Single Port PoE Gigabit Switch Powered by IEEE802.3at Extends Ethernet Data and PoE to 200 Meters

Switch or Midspan
with IEEE802.3at
Layer 1

POE16S-1AFG

IEEE802.3af
Device

100m PoE

100m PoE

CE
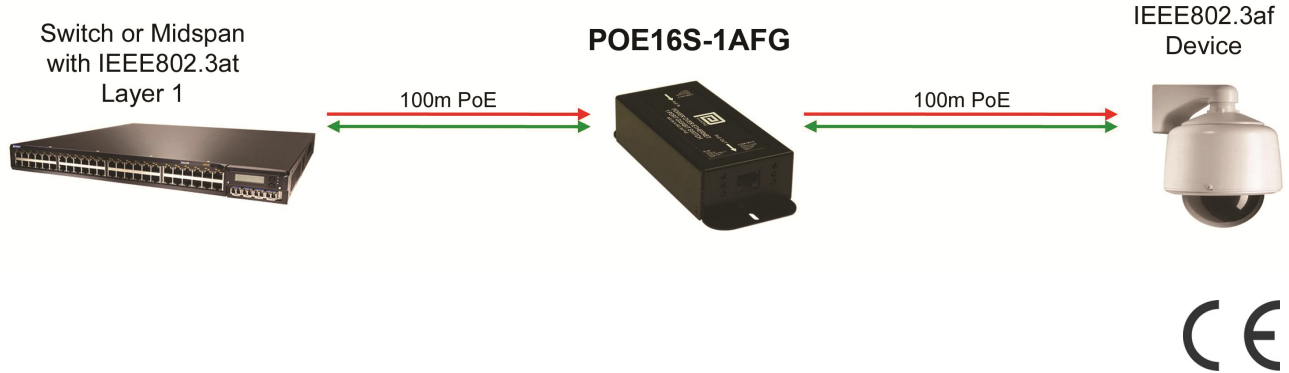
Features

- IEEE802.3af Class 4
- 0-55°C operation
- Gigabit Compatible
- Extends Ethernet to 200meters

- Powered by IEEE802.3at with Layer 1 Classification
- Boost Circuit to Compensate for Wire Drops
- 1 Year Warranty

Applications

- IP Cameras
- Access Controls

- Wireless Access Points

Safety Approvals

- CE

Mechanical Characteristics

- Length: 120mm (4.72in)
- Width: 60mm (2.36in)

- Height: 32mm (1.26in)
- Weight: 0.5Kg (1.1lb)

Output Specifications

Model	DC Output Voltage	Load		Output Power
		Min.	Max	
POE16S-1AFG	56V	10mA	350mA	19W

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INPUT:
Receives power from Midspan or Switch with
IEEE802.3at Layer 1 Classification Class 4 or better

DC Input Voltage Range
45 to 57V DC

DC Input Current
1.0A at 45VDC and maximum load
0.8A at 57VDC and maximum load

Output
19W

Ripple & Noise (Vp-p)
100mV max

PoE Standard Compliance
Input
25K Internal Signature Resistance
Output
Detects a 25K Signature Resistance

ENVIRONMENTAL:
Temperature
Operation   0 to +55°C
Non-operation   -20 to +71°C

Humidity
Operation   5 to 90%

Input and Output Data Connector
RJ45

Immunity
ESD: EN61000-4-2. Level 3
RS: EN61000-4-3. Level 3
EFT/Burst: EN61000-4-4. Level 2
Surge: EN61000-4-5. Level 2
Note: RS tested with POE36U-1AT

EMC
EN55022 Class A
FCC part 15 Class A

Isolation Test
Input to F.G.: 2121VDC for 1 min, 10mA
Output to F.G.: 2121VDC for 1 min, 10mA

Insulation Resistance
Input to F.G.: >10M OHM 500VDC
Input to F.G.: >10M OHM 500VDC

Indicators

Ethernet –In (1 blinking as indicator)	Green LED 1 – 10Mb activity Green LED 2 – 100Mb activity Green LED 3 – 1000Mb activity
Ethernet – Out (1 blinking as indicator)	Green LED 1 – 10Mb activity Green LED 2 – 100Mb activity Green LED 3 – 1000Mb activity
POE	Green LED 1: Input power "ON" Red LED: Fault detected Green LED 2: Valid EEE802.3af load detected and connected

