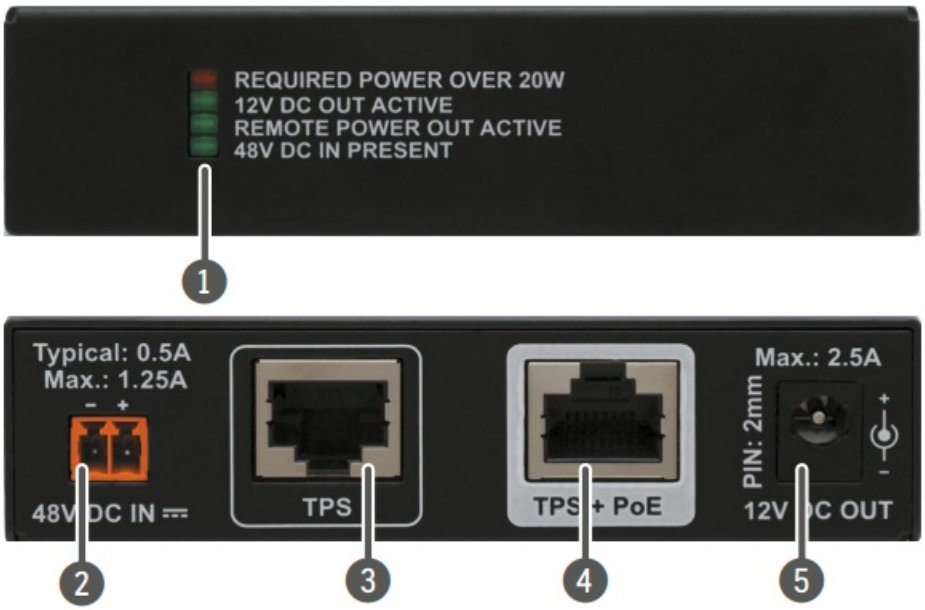
Product Information

- **Specifications:**
  - **Product Name:** HDMI-TPS-RX97
  - **Model:** HDMElt,h3eBriD,ndie4rBtieKd1cits0ri/ueo1pc0ntpi0alooIrntRaeldRS-23De2(vIiEceEFEcora8n0b2eb.se3tarfpe)ermfootrempaonwceereusdeovAeWrGT23S
  - **Made in:** Hungary
  - **Max Power Output:** 30W (12V DC out)
  - **Power Input:** 48V DC

