



160W AC-DC Reliable Green Industrial Adaptor

**GST160A** series

User's Manual



Video



UL62368-1 BS EN/EN62368-1 CNS15598-1 J62368-1 K60950-1 AS/NZS62368.1 GB4943.1 IS13252



IEC62368-1 TPTC004



## ■ Features

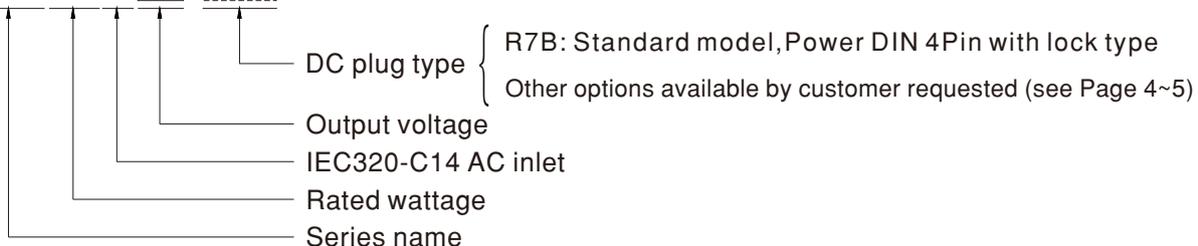
- **Global certificates**
- Universal AC input / Full range
- 3 pole AC inlet IEC320-C14, Class I power unit
- Built-in active PFC function
- No load power consumption < 0.15W
- **Energy efficiency Level VI**
- Comply with EISA 2007/DoE, NRCAN, AU/NZ MEPS, EU ErP and CoC Version 5
- Protections: Short circuit / Overload / Over voltage / Over temperature
- -30~+70°C wide range working temperature
- Fully enclosed plastic case
- LED indicator for power on
- [Various DC plug quick adapter accessory available \(Plug kit sold separately, please refer to : https://www.meanwell.com/upload/pdf/DC\\_plug.pdf\)](https://www.meanwell.com/upload/pdf/DC_plug.pdf)
- 3 years warranty

## ■ Description

GST160A is a highly reliable, 160W desktop style single-output green adaptor series. This product is a class I power unit (with FG), equipped with a standard IEC320-C14 AC inlet and adopting the input range from 85VAC to 264VAC. The entire series supplies different models with output voltages ranging between 12VDC and 48VDC that can satisfy the demands for various types of consumer electronic devices. With the efficiency up to 94% and the extremely low no-load power consumption below 0.15W, GST160A is compliant with USA EISA 2007/DoE, Canada NRCAN, Australia and New Zealand MEPS, Korea K-MEPS, EU ErP and Code of Conduct (CoC) Version 5. The supreme feature allows the adaptor to save the energy when it is either under the operating mode or the standby mode. The entire series utilizes the 94V-0 flame retardant plastic case. GST160A is certified for the international safety regulations.

## ■ Model Encoding

**GST 160A 12 -R7B**



## ■ Applications

- Consumer electronic devices
- Telecommunication devices
- Office facilities
- Industrial equipments

