

Delivering leading edge, innovative power solutions for more than **30** years....

Model:GT-96180-1856-R2-AP

April 15, 2021

## Level VI, DOE EPS 2.0/ErP2 compliant 18W Power over Ethernet (POE) Injector/IEEE802.3af PoE PSE (Power Sourcing Equipment), Gigabit, Class II

### Information

Model Number	GT-96180-1856-R2-AP
Description	GT-96180-1856-R2-AP, PoE, Active Power Injector, Wall Plug-in+Desktop Combination, Single Port Power Over Ethernet Midspan (IEEE802.3af PoE PSE), , Input Rating: 100-240V~, 50-60 Hz, IEC 60320/C8 AC Inlet connector, Output Rating: 18 Watts, Power rating with convection cooling (W) , 56-56V in 0.1V increments, Approvals: CCC; Patent US9838207B2; EAC; UKCA; Morocco; WEEE; VCCI; Ukraine; RoHS; China RoHS; Level VI; CE; Double Insulation; PSE; ETL; S-Mark 60950; CB 60335; ETL 62368;

### Model Picture



Agency Documents	<a href="http://www.globtek.info/certs/GT-96180-POE/">http://www.globtek.info/certs/GT-96180-POE/</a>
CE EC-Declaration	<a href="https://www.globtek.com/pdf/ec_declaration/a0Oa000000MmZDiEAN">https://www.globtek.com/pdf/ec_declaration/a0Oa000000MmZDiEAN</a>
RoHS/RoHS2 Declaration	<a href="https://www.globtek.com/pdf/rohs_cert/a0Oa000000MmZDiEAN">https://www.globtek.com/pdf/rohs_cert/a0Oa000000MmZDiEAN</a>
REACH Declaration	<a href="https://www.globtek.com/pdf/iso_certificates/REACH.pdf">https://www.globtek.com/pdf/iso_certificates/REACH.pdf</a>
Conflict Minerals Declaration	<a href="https://www.globtek.com/pdf/conflict-minerals.pdf">https://www.globtek.com/pdf/conflict-minerals.pdf</a>

