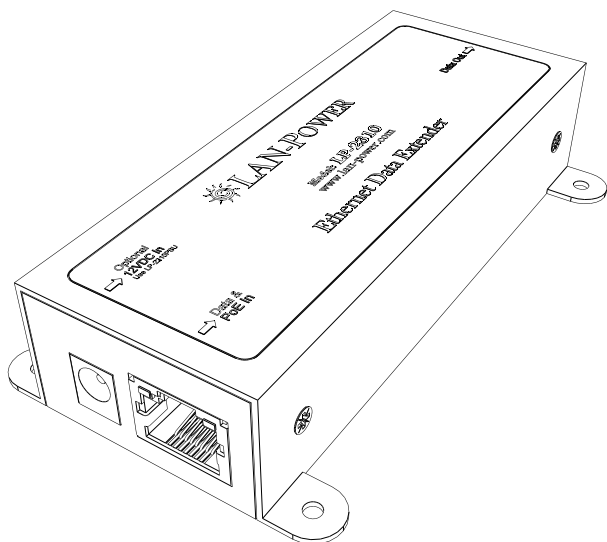


INSTALLATION MANUAL



LP-2340

Internal Single Channel PoE and Ethernet Data Extender

V 1.1.0

LAN Power

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Web Site Address: www.lan-power.com

Email: support@lan-power.com

Package contents

Thank You for purchasing the LP-2340 – Internal Single Channel PoE & Ethernet Data extender. The package shall contain following contents:

LP-2340 Internal PoE & Ethernet Data Extender	x 1
Installation Manual	x 1

If any of these pieces are missing or damaged, please contact your point of purchase immediately, if possible, retain the carton including the original packing material, and use them again to repack the product in case there is a need to return it to us for repair.

WARNING

- This apparatus must be earthed.
- Apparatus shall be connected to a mains socket outlet with a protective earthing connection.
- To prevent fire or electric shock hazard, do not expose this apparatus to rain or moisture.
- The apparatus should not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, should be placed on the apparatus.
- All work related to the installation of this product should be made by qualified service personnel or system installers.
- The connections should comply with local electrical code.

Caution:

Do not use a cross over cable between the LP-2340 output port and the connected device.

Introduction

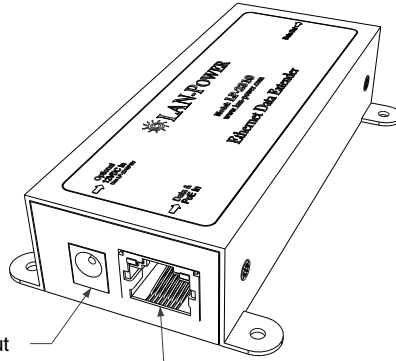
The LP-2340 is an internal Single Channel PoE & Ethernet Data network extender comes with high reliability design, which provides for a simple installation and is able to work stably in wide temperature range.

Not only can be powered by standard IEEE802.3af/at PoE devices, it can also be driven by 48VDC power input using the optional LP-2340PSU. This makes its installation more flexible and cost saving.

Functions and Features

- Extends PoE and Ethernet Data an additional 100 meters (328 feet) per unit
- Data rate: 10/100Mbps, full-duplex and is compliant with standard Ethernet protocols and devices
- IEEE802.3af (PoE) /at (PoE+) compliant – passes PoE power throughout the channel
- Dual power input options: PoE or LP-2340PSU (48VDC)
- Support cascaded installation for long distance transmission – multiple units (up to 10) can be connected in a single channel **NOTE:** Every 3rd unit (LP-2340 and/or LP-2360) in the single channel must be powered by the optional LP-2340PSU
- Extended Temperature design - operating temperature between -30 °C ~ +55 °C
- Compact aluminum housing
- Short-circuit protection, overload protection and surge protection
- Plug-and-play installation – NO PROGRAMMING Required

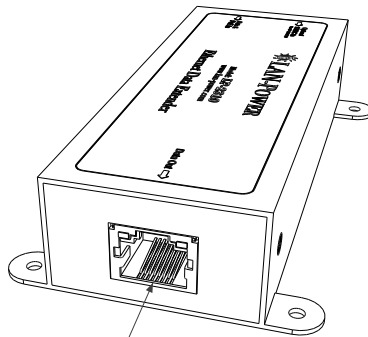
Front view:



Optional: LP-2340PSU Input

Data & PoE Input

Rear view:



Data & PoE Output



Mounting and Set Up Instructions

- Find your extender mounting location and secure with appropriate screws using the 4 mounting tabs and ensure there is ample space for making your wiring connections.
- Do not cover the extender or block the airflow to the product with any foreign object. Keep the extender away from water, excessive heat and humidity, and free from vibration and dust.
- Ensure that the cable length from the incoming PoE and Ethernet Data source does not exceed 100 meters (328 ft.).
- Ensure that the cable length from the 'Data & PoE OUT' on the LP-2340 to the IP Device does not exceed 100 meters (328 ft.).
- There is no "on-off" switch - when connected correctly the LP-2340 is operational and no programming is required.

Connections

1. Connect the "Data & PoE IN" RJ-45 port to your PoE Ethernet switch or Midspan PoE Injector using an Ethernet cable (CAT 5 or higher).
2. Connect the "Data & PoE OUT" RJ-45 port to your IP connected device, using an Ethernet cable (CAT5 or higher).
3. If there is no incoming PoE Power or this is a 3rd Unit in a Single Channel, connect the LP-2340PSU-Mains Power Supply Unit to the "Optional 48VDC Input" (above the 'Data & PoE IN" RJ-45 port)

Application Overview

Using INCOMING PoE Power from PoE Ethernet Switch or Midspan PoE Injector and provide power to IP PoE Device



Using optional LP-2340PSU to power LP-2340 and provide PoE to IP

Indicators

Input Indicators		
LED	Color	Indication
48VDC Input	Unlit	No external DC power source connected
	Steady amber	LP-2340PSU connected
PoE Active	Unlit	No PoE power sourcing equipment connected (No PoE input)
	Steady amber	Incoming PoE connected
10Mbps	Unlit	Data link is not connected
	Flashing green	Transferring data at 10Mbps
100Mbps	Unlit	Data link is not connected
	Flashing green	Transferring data at 100Mbps
Output Indicators		
LED	Color	Indication
10Mbps	Unlit	Data link is not connected
	Flashing green	Transferring data at 10Mbps
100Mbps	Unlit	Data link is not connected
	Flashing green	Transferring data at 100Mbps

Note:

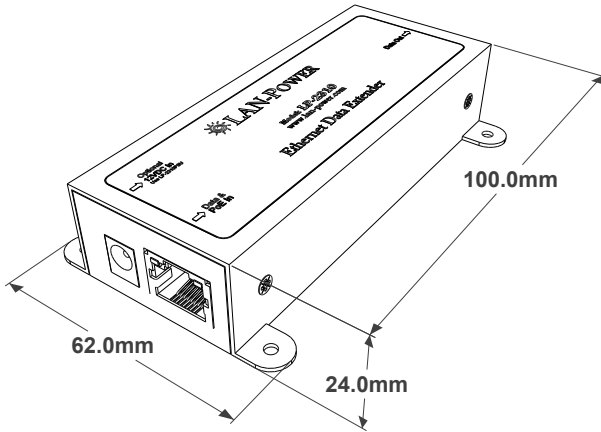
- If an IEEE 802.3af/at compliant PoE(PSE) device is connected to the input port, the power source must deliver a maximum power of 15.4W/34.2W.
- The maximum input power is 48VDC.