Product Usage Instructions

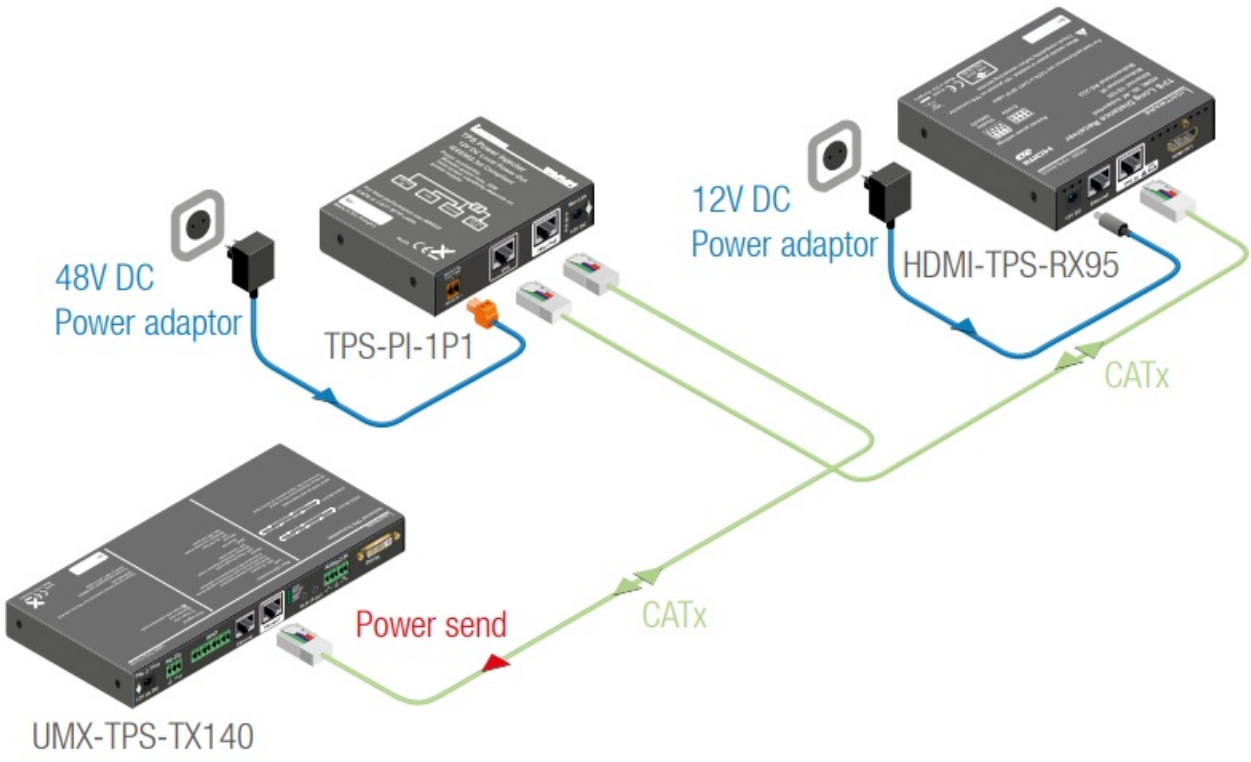
- **Important Safety Instructions:**
  - Please read and keep the information in the attached safety instructions supplied with the product before you start using the device.
- **Compatible Devices:**
  - The power injector can be used to supply power to any PoE-compatible Lightware extenders which are based on TPS technology, except the TPS-90- and TPS-95-series.
- **Installation:**
  - Switch off (disconnect) all units, even the video, audio, or data devices. Make sure there are no powered units during the installation.
  - Connect the TPS device to be remotely powered (e.g. UMX-TPS-TX140) to the TPS+PoE connector 2 of the TPS-PI-1P1 Power Injector with a CATx cable.
  - Connect the TPS device to be locally powered (e.g. HDMI-TPS-RX95) to the TPS connector 3 of the TPS-PI-1P1 Power Injector with a CATx cable.
  - Connect the desired video, audio, and data devices to the TPS units.
- **Switch on the devices in the following sequence:**
  - The Power Injector is by connecting firstly the 48V DC adaptor to the 48 DC IN connector 4 and secondly to the socket.
  - The locally powered device by connecting its adaptor or by connecting the supplied patch cable* to the 12V DC OUT 5 of the Power Injector.
  - Switch on the other devices.
- **Powering Options:**
  - This unit provides uni-directional remote power only, but thanks to the 12V DC local output option, the other device (e.g. HDMI-TPS-RX95) can be powered with the TPS-PI-1P1 if they are placed close to each other while the injector itself is powered by the supplied adaptor.
- **The Power Scheme:**
  - **Warning!** The sum of the power of the two outputs must be under 30W.
- **Frequently Asked Questions (FAQ):**
  - **Q: Can I use a different power source than the supplied adaptors?**
    - **A:** No, always use the supplied power adaptors. Warranty void if damage occurs due to the use of a different power source.
  - **Q: Can I expand the maximum distance of the TPS units by using TPS-PI-1P1?**
    - **A:** No, the maximum distance of the TPS units will not expand by using TPS-PI-1P1.