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**MODEL PARAMETERS**

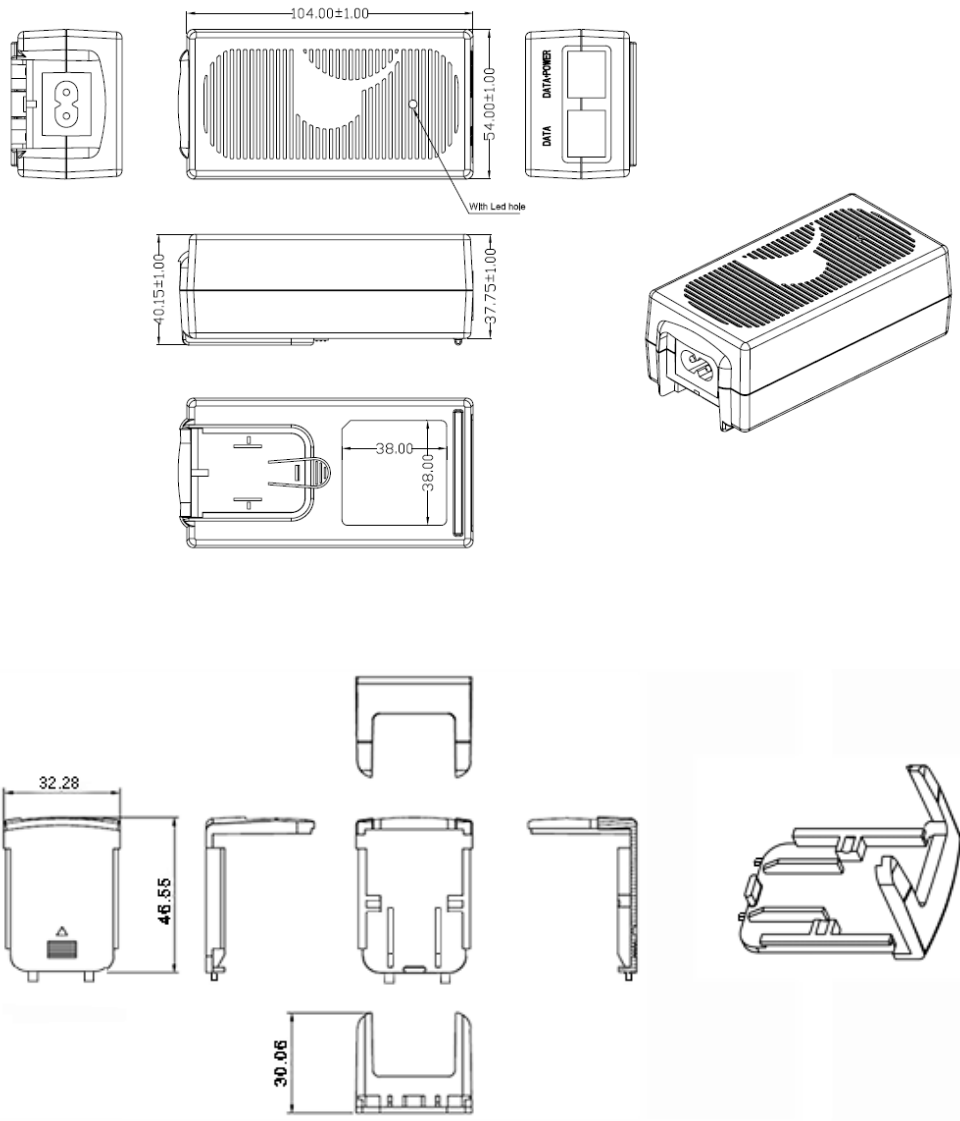
Type	Wall Plug-in+Desktop Combination
Technology	Single Port Power Over Ethernet Midspan (IEEE802.3af PoE PSE)
Category	PoE, Active Power Injector
Input Voltage	100-240V~, 50-60 Hz
I/P Amps (A)	0.6A
Wattage (W)	18.0
Vout Range (V)	56-56
Efficiency Level	USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782
Ingress Protection	Indoor Use
Size (mm)	

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# ENCLOSURE



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Unit shipped without an installed input plug.  
"Desktop insert" installed.

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## RATING TABLE

Model Number	Voltage	Amps(A)	Watts(W)	RFQ
GT-96180-1856-R2-AP	56 V	0.321	17.98	<a href="#">RFQ</a>

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## SPECIFICATIONS

GlobTek's GT-96180-1856 Active Power over Ethernet Midspan Injector offers cost effective and reliable solution for remote powering of Wireless LAN Access Points, Voice over IP phones, Security Cameras, RFID readers and other IP terminals up to 18 Watts over existing network infrastructure. This Injector is configured to provide up to 18watts of power per port over two pairs in compliance with IEEE 802.3af standard.

The GT-96180-1856 Active PoE Injector is designed to function with and provide power to any IEEE 802.3af compliant PoE device.

### MAIN FEATURES

- Withstands high energy EMI Immunity events without going into latched shutdown state
- Enhanced 18W output power capability
- IEEE 802.3af Detection, Disconnect and Overload Protection
- LED User Interface for Power Good and Fault Conditions
- Compliant to PoE+, 10/100/1000 BaseT Data Rates
- Universal Input Power from 100Vac to 240Vac
- Unique Patented Green Design: Compliant to DoE efficiency level VI requirement.
- Full Protection for Over Voltage and Current
- Compact 104 x 54 x 40 mm (w/o MTG Flange)

### APPLICATIONS

- VoIP Phones
- VoIP Phone with Video
- Wireless Access Points
- Bluetooth Access Points
- Multi-Band Wireless Access Points
- Network Security Cameras
- Point of Sales
- Industrial Controllers
- Electronic Time Card Readers
- Building Security Systems
- Network Camera with Pan, Tilt and Zoom Features
- Electronic Signs
- RFID Readers
- Motion Sensors
- HVAC Controllers
- Magnetic Card Readers
- PDAs
- Digital Time clock

