

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

Model:GT-96300-3656-T3-AP

June 1, 2020

## Level VI, DOE EPS 2.0/ErP2 compliant 36W Power over Ethernet (POE+) Injector/IEEE802.3at PoE PSE (Power Sourcing Equipment), Gigabit, Class I

### Information

Model Number	GT-96300-3656-T3-AP
Description	GT-96300-3656-T3-AP, PoE, Active Power Injector, Desktop/External, Gigabit Power over Ethernet (IEEE802.3at PoE PSE) Power Supply AC Adaptor, , Input Rating: 100-240V~, 50-60 Hz, IEC 60320/C14 AC Inlet Connector, Class I, Earth Ground, Output Rating: 36 Watts, Power rating with convection cooling (W) , 56V in 0.1V increments, Approvals: ETL; CB 62368; Patent US9838207B2; EAC; CCC; ETL 62368; PSE; Level VI; Ukraine; RCM; CE; CB 60335; WEEE; VCCI; China RoHS; RoHS;

### Model Picture



Agency Documents	<a href="http://www.globtek.info/certs/GT-96300-POE/">http://www.globtek.info/certs/GT-96300-POE/</a>
CE EC-Declaration	<a href="https://www.globtek.com/pdf/ec_declaration/a0Oa000000Mm4XQEAZ">https://www.globtek.com/pdf/ec_declaration/a0Oa000000Mm4XQEAZ</a>
RoHS/RoHS2 Declaration	<a href="https://www.globtek.com/pdf/rohs_cert/a0Oa000000Mm4XQEAZ">https://www.globtek.com/pdf/rohs_cert/a0Oa000000Mm4XQEAZ</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	Desktop/External
Technology	Gigabit Power over Ethernet (IEEE802.3at PoE PSE) Power Supply AC Adaptor
Category	PoE, Active Power Injector
Input Voltage	100-240V~, 50-60 Hz
I/P Amps (A)	1.0A
Wattage (W)	36.0
Vout Range (V)	56
Efficiency Level	USA DOE Level VI / Eco-design Directive 2009/125/EC, (EU) 2019/1782
Ingress Protection	IP40
Size (mm)	107*55*36

**PROPRIETARY INFORMATION**

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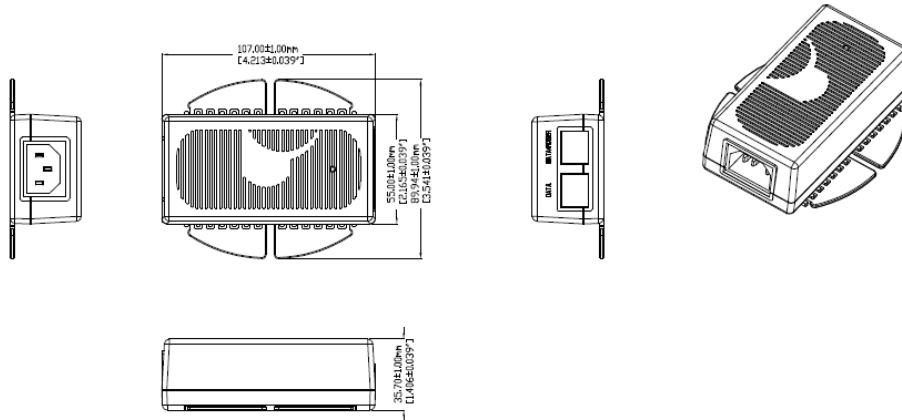
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# ENCLOSURE



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**RATING TABLE**

Model Number	Voltage	Amps(A)	Watts(W)	RFQ
GT-96300-3656-T3-AP	56 V	0.643	36.01	<a href="#">RFQ</a>

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## SPECIFICATIONS

GlobTek's GT-96300-3656 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 36 Watts over existing network infrastructure. This injector is configured to provide 36 watts of power per port over two pairs in compliance with IEEE 802.3at standard.

The GT-96300-3656 Active PoE Injector is designed to function with and provide power to any IEEE 802.3at compliant PoE device.