Front and Rear Views

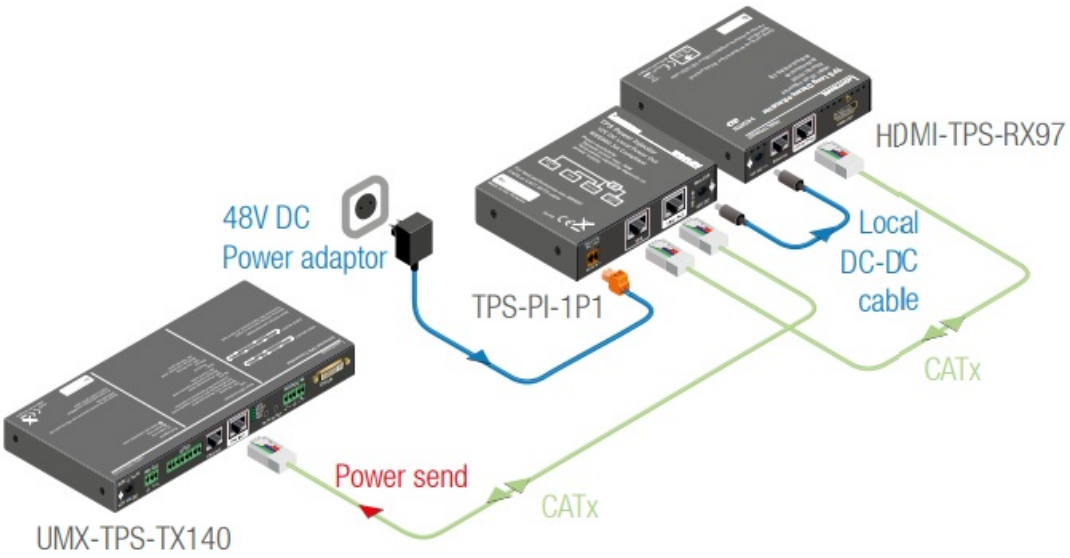


1. Status LEDs
2. 48V DC in
3. TPS port (not powered)
4. TPS port (powered)
5. 12V DC out

Typical Application – Remote Powering



Typical Application – Local- and Remote Powering



Important Safety Instructions

- Please read and keep the information in the attached safety instructions supplied with the product before you start using the device.

Introduction

- TPS-PI-1P1 is an IEEE 802.3at compatible high-end remote Power Injector (PI) unit providing power to a remote Powered Device (PD) e.g. TPS transmitter or receiver.
- The TPS-PI-1P1 placed in the TPS transmission chain, anywhere between the transmitter and the receiver unit via the CATx* cable can power a TPS device.
- The incoming data stays untouched, but a 48V DC remote power is added to the signal by this PI. CAT7 AWG 23 SFTP cable is always recommended.
- Compared to the details of the powered device's extension distance chart the usage of the TPS-PI-1P1 may cause an approximately 20% distance decrease depending on the powering mode (local or remote) and cable quality.

Compatible Devices

- The power injector can be used to supply power to any PoE-compatible Lightware extenders which are based on TPS technology, except the TPS-90- and TPS-95-series.
- The TPS-TX/RX90 and TPS-TX/RX95 extenders are not PoE-compatible thus not able to send/receive power to/from the TPS-PI-1P1 power injector

Installation

1. Switch off (disconnect) all units, even the video, audio, or data devices. Make sure there are no powered units during the installation.
2. Connect the TPS device to be remotely powered (e.g. UMX-TPS-TX140) to the TPS+PoE connector 2 of the TPS-PI-1P1 Power Injector with a CATx cable.

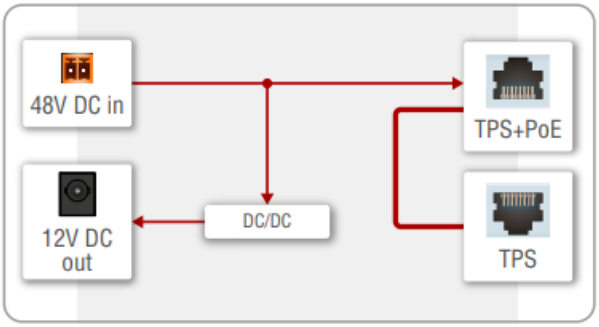
3. Connect the TPS device to be local powered (e.g. HDMI-TPS-RX95) to the TPS connector 3 of the TPS-PI-1P1 Power Injector with a CATx cable.
4. Connect the desired video, audio, and data devices (e.g. Blu-ray players, amplifiers, Ethernet switch, RS-232 controller, IR transmitter) to the TPS units. Please read the user manuals of all devices to get help during the installation process.
5. Switch on the devices according to the following sequence:
    - **a.** The Power Injector with connect firstly the 48V DC adaptor to the 48 DC IN connector 4 and secondly to the socket. The remote device gets power immediately.
    - **b.** The local powered device
        - with connecting its adaptor or
        - with connecting the supplied patch cable* to the 12V DC OUT 5 of the Power Injector.
    - **c.** Switch on the other devices.
    - **CAB-12V-U16U (Part No: 13730013)**
        - The maximum distance of the TPS units will not expand by using TPS-PI-1P1.
        - Warning! Always use the supplied power adaptors. Warranty void if damage occurs due to the use of a different power source.