#### A) ELECTRICAL SPECIFICATIONS:

##### INPUT

Input Range: 90-264 Vac (85-264Vac @ 85% of rated output power)

Input Line Frequency: 47-63Hz

Input Current:< 0.6A RMS @ 90Vac Full Load

#### PROPRIETARY INFORMATION

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Inrush Current: 60A Typical, Cold Start @ 25°C at 230Vac  
No load power < 100mW  
Efficiency: >85%, 4 Point Avg Efficiency  
Turn on-delay: 1 Second Typical @ 115Vac  
Input Line Protection: MOV Transient protected.  
Hold-up Time: 8ms Typical at nominal input voltage and full load  
Leakage current: <100uA  
Isolation: 3000VAC

**OUTPUT**

Number of Ports: One

Data Rates: Compliant to PoE+, 10/100/1000 Mb/s Ethernet Speed

Power Injection Method: For IEEE 802.3af Midspan, 4&amp;5 for V+ and 7&amp;8 for Common

Port Voltage: 56Vdc nom at pins 4&amp;5 to 7&amp;8

Port Current: 0 to 320mA max for pins 4&amp;5 to 7&amp;8

Port Power: 18W max from pins 4&amp;5 to 7&amp;8

Port Voltage Regulation: Complies with IEEE 802.3af requirements

Port Voltage Ripple: Complies with IEEE 802.3af requirements

Port Voltage Transient Performance: Complies with IEEE 802.3af requirements

Port Overload Protection: Complies with IEEE 802.3af Requirements. Output will shutdown during overload and auto recover when overload is removed.

Port Short Circuit Protection: Complies with IEEE 802.3af Requirements. Output will shutdown during short circuit and auto recover when short is removed.

Port Power Disconnection Method: Automatic Disconnect if &lt; 10mA minimum load detected per IEEE 802.3af standard.

User Interface: Green LED Status Indicator, States as Follows:

No Light: No Powered Device detected at end of ethernet cable

Flashing at 1.5Hz: Detection (hand-shaking) in-Process, with Powered Device

Continuous Light: Good Connection with Powered Device

Flashing at 10Hz: Over Current Condition

**ENVIRONMENTAL**

Temperature: Operating, -10C to 40C

Storage, -30C to 80C

Humidity: 0% to 95% Relative Humidity, Non-Condensing

Altitude: Operating, Up to 5000M

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**MECHANICALS / ENCLOSURE**

Housing: High impact plastic, 94V0 polycarbonate, non-vented

Markings: Label and/or Pad Printed and/or Molded in the case

Dimensions: 104\*54\*40 mm (w/o MTG Flange)

Weight: 0.35 Lb, 155 gr.

AC Input mechanical options: Desktop C6, C8, C14 or C18 IEC Inlet.

Hybrid option (Desktop or Changeable Blade Wall Plug-in) Class I or Class II input

Data and Data+Power Connector: Fully Shielded RJ45

**D) EMISSIONS and IMMUNITY**

Emission: Complies with FCC Class B Part 15, EN55022 Class B

Immunity: Complies with the following;

EN61000-6-2 (Industrial Level Immunity Compliance, extended levels shown in parenthesis)

EN 61000-4-2 ESD (+/-18KV Air, +/-8KV Contact, criteria A) (+/-20KV Air, +/-10KV Contact, criteria B)

EN 61000-4-3 Radiated Immunity

EN 61000-4-4 EFT (+/-2.5KV, criteria A) (+/-4KV, criteria B)

EN 61000-4-5 Surge (+/-2KV Line-Line, +/-4KV Line to Gnd, criteria A)

EN 61000-4-6 Conducted Susceptibility

EN 61000-4-11 Voltage Dips and Interrupts

EN 61000-3-2 Harmonics, Class A

**REGULATORY COMPLIANCE**

Compliant Safety Standards: See listings at end of this drawing for specifics

IEEE 802.3af: Product tested per the requirements of IEEE 802.3af

INTEROPERABILITY: Product's interoperability performance verified with various third party PoE enabled systems. See table below.