Cable
Designed to operate up to 100 meters per IEEE802.3,
CAT 5e or CAT 6

Dimension Diagram Unit: mm
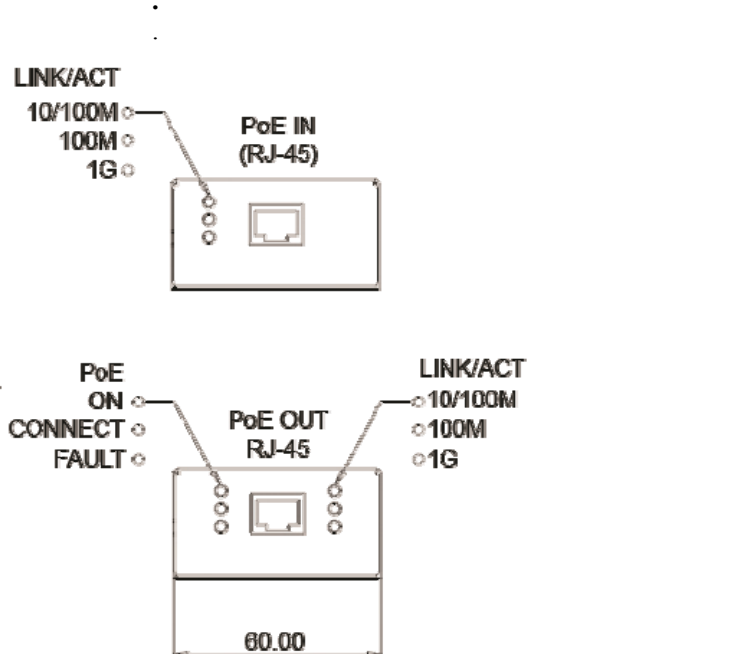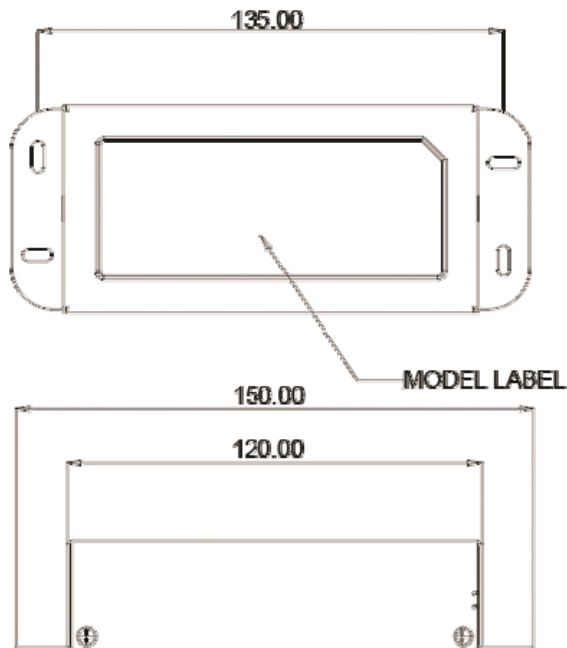
Description of LED Functions for Gigabit Power Extender

Power-up Sequence:

Upon power-up, all 3 LEDs will light for 2 seconds, as part of the self-test for the internal microprocessor software. After the 2 seconds, the "ON" LED will illuminate green. The DC output voltage is now available for powering a compliant load (to the 802.3af PoE standards).

Detection Sequence:

Once a compliant load is attached to the output RJ45 connector, the green "CONNECT" LED will illuminate.

Should the load be non-compliant then the LEDs will blink a code signifying the cause for non-detection.

Detection Failure Codes:

1. Incorrect resistive signature – The green "CONNECT" and red "FAULT" LEDs will blink 3 times.
2. Incorrect capacitive signature – The green "ON" LED will blink 3 times.
3. Incorrect Voffset – The green "CONNECT" and green "ON" LEDs will blink 3 times.
4. Unstable current measurement – The green "ON" LED will blink 3 times
5. Low voltage sensed during detection (overload) – The red "FAULT" LED will blink 3 times

After the LEDs blink 3 times the Power Injector will continue to try to detect a valid load. Until the correct load is applied, the LEDs will continue to blink. If there is an open circuit connected to the output RJ45 then the LEDs will not blink but the Power Injector will continue to try to detect a valid load.

Fault Sequence:

Should a fault occur such as an overload or short circuit then the red "FAULT" LED will illuminate. The red "FAULT" LED will illuminate for 2 seconds and then go off as the power supply tries to re-detect a valid load. If there is a problem detecting the load, the LED will indicate the possible fault as per the codes in the section above.