

TECHNICAL DATASHEET

# 90W Single Port Multi-Gig PoE IEEE802.3bt Compliant Power Injector



## Applications

- Wireless Network Access Points
- Security Cameras

## Features

- Compliant with IEEE802.3bt Standard
- 24VAC Input & 20 – 55VDC Input
- 2.5G Data Speed
- Shielded DC Jacks
- Diagnostic LEDs
- 4 Pair Powering +3,4,5,6 / - 1,2,7,8
- Full Protection Over-Current, Over-Voltage and Short Circuit Protection
- Limited Power Source (LPS)
- 1-year Warranty

## Safety Standards



- UL 62368-1
- IEC 62368-1

## Dimensions

166 x 80 x 44 mm  
(6.53 x 3.25 x 1.73 in)

## Weight

500 g  
(1.1lbs)

## Output Specifications

Model	Data Speed	DC Output Voltage	Load		Regulation <sup>1</sup>	
			Min.	Max. <sup>2</sup>	Line	Load
POE90D-1BTP-R	2.5G	56V	10mA	1.6A	54-57V	

### Maximum Load by Input Voltage

INPUT VOLTAGE	OUTPUT CURRENT	
	Output #1, #2	COMBINED
19.2VAC-28.8VAC	0.8A	1.6A
20VDC-27VDC	0.8A	1.6A
>27VDC-55VDC	0.670.67AA	1.34A

#### Notes:

1. Voltage measured within 2" of the output RJ45 connector on data pairs 3,6(+) and 1,2(-)
2. Combined output on data pairs and spare pairs. Otherwise 800mA on data pairs 3,6(+) 1, 2(-) and spare pairs 4,5(+) 7,8(-). See Maximum Load by Input Voltage table. Power vs. Temperature curve on page 3.

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## Characteristics<sup>1</sup>

Model	POE90D-1BTP-R
<b>Input</b>	
AC Input Voltage Range	24VAC +/- 20% (19.2VAC to 28.8VAC)
DC Input Voltage Range	20VDC to 55VDC
AC Input Frequency	50Hz to 60Hz
AC Input Current	8A (RMS) maximum at 19.2VAC, full load
DC Input Current	6A DC maximum, full Load
Leakage Current	3.5mA maximum @28.2VAC, 60Hz
AC Inrush Current	45A Max at 19.2VAC, full load 70A Max at 28.8VAC, full load
<b>Output</b>	
Total Output Power	90W
Ripple and Regulation <sup>2</sup>	200mV max @25°C, 19.2VAC – 28.8VAC, 20VDC – 55VDC
Efficiency	82% minimum at 24VAC, 84% minimum at 24VDC @ 25°C and Full Load
Hold-up Time	10mS min. at 24VAC 60Hz max load 3mS min. at 24VDC and Full Load
<b>Environmental</b>	
Operating Temperature	-20°C to +70°C
Non-Operating Temperature	-40°C to +75°C

Operating Humidity	5 to 90%
<b>Safety Approvals and EMC</b>	
EMC	Complies with FCC Class A Complies with EN55032 Class A
Immunity	EN55035 IEC61000-3-2 (Harmonic) Class A IEC61000-3-3 IEC61000-4-2 (ESD) 6KV Contact/8KV Air IEC61000-4-3 (RS) 3V/m IEC61000-4-4(EFT) 1KV Input 0.5KV Output IEC61000-4-6 (CS) 3V IEC61000-4-11 (Dips) Class 3
Dielectric Withstand (Hi-POT)	Primary to Secondary: 2121VDC for 1 Minute, 10mA Primary to Earth Ground: 2121VDC for 1 Minute, 10mA
MTBF	>100,000 Hours Min, Full Load, 24VAC 25°C
<b>FEATURES</b>	
Over Current Protection	Output #1(OUT) $\leq$ 1100mA Output #2(OUT) $\leq$ 1100mA Output #1 and #2 combined(OUT) $\leq$ 2200mA
Over Voltage Protection	Output voltage shall not exceed 60VDC
Short Circuit Protection	Non-Latching. Auto-recovery
Input Connector	ANYTEK Three Pin Terminal Block
Output Connector	RJ45
Output Connection	+pins 3,4,5,6 / -pins 1,2,7,8
<b>Notes</b>	
<ol style="list-style-type: none"> <li>1. The characteristics defined are at ambient temperature of 25°C unless otherwise specified</li> <li>2. Measured with by-pass capacitors 0.1uf/10uf at output connector terminal and oscilloscope set at 20Mhz (tested by oscilloscope). 20 minutes warm-up required when operating at negative temperature.</li> </ol>	

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## POE90U-1BT-X Characteristics

### LED Indicators:

Main Power LED:

Green Solid – Power Good “On”

POE Fault LED:

Red Flash long – Fault Condition (Over Current or Shorted)