**SPECIAL OPTIONS**

1. Custom Markings
2. High Rel PCB laminate with Plated through Holes for IPC610 Class 2 Compliance
3. Special Housing Color
4. 48V or 54V Output Voltage, contact factory for availability
5. Reduced output power rating



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### 18W PoE Injector, Ethernet InterOperability and Compatibility Testing

Injector tested: *Model GT-96180-1856*, rated 18W output, 56Vdc, IEEE802.3-2003 af Compliant

*Note, assuming 80% eff splitter, max Pout = 14.4W (14.4/18 = 0.8)*

Splitter Model Used	Splitter Description	Splitter O/P Power Rating	Splitter Load During Testing
GlobTek GT-91087	5V, af type	8W	7.5W
PowerDSine PD-AS-601/5	5V, af type	10W	
Linksys POEES5	5V, af type	10W	
Axis 5008-001-02	5V, af type	10W	
PowerDSine PD-AS-701/12	12V, at type	24W	14W
Phihong POE21-120-R	12V, at type	21W	
Cisco 7970 Series Phone	IP Phone, af type	Input to Phone rating 48V, 0.38A	

### 100BaseT/1000 Base T network digital transmission testing

*(During testing ethernet communications is passed thru Injector and then Splitter and then to a computer)*

Injector tested: *Model GT-96180-1856*, rated 18W output, 56Vdc, IEEE802.3-2003 af Compliant

*Injector is Gigabit designed and tested, to 100 Base T and 1000 Base T*

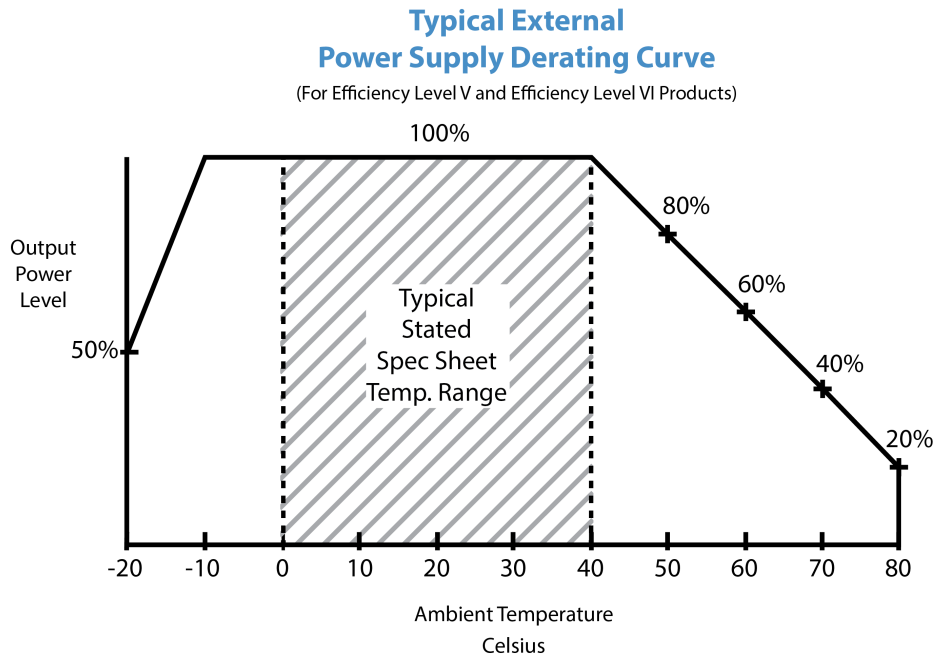
Splitter Model Used	Splitter Description	P/F	Notes:
Axis 5008-001-02	100 Base T rating	P	Limited bandwidth splitter
PowerDSine PD-AS-701/12	1000 Base T rating	P	Full bandwidth splitter

