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FCC Warning

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 standards are designed to provide reasonable protection against harmful interference when these devices are operated in a commercial environment. These devices generate, use, and can radiate radio frequency energy and may cause harmful interference to radio communications unless installed in accordance with this User's Guide. Operation of these devices in a residential area is likely to cause harmful interference which will make the user responsible for the appropriate remedial action at his / her own expense.

CE Mark Warning

These are Class A products. In a domestic environment these products may cause radio interference in which case the user will need to consider adequate preventative methods.

1. Checklist

The package should contain the following items:

- One set of LEP-301M-TX
- One set of LEP-301M-RX
- DIN-Rail Kit and Wall-Mount Kit
- This User's Guide

Please notify your sales representative immediately if any items are missing or damaged.

2. Overview

LEP-301M-KIT, an Ethernet PoE and data Extender, contains LEP-301M-TX and LEP-301M-RX. The former is a long reach transceiver with one PoE PD Ethernet port and one PoE Long Reach Injector port, and the latter is a long reach receiver with one PoE Long Reach Extender port and one PoE PSE Ethernet port.

LEP-301M-KIT is greatly beyond 100 meters distance limitation of RJ45 cable. Up to 1Km the data and power can be transmitted simultaneously over the UTP cable. This Kit is fully compliant with IEEE 802.3, 802.3u, 802.3af/at standards. Operation status can be locally monitored through a set of Diagnostic LEDs located in the front and rear panels.

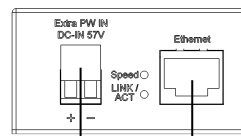
Major Features:

- LEP-301M-RX supports standard IEEE 802.3af/at PoE output
- Provide IEEE 802.3af/at for the remote PD (powered device) (See Section 9 for more details on PoE Output.)
- Support MDI/MDI-X Auto-Crossover
- Support Auto-Negotiation
- Dual Power Input Design for either PoE (IEEE 802.3af/at), PoE++(60W), or DC power supply input (54~57V)
- Support both DIN-rail and wall-mounting installation methods
- Support Auto & Manual mode configuration for the Ethernet port
- Provide the 7-segment digital LED to display current PoE output and diagnostic ID (See Section 8.)

3. Installation

Please follow the steps described below and refer to Figure 1 and 2 to complete the network installation.

- Attach a UTP cable from a PoE switch to the Ethernet port on LEP-301M-TX. (if you connect to a non-PoE switch, the external DC power supply is also required to connect to the terminal block for power supply of LEP-301M-TX.)
- Attach the other UTP cable from the Long Reach port of LEP-301M-TX to the Long Reach port on LEP-301M-RX.
- Connect the DC power supply to LEP-301M-RX if PoE output is insufficient. The Speed and Link/Act LEDs will light up when all the cable connections are satisfactory.
- Connect the 802.3af/at PD to the Ethernet port on LEP-301M-RX.



Terminal Block for Power Supply Ethernet Port

Fig 1. Front Panel of LEP-301M-TX/RX

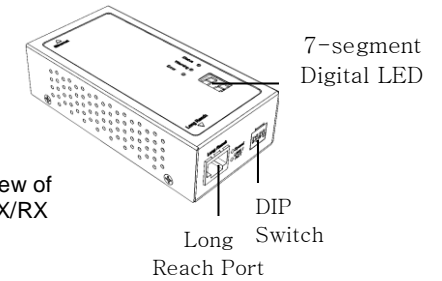
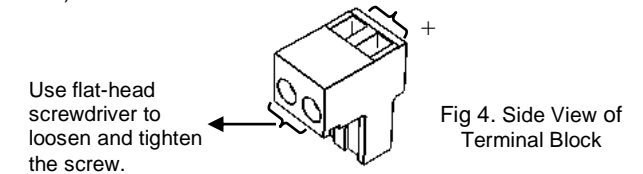


Fig 2. Side View of LEP-301M-TX/RX

4. Terminal Block

Terminal Block for Power Supply: One set of power input ranging from DC 54V~57V. Please refer to the following figure to insert the negative/positive DC wires into the V-/V+ terminals as indicated. (ATTENTION: For high power input devices, please use the 16AWG or better power wire to connect to the power input contact.)



5. DIN-Rail/Wall-Mounting

Three mounting holes at the bottom of LEP-301M-TX/RX are offered for DIN-Rail or wall-mounting installation. Just follow the Step1~Step2 below to complete these installation respectively for LEP-301M-TX/RX if needed.

STEP1: Attach the DIN-Rail kit to LEP-301M, and insert the screws through this kit and into the DIN-rail mounting holes. And then tighten the screws using the screwdriver.

STEP2: Insert the top of the DIN-Rail into the slot just below the metal spring and lightly slide the DIN-Rail into the track. The DIN-Rail will be snapped into place as shown below.