Powering Options

This unit provides a uni-directional remote power only, but thanks to the 12V DC local output option the other device (e.g. HDMI-TPS-RX95) can be powered with the TPS-PI-1P1 if they are placed close to each other while the injector itself is powered by the supplied adaptor.

The Power Scheme

- **Warning!** The sum of the power of the two outputs must be under 30W.



Status LEDs

POWER OVERLOAD

- **OFF:** the delivered power of the wall adaptor is less than 75% of the maximum value.
- **ON:** the delivered power of the wall adaptor exceeds 75% of the maximum value.

TPS-PI-1P1 does not apply the current limitation but only indicates the overload.

12V DC OUT ACTIVE

- **OFF:** the 12V DC is out of order.
- **ON:** The device is connected to the 12V DC output connector.

The 12V DC out cannot be disabled in normal operation. If it is not working please contact support@lightware.com.

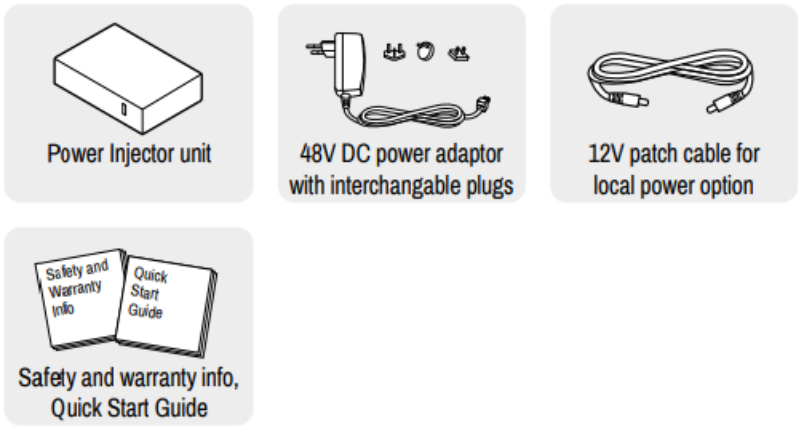
REMOTE POWER OUT ACTIVE

- **OFF:** there is no PoE-compliant device at the remote side or the identification process was unsuccessful. The Power Injector does not send power over the CATx cable.
- **ON:** the remote unit is a valid PoE device and gets the power via the TPS line in this case.

48V DC IN THE PRESENT

- **OFF:** the 48V DC input is not connected. If it is connected, the voltage level is not enough for the proper operation (it is lower than 40V DC).
- **ON:** the 48V DC input is connected and the voltage level is proper (it is lower than 40V DC).

Box contents



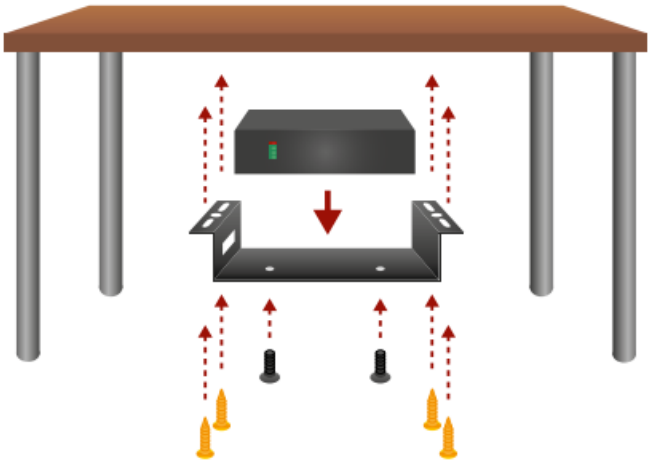
Mounting Options

To mount the device Lightware supplies optional accessories for different usage. There are three kinds of mounting kits with similar fixing methods:

- Under-desk mounting kit
- Under-desk double mounting kit
- 1U high rack shelf

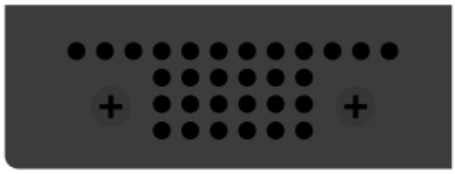
To order mounting accessory kits please contact sales@lightware.com.