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## DERATING CURVE



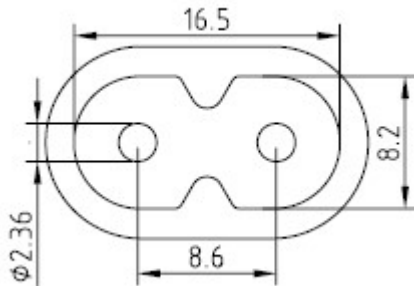
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**INPUT CONFIGURATION**

Description IEC 60320/C8 AC Inlet connector

[Blade Insertion Instructions](#)  
[R-Blade Style Instruction Video](#)


Mates with IEC 60320/C8 Plug

This series of Interchangeable Blade products may be used with Proprietary Interchangeable Blades as described below or with standard international power cords.

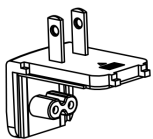
Optional INPUT BLADES: R-Socket: below are available blades configurations which are "not included" (unless stated above); may be purchased separately, packaged with power supply, or as a separate "R-KIT" if specified

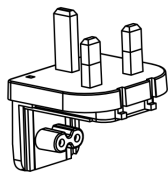
1. Class II model NEMA 1-15P AC power plug with 2 prongs, R-NA-2(R)
2. Australian AS 3112 configuration: SAA 2 pins Class II, R-SAA-2(R)
3. UK BS 1363 configuration: UK 2 pins (dummy Ground) Class II, R-UK-2(R)
4. European CEE 7/16 configuration: Europlug 2 PINS, Class II, R-EU-2(R)
5. China GB 2099 configuration: 2 blades, Class II; CN P/N:R-CN-2(R)

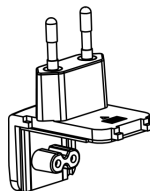
6. Desktop Insert

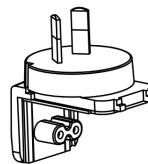
Kits

05. R-KIT-2(R): 1,2,3,4 above
06. R-KIT-2-INTL(R): 2,3,4 above


**UL 2P**

 P/N: R-NA-2(R)  
 NORTH AMERICA  
 JAPAN

**UK 2P**

 P/N: R-UK-2(R)  
 UNITED KINGDOM  
 HONG KONG  
 SINGAPORE

**EU 2P**

 P/N: R-EU-2(R)  
 EUROPE  
 SOUTH AMERICA

**AUS 2P**

 P/N: R-SAA-2(R)  
 AUSTRALIA

Standard Cordsets

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Below are standard cordsets which are "not included" (unless stated above); these may be purchased separately or packaged with the power supply. Contact your Sales Engineer if the style required is not shown below. Many more available in different lengths, colors or cable material.

[Standard International IEC 320/C7 Cordsets](#)









Part Number	Country	Plug	Connector	Length (mm)	Length (feet)
<u><a href="#">2094112M703(R)</a></u>	Argentina (Type I)	IRAM 2063	IEC 320/C7	2000	7
<u><a href="#">5014112M703A(R)</a></u>	Australian (Type I)	AS 3112	IEC 320/C7	2000	7
<u><a href="#">207B4111M8703(R)</a></u>	Brazil (Type N)	NBR14136	IEC 320/C7	1800	6
<u><a href="#">4533501M8703(R)</a></u>	China (Type A)	GB 2099.1	IEC 320/C7	1830	6
<u><a href="#">2074112M703A(R)</a></u>	European (Type C)	CEE 7/16	IEC 320/C7	2000	7
<u><a href="#">2084111M8703(R)</a></u>	South Africa (Type M)	BS 546	IEC 320/C7	1800	6
2084111M8703B(R)	India (Type M)	ISI:1293	IEC 320/C7	1800	6
<u><a href="#">2714111M8703A(R)</a></u>	India (Type C)	ISI:1293	IEC 320/C7	1800	6
<u><a href="#">451J3401M8703(R)</a></u>	Japan (Type A)	JIS 8303	IEC 320/C7	1830	6
<u><a href="#">2044112M703A(R)</a></u>	Korea (Type C)	KS C8305	IEC 320/C7	2000	7
<u><a href="#">4511116F703A(R)</a></u>	N. American (Type A)	NEMA 1-15P	IEC 320/C7	1830	6
<u><a href="#">4033401M8703A(R)</a></u>	Taiwan (Type A)	CNS690	IEC 320/C7	1830	6
<u><a href="#">6104112M703A(R)</a></u>	UK, Hong Kong, Singapore, Gulf States (Type G)	BS1363	IEC 320/C7	2000	7