## ■ GTIN CODE

MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

**SPECIFICATION**

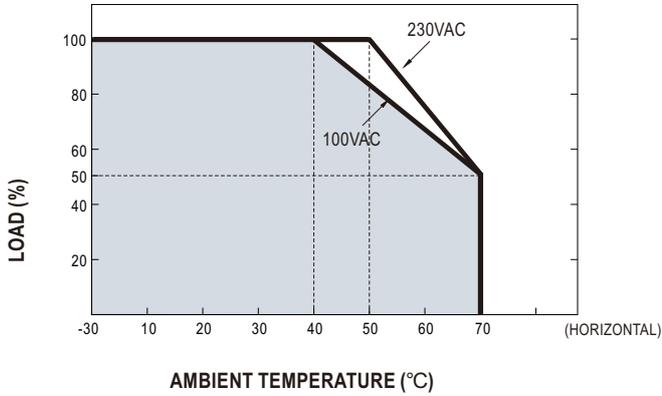
ORDER NO.	GST160A12-R7B	GST160A15-R7B	GST160A20-R7B	GST160A24-R7B	GST160A36-R7B	GST160A48-R7B	
<b>OUTPUT</b>	<b>SAFETY MODEL NO.</b>	GST160A12	GST160A15	GST160A20	GST160A24	GST160A36	GST160A48
	<b>DC VOLTAGE</b> <small>Note.2</small>	12V	15V	20V	24V	36V	48V
	<b>RATED CURRENT</b>	11.5A	9.6A	8A	6.67A	4.44A	3.34A
	<b>CURRENT RANGE</b>	0 ~ 11.5A	0 ~ 9.6A	0 ~ 8A	0 ~ 6.67A	0 ~ 4.44A	0 ~ 3.34A
	<b>RATED POWER (max.)</b>	138W	144W	160W	160W	160W	160W
	<b>RIPPLE &amp; NOISE (max.)</b> <small>Note.3</small>	80mVp-p	100mVp-p	120mVp-p	150mVp-p	150mVp-p	200mVp-p
	<b>VOLTAGE TOLERANCE</b> <small>Note.4</small>	±5.0%	±5.0%	±4.0%	±3.0%	±3.0%	±3.0%
	<b>LINE REGULATION</b> <small>Note.5</small>	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	<b>LOAD REGULATION</b>	±5.0%	±5.0%	±4.0%	±3.0%	±3.0%	±3.0%
	<b>SETUP, RISE TIME</b> <small>Note.6</small>	2000ms, 50ms / 230VAC      2500ms, 50ms / 115VAC at full load					
<b>HOLD UP TIME (Typ.)</b>	20ms / 230VAC      20ms / 115VAC at full load						
<b>INPUT</b>	<b>VOLTAGE RANGE</b> <small>Note.7</small>	85 ~ 264VAC    120 ~ 370VDC					
	<b>FREQUENCY RANGE</b>	47 ~ 63Hz					
	<b>POWER FACTOR (Typ.)</b>	12V/15V:PF>0.93 / 230VAC		20V,24V,48V:PF>0.94 / 230VAC		PF>0.98 / 115VAC at full load	
	<b>EFFICIENCY (Typ.)</b>	90%	91%	93%	93%	92%	94%
	<b>AC CURRENT</b>	1.85A / 115VAC		1A / 230VAC			
	<b>INRUSH CURRENT (max.)</b>	Cold start 95A / 115VAC    120A / 230VAC					
	<b>LEAKAGE CURRENT(max.)</b>	0.75mA / 240VAC					
<b>PROTECTION</b>	<b>OVERLOAD</b>	105 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	<b>OVER VOLTAGE</b>	105 ~ 135% rated output voltage Protection type : Hiccup mode @ 10%load					
	<b>OVER TEMPERATURE</b>	Protection type : Shut down o/p voltage, re-power on to recover					
<b>ENVIRONMENT</b>	<b>WORKING TEMP.</b>	-30 ~ +70°C (Refer to "Derating Curve")					
	<b>WORKING HUMIDITY</b>	20% ~ 90% RH non-condensing					
	<b>STORAGE TEMP., HUMIDITY</b>	-40 ~ +85°C , 10 ~ 95% RH non-condensing					
	<b>TEMP. COEFFICIENT</b>	±0.03% / °C (0~50°C )					
	<b>VIBRATION</b>	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
<b>SAFETY &amp; EMC (Note. 10)</b>	<b>SAFETY STANDARDS</b> <small>Note. 8</small>	UL62368-1, CSA C22.2 No.62368-1, TUV BS EN/EN62368-1, BSMI CIS15598-1, CCC GB4943.1, PSE J62368-1, AS/NZS 62368.1, BIS IS13252, KC K60950-1, EAC TP TC 004 approved					
	<b>WITHSTAND VOLTAGE</b>	I/P-O/P: 3KVAC    I/P-FG: 2KVAC    O/P-FG: SHORT					