Flash short with Green – Invalid Connection/Detection

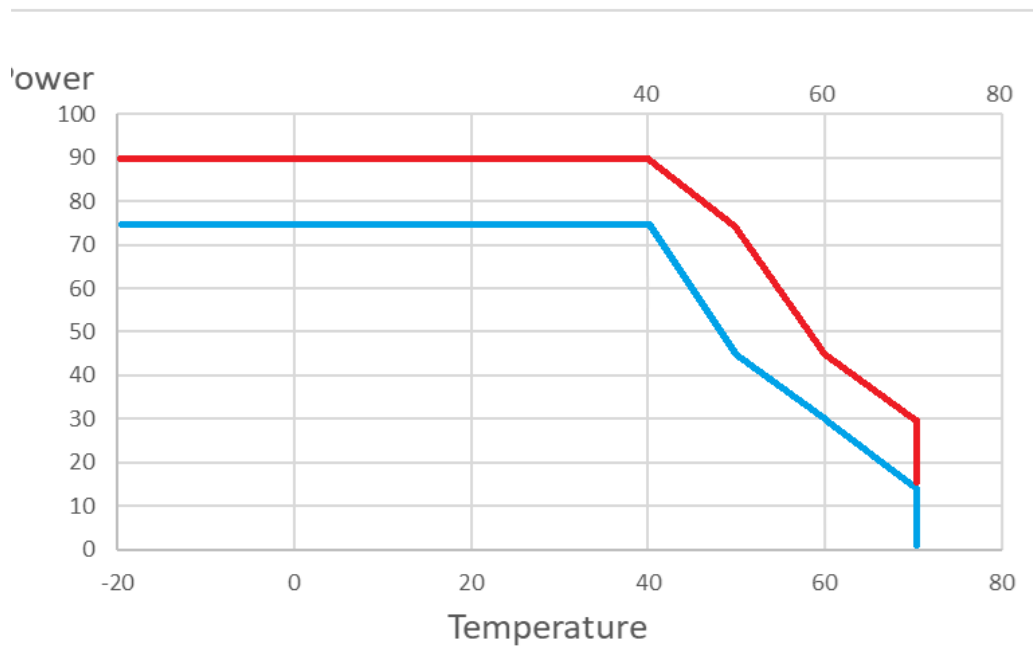
POE LED:

Green Solid – Valid Connection/Detection and Load

Flash short and slow – No connection

### Power vs. Temperature

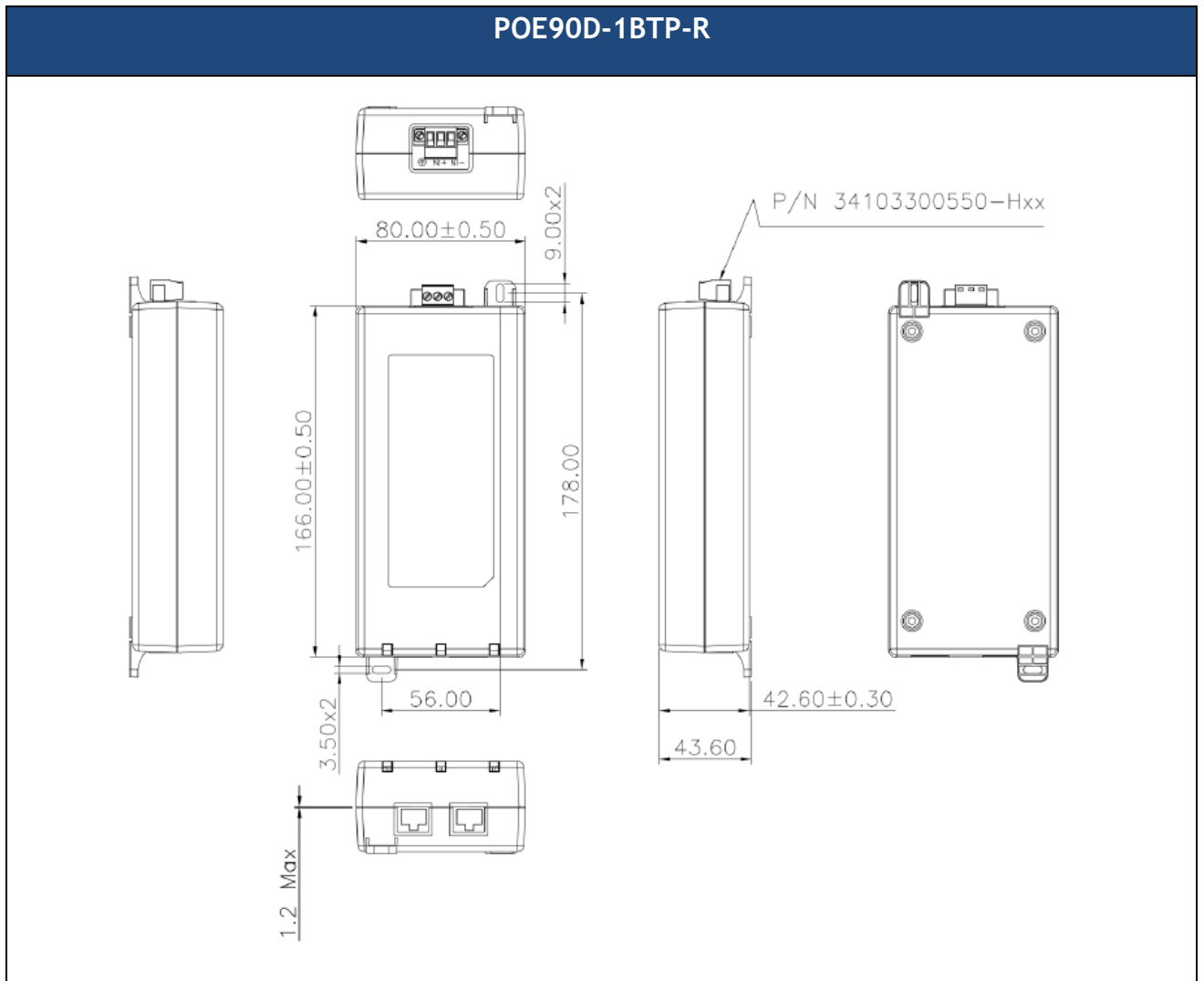
Power Versus Temperature



**Input Voltage: 20VDC-27VDC, 19.2VAC - 28.8VAC**

**Input Voltage: >27VDC-55VDC**

## Dimensional Diagram Unit: mm



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