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## Approvals

Logo	Description
	CCC to GB4943. 1-2011; GB9254-2008; GB17625. 1-2012 with Tropical and Altitude up to 5000 m approval.
	CE Certification
No Logo Applicable	IEC 60335-1:2010 (Fifth Edition) incl. Corr. 1:2010 and Corr. 2:2011 + A1:2013
	Audio/Video, Information And Communication Technology Equipment - Part 1: Safety Requirements [UL 62368-1:2014 Ed.2] Audio/Video, Information And Communication Technology Equipment - Part 1: Safety Requirements [CSA C22.2#62368-1:2014 Ed.2]
	Information Technology Equipment Safety Part 1: General Requirements (UL 60950-1 Issued: 2007/03/27, Ed: 2 Rev: 2014/10/14) Information Technology Equipment Safety Part 1: General Requirements (CSA C22.2 No. 60950-1 Issued: 2007/03/27 Ed: 2 (R2012) Amd.
	CHINA SJ/T 11364-2014, China RoHS Chart: <a href="http://en.globtek.com/globtek-rohs.php">http://en.globtek.com/globtek-rohs.php</a>
Conforms to UL STD. 62368-1 Certified to CSA STD C22.2 NO.62368-1	Conforms to UL STD. 62368-1 Certified to CSA STD C22.2 NO.62368-1
	
	Declaration ДС № EAЭС N RU Д-US.KA01.B.10453_19 Custom Union of Russia, Belarus and Kazakhstan <a href="http://www.globtek.com/redirect/?loc=gost-certificate-eac-declaration">http://www.globtek.com/redirect/?loc=gost-certificate-eac-declaration</a>
	Indoor Use Only - Mark is on the label or Molded in the case

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<b>EFFICIENCY LEVEL</b> 	Efficiency: complies to section 301 of Energy Independence and Security Act (EISA) complies with Energy Star tier 2 (North America), ECP tier 2 (China), MEPS tier 2 (Australia), Code of Conduct (Europe)
	Morocco SDoC declaration <a href="http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/">http://www.globtek.info/certs/Morocco%20SDoC%20Declaration/</a>
Patent US9838207B2	Protected by US and international patents, US patent number US9838207B2
 GlobTek, Inc.	JAPAN TUV Rheinland-PSE GlobTek Inc to J60950-1(H26) , J55022(H22),J3000(H25).Please follow the procedure listed in the following link for proper import to Japan: <a href="http://en.globtek.com/importing-to-japan.php">http://en.globtek.com/importing-to-japan.php</a> .
RoHS	Specifications of directive 2011/65/EU Annex VI (ROHS-2) with amendment 2015/863-EU (ROHS-3) <a href="http://www.ce-mark.com/Rohs%20final.pdf">http://www.ce-mark.com/Rohs%20final.pdf</a>
 Intertek	S-Mark Certificate EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011+A2:2013 ( <a href="http://www.intertek.com/marks/s/">http://www.intertek.com/marks/s/</a> )
	UKCA Certification
 10276	Ukraine UKRSepr (Document: <a href="http://www.globtek.com/html/iso_certificates/GT_Ukraine.pdf">www.globtek.com/html/iso_certificates/GT_Ukraine.pdf</a> )
	Japan: Voluntary Control Council for Interference (VCCI)
	WEEE: Complies with EU 2012/19/EU ( <a href="http://ec.europa.eu/environment/waste/weee/index_en.htm">http://ec.europa.eu/environment/waste/weee/index_en.htm</a> ) Mark is on the label or Molded in the case