	<b>ISOLATION RESISTANCE</b>	I/P-O/P: 100M Ohms / 500VDC / 25°C / 70% RH					
	<b>EMC EMISSION</b>	<b>Parameter</b>	<b>Standard</b>			<b>Test Level / Note</b>	
		Conducted emission	BS EN/EN55032(CISPR32),FCC PART 15 / CISPR22 CAN ICES-3(B)/NMB-3(B),CNS15936,GB17625.1 EAC TP TC 020,MSIP KN32			Class B	
		Radiated emission	BS EN/EN55032(CISPR32),FCC PART 15 / CISPR22 CAN ICES-3(B)/NMB-3(B),CNS15936,GB17625.1 EAC TP TC 020,MSIP KN32			Class B	
		Harmonic current	BS EN/EN61000-3-2,GB9254			Class A	
		Voltage flicker	BS EN/EN61000-3-3			-----	
	<b>EMC IMMUNITY</b>	BS EN/EN55035					
		<b>Parameter</b>	<b>Standard</b>			<b>Test Level /Note</b>	
ESD		BS EN/EN61000-4-2			Level 4, 15KV air; Level 4, 8KV contact		
RF field susceptibility		BS EN/EN61000-4-3			Level 2, 3V/m		
EFT bursts		BS EN/EN61000-4-4			Level 3, 2KV		
Surge susceptibility		BS EN/EN61000-4-5			Level 3, 1KV/Line-Line , 2KV/Line-FG		
Conducted susceptibility		BS EN/EN61000-4-6			Level 2, 3V		
Magnetic field immunity		BS EN/EN61000-4-8			Level 2, 3A/m		
	Voltage dips , interruption	BS EN/EN61000-4-11			>95% dip 0. 5 periods, 30% dip 25 periods, >95% interruptions 250 periods		
<b>OTHERS</b>	<b>MTBF</b>	2205.4K hrs min.    Telcordia SR-332 (Bellcore) ; 236.4K hrs min.    MIL-HDBK-217F (25°C)					
	<b>DIMENSION</b>	175*72*35mm (L*W*H)					
	<b>PACKING</b>	0.66Kg; 20pcs/ 14.2Kg/ 0.95CUFT					
<b>CONNECTOR</b>	<b>PLUG</b>	See page 4~5 ; Other type available by customer requested					
	<b>CABLE</b>	See page 4~5 ; Other type available by customer requested					
<b>NOTE</b>	<p>1. All parameters are specified at 230VAC input, rated load, 25°C 70% RH ambient.</p> <p>2. DC voltage: The output voltage set at point measure by plug terminal &amp; 50% load.</p> <p>3. Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1 μF &amp; 47 μF capacitor.</p> <p>4. Tolerance: includes set up tolerance, line regulation, load regulation.</p> <p>5. Line regulation is measured from low line to high line at rated load.</p> <p>6. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.</p> <p>7. Derating may be needed under low input voltage. Please check the derating curve for more details.</p> <p>8. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</p> <p>9. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on <a href="https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf">https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf</a>)</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p>						