Specifications

Power over Ethernet (PoE)	
PoE standard	IEEE 802.3af(PoE), IEEE802.3at(PoE+) compliant
PoE power supply type	End-span and Mid-span
PoE input power	48VDC, 34.2W max
PoE output power	48VDC, 30.0W max
Power Pins Assignment	1/2(+),4/5(+), 3/6(-), 7/8(-)
PoE Ports Assignment	PoE input: 1x RJ-45
Extends Range (by RJ-45 Port)	100 meters (328ft)
Network	
– Input: 1 x 10/100Mbps RJ-45 port, IEEE802.3af/at PoE compliant	
– Output: 1 x 10/100Mbps RJ-45 port, IEEE802.3af PoE compliant	
– Full-duplex operation at the rate of 100 Mbps and 10 Mbps	
– Fully compliant with IEEE 802.3TM, IEEE 802.3u, and IEEE 802.3ab standards	
Standards Conformance	
– IEEE 802.3af and IEEE802.3at Power over Ethernet	
– IEEE 802.3 10Base-T	
– IEEE 802.3u 100Base-TX	
– FCC Part 15 Class A, CE	
Environmental Specifications	
Operating	HumidityMax: 95% RH(non-condensing) Temperature: -30 °C to 55 °C
Storage	HumidityMax: 95% RH(non-condensing) Temperature: -40 °C to 65 °C
Electrical Specifications	
Input Voltage (Optional) LP-2340PSU	48VDC, max. 10 ~ 50VDC
Input Power Connectors	1 x 5.5mm barrel DC connector (Center pin diameter 2.0mm)

Power Consumption	System on: 0.2W Full load: 1.5W
Physical Specifications	
Dimensions (W x D x H):	100 x 42 x 24 mm (3.93 x 1.65 x 0.94 in.)
Weight:	0.2 kg (0.44 lbs)

Dimensions: (WxDxH)



Troubleshooting

Symptom	Corrective steps
Extender does not power up	<ol style="list-style-type: none"> 1. Verify that an approved power cable is used. 2. If the extender is powered by a PoE switch or Midspan Injector, make sure the switch is compliant with IEEE802.3af/at standard. 3. If the extender is powered by the optional LP-2340PSU - Verify that the voltage at the power inlet is 48VDC for input voltage.

	<ol style="list-style-type: none"> 4. Remove and re-apply power to the device and check the indicators during power up sequence.
<p>A port indicator is not lit and the PSE (Power Supply Equipment) does not operate</p>	<ol style="list-style-type: none"> 1. The extender does not detect a PSE; and the port is not enabled. 2. Verify that the IP Device is designed for PoE operation (i.e. PoE Enabled). 3. Verify that you are using a standard Category 5/5e/6, straight-wired cable, with four pairs. 4. If there is an external PoE device connected, replace it to verify that it is functioning properly. 5. Ensure that the input Ethernet cable is connected to the “Data or PoE IN” RJ-45 port. 6. Verify that the PSE is connected to the “Data or PoE IN” port. 7. Try to reconnect the same PSE into a different extender. If it works, there is probably a faulty port or RJ-45 connection. 8. Verify that there is no shortcut over any of the twisted pair cables or over the RJ45 connectors.
<p>The end device operates, but there is no data link</p>	<ol style="list-style-type: none"> 1. Verify that the port indicator on the rear panel is continuously lit. 2. If an external network device is in use, replace it with a good one. 3. Verify that for this link, you are using standard UTP/FTP Category 5 straight (non-crossover) cabling, with all four pairs.

	4. Try to reconnect the same device to a different extender. If it works, there is probably a faulty port or RJ-45 connection.
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Ethernet interface

Input (Data & PoE Input):	RJ-45 EIA 568A and EIA 568B
Output (Data & PoE Output):	RJ-45 EIA 568A and EIA 568B
Wiring	<ol style="list-style-type: none"> 1. Data provided over pairs 1/2 and 3/6 for 10/100 Ethernet 2. Power over all pairs 1/2 and 4/5 (+) , 3/6 and 7/8 (-)
Network cable	<ol style="list-style-type: none"> 1. Shielded or Un-Shielded CAT 5 (or higher) 2. Using a Cat-5e/6 is recommended

For further Technical Support call +1 (510) 275-4572

Note: When calling Technical support please have Manufacturer Name and Part Numbers for all devices being connected.

Compatible Devices:

LP-2340PSU – Optional Mains Power Supply Unit which provides 48vdc power to the LP-2340

LP-2360 – External PoE and Ethernet Data Extender – housed in an IP67 enclosure with same features and connections – wider temperature rating of -30 °C to 60 °C

LP-2535 – Single Channel 'High Power/PoE +' Midspan Injector – provides up to 35 Watts PoE power output and is IEEE802.3af and IEEE802.3at compliant

For further information on this product and all the LAN Power products please visit our web site at: www.lan-power.com

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