Mounting by Using the Under-desk Mounting Kit



Ventilation

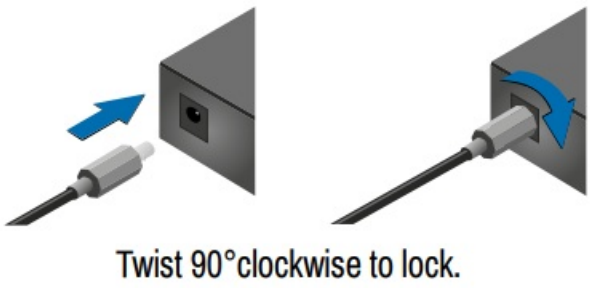
The enclosure of the TPS-PI-1P1 has vent holes on the left and the right side, as well. These holes provide cooling by convection.



- **Warning!** Do not block the vent holes otherwise, the unit can be overheated.
- The appropriate operation of the unit is not guaranteed with 40V DC or lower input voltage.
- In this case, if the identification and the classification were successful, the TPS-PI-1P1 switches the inadequate voltage to the TPS line, but the remote powering can fail. Always use the supplied power adaptors of the devices.

Locking DC Plug

- DC cables from Lightware contain a locking DC connector that establishes robust and safe power connections.
- After plugging it in, turn the plug clockwise as you can see in the following figure.



Specifications

- **General**
  - Compliance……CE, UKCA
  - EMC (Emission)……EN 55032:2015+A1:2020
  - EMC (Immunity)……EN 55035:2017+A11:2020

- Electrical safety…… EN 62368-1:2020
- RoHS ……..EN 63000:2018
- Warranty ……3 years
- Operating temperature ……0° to +50°C (+32° to +122°F)
- Operating humidity …… 10% to 90%, non-condensing
- Cooling…….passive

- **Power**
  - Power supply option …….. Power adaptor
  - Power consumption…… 4 W (typ.) / 8 W (max.)
  - Heat dissipation …….. 14 BTU/h (typ.), 28 BTU/h (max.)
  - Power over Ethernet (PoE) …….. via ‘TPS+PoE’ port (IEEE802.3at)
- **Power adaptor**
  - Supported power source ……100-240 V AC; 50/60 Hz
  - Supplied power……48V DC, 500 mA
  - AC power plug …….. Interchangable (EU, UK, JP/US, AUS/NZ)
  - DC power plug……..2-pole Phoenix plug
- **Enclosure**
  - Enclosure material…… 1 mm steel
  - Dimensions in mm…… 100.4 W x 67.6 D x 26 H
  - Dimensions in inch …….. 3.96 W x 2.67 D x 1.03 H
  - Weight……..224 g (0.5 lb)

TAKE CARE OF ME

I AM THE ONE AND ONLY USER DOCUMENT FOR THIS PRODUCT

- Lightware Visual Engineering PLC. Budapest, Hungary
- **sales@lightware.com**.
- +36 1 255 3800
- **support@lightware.com**.
- +36 1 255 3810

- Further information on the device is available at **www.lightware.com**.
- **Doc. ver.:** 2.4
- 19210110
- TPS-PI-1P1

Documents / Resources

	LIGHTWARE TPS-PI-1P1 Single Port Standalone TPS Power Injector [pdf] User Guide TPS-PI-1P1 Single Port Standalone TPS Power Injector, TPS-PI-1P1, Single Port Standalone TPS Power Injector, Port Standalone TPS Power Injector, Standalone TPS Power Injector, TPS Power Injector

References

- Lightware Visual Engineering
- User Manual