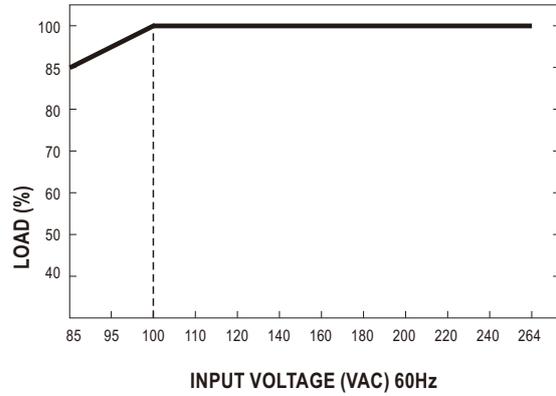
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**GST160A** series

■ Derating Curve



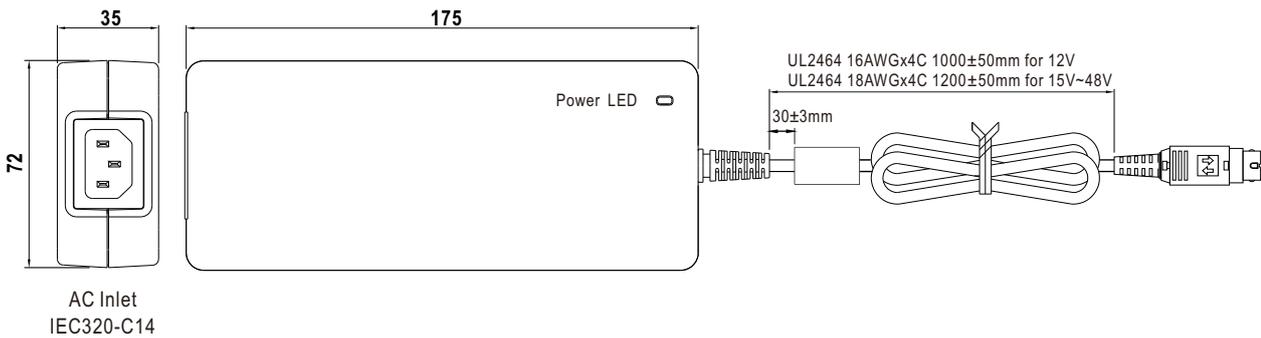
■ Static Characteristics



■ Mechanical Specification

(Unit: mm, tolerance  $\pm 1$ mm)

Case No. GS160A



■ DC output plug

◎ Standard plug: R7B

R7B		Pin Assignment	
	KYCON KPPX-4P equivalent	AC FG	
		-V connected to AC FG	
		<b>PIN NO.</b>	<b>OUTPUT</b>
		1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo



⦿ DC plug changeable through:

(1) Customization of the standard part with an optional DC plug according to the table (MOQ applicable)

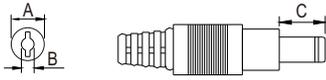
(2) Quick adapter accessory (sold separately without MOQ)

Please refer to below table and online selection guide : [https://www.meanwell.com/upload/pdf/DC\\_plug.pdf](https://www.meanwell.com/upload/pdf/DC_plug.pdf)

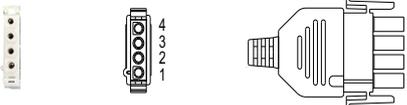
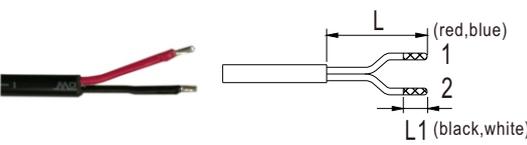
Example quick adapter accessory:



⦿ Optional DC plug: (Available in customized cable or quick adapter)

Tuning Fork Style	Type No.	A	B	C	Quick Adapter Accessory
		OD	ID	L	
  (Straight)	P1J	5.5	2.1	11.0	Available for 24 ~ 48V (Current rating: 7.5A max.)
	P1M	5.5	2.5	11.0	
Min. DIN 4 Pin with Lock (female)	Type No.	Pin Assignment			None
  KYCON KPJX-CM-4S equivalent	R7BF	PIN No.	Output		
		1	+Vo		
		2	-Vo		
		3	-Vo		
		4	+Vo		
DIN 5 Pin (male)	Type No.	Pin Assignment			None
 	R1B	PIN No.	Output		
		1	-Vo		
		2	-Vo		
		3	+Vo		
		4	-Vo		
5	+Vo				
NEUTRIK XLR NC4FX equivalent	Type No.	Pin Assignment			None
 	MIC4	PIN No.	Output		
		1	+Vo		
		2	+Vo		
		3	-Vo		
4	-Vo				
MOLEX 39-01-2060 (4.2mm) equivalent	Type No.	Pin Assignment			None
  FG not connected to output connector	C6P	PIN No.	Output		
		1	+Vo		
		2	+Vo		
		3	+Vo		
		4	-Vo		
		5	-Vo		
6	-Vo				



AMP 1-480702-0 (6.35mm) equivalent	Type No.	Pin Assignment		Quick Adapter Accessory
		PIN No.	Output	
 <p>FG not connected to output connector</p>	C4P	1	+Vo	None
		2	+Vo	
		3	-Vo	
		4	-Vo	
Stripped and tinned leads	Type No.	Pin Assignment		
		PIN No.	Output	
 <p>Length of Land L1 by request (MW's standard length, L: <u>25</u> mm, L1: <u>5</u> mm) ( NOTE: The wire color is for reference only, please refer to the actual product)</p>	by customer	1	+Vo	None
		2	-Vo	

■ **Installation Manual**

Please refer to : <http://www.meanwell.com/manual.html>