### MAIN FEATURES

- Withstands high energy EMI Immunity events without going into latched shutdown state
- Enhanced 36W output power capability
- IEEE 802.3at Detection, 2 Event classification, 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:< 1A RMS @ 90Vac Full Load

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Inrush Current: 60A Typical, Cold Start @ 25°C at 230Vac  
No load Power: < 100mW  
Efficiency: >87.4%, 4 Point Avg efficiency. Typical at Full Load , 230 Vac  
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: 3000 VAC

**OUTPUT**

Number of Ports: One

Data Rates: Compliant to PoE+, 10/100/1000 Mbits/second Ethernet Speed

Power Injection Method: For IEEE 802.3at 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 640mA max for pins 4&amp;5 to 7&amp;8

Port Power: 36W max from pins 4&amp;5 to 7&amp;8

Port Voltage Regulation: Complies with IEEE 802.3at requirements

Port Voltage Ripple: Complies with IEEE 802.3at requirements

Port Voltage Transient Performance: Complies with IEEE 802.3at requirements

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

Port Short Circuit Protection: Complies with IEEE 802.3at Requirements. Port 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 802.3at 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 802.3at: Product tested per the requirements of IEEE 802.3at

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

**SPECIAL OPTIONS**

1. Custom Markings
2. Reduced output power rating
3. Compatibility to 24W-30W output power Splitters using Data Link Layer Classification
4. High Rel PCB laminate with Plated through Holes for IPC610 Class 2 Compliance
5. Special Housing Colors

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6.48V or 54V Output Voltage, contact factory for availability

### 36W PoE Injector, Ethernet InterOperability and Compatibility Testing

 Injector tested: *Model GT-96300-3656*, rated 36W output, 56Vdc, IEEE802.3-2009 at Compliant

*Note, assuming 80% eff splitter, max Pout = 28.8W (28.8/36 = 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	24W
Phihong POE21-120-R	12V, at type	21W	21W
Cisco 7970 Series Phone	IP Phone, af type	Input to Phone rating 48V, 0.38A	

\* For 24W-30W output power Splitters using Data Link Layer Classification, contact GlobTek for option availability.

### 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-96300-3656*, rated 36W output, 56Vdc, IEEE802.3-2009 at 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

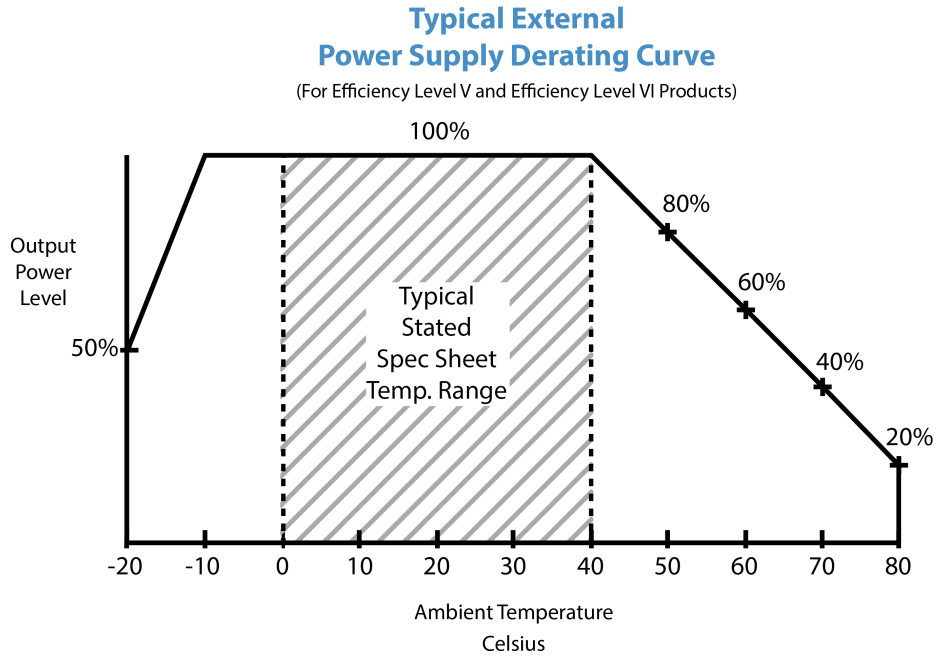


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## DERATING CURVE



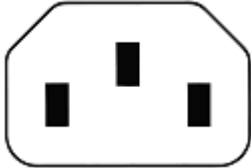
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**INPUT CONFIGURATION**

Description IEC 60320/C14 AC Inlet Connector, Class I, Earth Ground



Mates with IEC 60320/C13 Plug

Optional Locking IEC60320 Receptacle and cord option available on some models by request.:


[Standard International IEC 320/C13 Cordsets](#)

Below are standard cordsets which are "not included" (unless stated above); these can 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.