STEP1: Attach the wall-mount bracket to LEP-301M, and insert the screws through the bracket and into the bracket mounting holes. And then tighten the screws with the screwdriver.

STEP2: Insert the screws through the wall-mount bracket and into the holes on the wall. Tighten the screws with the screwdriver to secure mounting brackets to the wall.



6. LED Description

| LED | Color | Function |
|---|-------|--|
| Link/Act (for Ethernet Port & Long Reach Port) | Green | Lit when the port link is up. Blinks when the LEP is receiving and transmitting data and power over that port. OFF when the port link is down. |
| Speed (for Ethernet Port & Long Reach Port) | Green | Lit when the 100M port link is up. OFF when the 10Mbps port link is up or the port link is down. |

7. DIP SWITCH Setting

The default setting for PIN 1 is ON, and PIN 2 through PIN 4 is OFF.

| Pin NO. | Function | OFF | ON |
|---------|-------------------------------|-----------|----------|
| 1 | Auto Speed of Ethernet Port | Disable | Enable |
| 2 | Manual Speed of Ethernet Port | 10Mbps | 100Mbps |
| 3 | Reserved | N/A | N/A |
| 4 | PSE Mode | Semi-Auto | Injector |

NOTE:

- Before adjusting the configuration of the DIP Switch, the power should be unplugged.
- When PIN1 is set to ON, the speed of Ethernet port will follow Long Reach port.
- The maximum current for Semi-Auto mode is 600mA; the maximum current for Injector mode is 1200mA.

8. 7-segment Digital LED Display Definition

| LED Display | LED | Function |
|-------------|---------|--|
| 0~99 | Status | Lit when PoE power output is less than 80% loading. |
| | Warning | Lit when PoE power output is 80%~ 90% loading. |
| | Error | Lit when PoE power output is over 90% loading. |
| n2 | Warning | Lit when the link performance may be less than 100% due to cable length, quality or condition. |
| P1 | Error | Lit when PoE output port is shut down due to overloading, the device needs to be rebooted manually. |
| P2 | Error | Lit when PoE power input is over 57.3V DC voltage. |
| P3 | Error | Lit when PoE port is disconnected due to the short circuit. |
| L1 | Warning | Lit when power input voltage is too low: - LEP-301M-TX side : < 51V - LEP-301M-RX side (DIP Switch 4/Semi-Auto mode) : < 40V |

| | | |
|----|-------|---|
| | | - LEP-301M-RX side (DIP Switch 4/Injector mode) : < 33V |
| L3 | Error | Lit when Long Reach port is disconnected due to the short circuit. |
| H1 | Error | Lit when operating temperature is over 60 degrees centigrade. |
| H2 | Error | Lit when operating temperature is less than -20 degrees centigrade. |

9. Performance of PoE Output

| PSE Mode | Distance | Data Rate | Power Input | Power Output |
|-----------|----------|-------------------|-------------|--------------|
| | (Meters) | (Upload/Download) | LEP-301M-TX | LEP-301M-RX |
| Semi-Auto | 500 | 10/100Mbps | 44W | 24W |
| Injector | | | 60W | 29W |
| Semi-Auto | 1,000 | 10Mbps | 25W | 13W |
| Injector | | | 36W | 16W |

Note: The cables used for this PoE output test is Cat.6/23AWG

10. Technical Specifications

| | |
|---------------------------|--|
| Standards: | IEEE 802.3, 802.3u, 802.3af/at |
| Interfaces: | 1x Ethernet In(for LEP-301M-TX):10/100Base-T RJ-45 with PoE power received 1x Long Reach Out(for LEP-301MT X):RJ-45 with PoE power transmitted 1x Ethernet Out(for LEP-301M-RX): 10/100Base-T RJ-45 with PoE power transmitted 1x Long Reach In (for LEP-301M RX):RJ-45 with PoE power received |
| LEDs: | Link/Act, Speed, Status, Warning, Error, and 7-segment Digital Display |
| Power: | IEEE 802.3af/at, PoE++(60W), and 54~57VDC |
| Power Consumption: | 2.5W |
| Weight: | 0.29Kg |
| Dimensions: | 60mm(W)X120mm(D)X32mm(H) |
| Temperature: | Operating: 0°~60°C Storage: -20°~60°C |
| Humidity: | 5%~90% RH |
| Certification: | FCC/CE Class A |

*Please contact us for further reports and updates.

NOTE: Specifications may change without prior notice.

Contact Information

• Antaira's Web Sites & Repair/Support Emails:

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*Any changes will be announced on the Antaira website.



Antaira Technologies

LEP-301M-KIT

PoE Long Reach Extender

Quick Installation Guide

**Version 1.0
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