**Stock Power Supply Cords**

Part Number/ Link	Country	Plug	Termination	Length (mm)	(Ft)
<a href="#">3021457F701(R)</a>	N. American (Type B)	NEMA 5-15P	IEC 320/C13	2150	7
<a href="#">1191068F0701(R)</a>	N. American (Type B)	NEMA 5-15P Hospital	IEC 320/C13	2459	8
<a href="#">2194272M5701-T(R)</a>	Argentina (Type I)	IRAM 2073	IEC 320/C13	2500	8
<a href="#">5502022M5701A(R)</a>	Australian (Type I)	AS3112 / 3 PRONG	IEC 320/C13	2500	8
<a href="#">204B4272M5701(R)</a>	Brazil (Type N)	BRAZIL	IEC 320/C13	2500	8
<a href="#">6023602M5701(R)</a>	China (Type I)	CCC GR2099	IEC 320/C13	2500	8
<a href="#">G8014272M5701(R)</a>	Danish (Type K)	AFSNIT SECTION 107-2-D1	IEC 320/C13	2500	8
<a href="#">23144272M5701-T(R)</a>	Europe (Type E)	CEE 7/7	IEC 320/C13	2500	8
<a href="#">205IN4272M5701(R)</a>	India (Type D)	India IS 1293 (also known as IA16A3 or BS546)	IEC 320/C13	2500	8
<a href="#">208IN4272M5701(R)</a>	India (Type M)	India IS 1293 (also known as IA16A3 or BS546)	IEC320/C13	2500	8
<a href="#">377C4272M5701(R)</a>	Israel (Type H)	ISL 377C	IEC 320/C13	2500	8
<a href="#">23024272M5701(R)</a>	Italy (Type L)	CEI 23-16/VII	IEC 320/C13	2500	8
<a href="#">3003339F701(R)</a> [3x1.25mm2]	Japan (Type B)	JIS 8303 / 3 PINS	IEC 320/C13	2500	8

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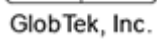
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<a href="#">3003068F2701-HK(R)</a> [3 x 2.0mm2]					
<a href="#">302J115J6F0701J(R)</a>	Japan / North America (Type B – 12A)	JIS 8303 / 3 PINS and NEMA 5-15P (PSE and UL/CUL appr)	IEC 320/C13	1830	6
<a href="#">302J104J6F0701J(R)</a>	Japan / North America (Type B – 15A)	JIS 8303 / 3 PINS and NEMA 5-15P (PSE and UL/CUL appr)	IEC 320/C13	1830	6
<a href="#">2313K3432M5701(R)</a>	Korea (Type F)	KS C 8305	IEC 320/C13	2500	8
<a href="#">5804272M5701(R)</a>	Russia (Type F)	GOST 7396	IEC 320/C13	2500	8
<a href="#">2084272M5701(R)</a>	South Africa (Type M)	South Africa SABS164-1 (16A type)	IEC 320/C13	2500	8
<a href="#">23214272M5701(R)</a>	Switzerland (Type J)	SEV 1011	IEC 320/C13	2500	8
<a href="#">3003322M5701(R)</a>	Taiwan (Type B)	BSMI	IEC 320/C13	2500	8
<a href="#">PZ0800100-2M5BK13H(R)</a>	UK, Hong Kong, Singapore, Gulf States (Type G)	BS 1363A	IEC 320/C13	2500	8
<a href="#">7055002M5701A(R)</a>	International	IEC 320 C14-C13	IEC 320/C13	2500	8

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## Approvals

Logo	Description
No Logo Applicable	CB for IEC 62368-1:2014 (Second Edition)
	CCC Altitude up to 5000 m GB17625.1-2012, GB4943.1-2011, GB/T9254-2008 for GT-96300-WWVV-T2(A) R2 (T3,T3A) (48V, 54V, 56V)
No Logo Applicable	IEC 60335-1:2010 (Fifth Edition) incl. Corr. 1:2010 and Corr. 2:2011 + A1:2013
	CE Mark: tested to comply with EN 55032:2012+AC:2013, EN 61000-3-2:2014, EN 61000-3-3:2013, EN 55024:2010
	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]
	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>
	Declaration ДС № EAЭC 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>
	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
	JAPAN TUV R-PSE, Cert. No. JD 50313285, to J60950-1(H26) , J55022(H22),J3000(H25)[DC30? 60V]. Please reference the following website for guidelines on PSE regulations: <a href="http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/">http://en.globtek.com/importing-ite-and-medical-power-supplies-ac-adaptors-to-japan/</a>
	Efficiency: complies to section 301 of Energy Independence and Security Act (EISA)

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EFFICIENCY LEVEL 	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
	RCM certificate SAA-161679-EA; Australia and New Zealand Regulatory Compliance, Mark ( <a href="http://rcm.standards.org.au/rcmfaq/rcmfaq.htm">http://rcm.standards.org.au/rcmfaq/rcmfaq.htm</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>
 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