

## ■ 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, Korea K-MEPS, AU/NZ MEPS, EU ErP and CoC Version 5
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fully enclosed plastic case
- -30~+70°C wide range working temperature
- 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

## ■ Applications

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

## ■ GTIN CODE

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

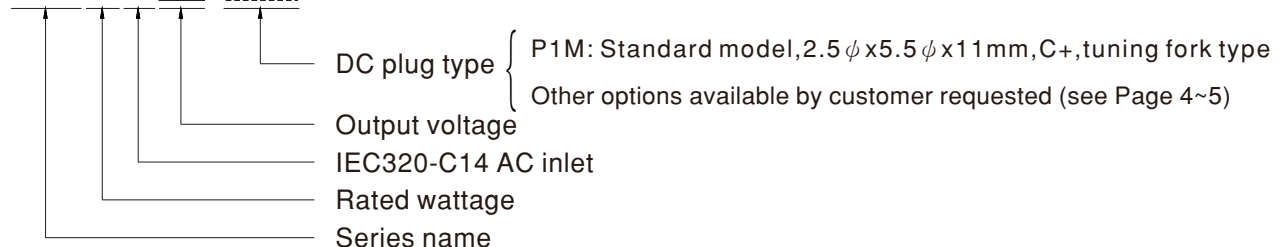
## ■ Description

GST90A is a highly reliable, 90W 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 90VAC 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 91% and the extremely low no-load power consumption below 0.15W, GST90A 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. GST90A is certified for the international safety regulations.

## ■ Model Encoding

**GST 90 A 12 -P1M**



**SPECIFICATION**

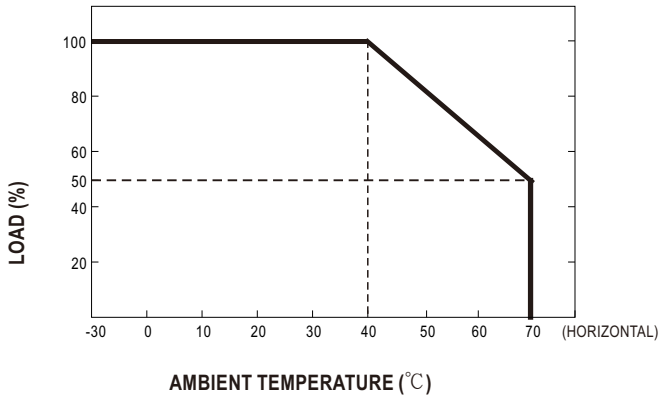
ORDER NO.	GST90A12-P1M	GST90A15-P1M	GST90A19-P1M	GST90A24-P1M	GST90A48-P1M		
OUTPUT	<b>SAFETY MODEL NO.</b>	GST90A12	GST90A15	GST90A19	GST90A24	GST90A48	
	<b>DC VOLTAGE</b> <small>Note.2</small>	12V	15V	19V	24V	48V	
	<b>RATED CURRENT</b>	6.67A	6A	4.74A	3.75A	1.87A	
	<b>CURRENT RANGE</b>	0 ~ 6.67A	0 ~ 6A	0 ~ 4.74A	0 ~ 3.75A	0 ~ 1.87A	
	<b>RATED POWER (max.)</b>	80W	90W	90W	90W	90W	
	<b>RIPPLE &amp; NOISE (max.)</b> <small>Note.3</small>	120mVp-p	150mVp-p	180mVp-p	200mVp-p	200mVp-p	
	<b>VOLTAGE TOLERANCE</b> <small>Note.4</small>	±5.0%	±5.0%	±4.0%	±3.0%	±2.5%	
	<b>LINE REGULATION</b> <small>Note.5</small>	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	<b>LOAD REGULATION</b>	±5.0%	±5.0%	±4.0%	±3.0%	±2.5%	
	<b>SETUP, RISE TIME</b> <small>Note.6</small>	1000ms, 50ms / 230VAC      1000ms, 50ms / 115VAC at full load					
<b>HOLD UP TIME (Typ.)</b>	20ms / 230VAC      20ms / 115VAC at full load						
INPUT	<b>VOLTAGE RANGE</b> <small>Note.7</small>	90 ~ 264VAC    127 ~ 370VDC					
	<b>FREQUENCY RANGE</b>	47 ~ 63Hz					
	<b>POWER FACTOR (Typ.)</b>	PF>0.91 / 230VAC    PF>0.95 / 115VAC at full load					
	<b>EFFICIENCY (Typ.)</b>	89%	89.5%	90%	90%	91%	
	<b>AC CURRENT (Typ.)</b>	1.3A / 115VAC    0.6A / 230VAC					
	<b>INRUSH CURRENT (max.)</b>	Cold start 35 / 115AC    70A / 230VAC					
	<b>LEAKAGE CURRENT(max.)</b>	1mA / 240VAC					
PROTECTION	<b>OVERLOAD</b>	110 ~ 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 : Shut down o/p voltage, re-power on to recover					
	<b>OVER TEMPERATURE</b>	Shut down o/p voltage, re-power on to recover					
ENVIRONMENT	<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 (0~40°C)					
	<b>VIBRATION</b>	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
SAFETY & EMC (Note. 10)	<b>SAFETY STANDARDS</b> <small>Note. 8</small>	UL62368-1, CSA C22.2 No.62368-1, TUV BS EN/EN62368-1, BSMI CNS15598-1, CCC GB4943.1, PSE J62368-1, AS/NZS 60950.1, BIS IS13252, KC K60950-1, EAC TP TC 004 approved; SIRIM MS IEC60950-1 (optional) approved					
	<b>WITHSTAND VOLTAGE</b>	I/P-O/P: 3KVAC    I/P-FG:2KVAC    O/P-FG:0.5KVAC					
	<b>ISOLATION RESISTANCE</b>	I/P-O/P, I/P-FG, O/P-FG: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 2, 1KV		
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			
OTHERS	<b>MTBF</b>	2529.4K hrs min.    Telcordia SR-332 (Bellcore) ; 389.3K hrs min.    MIL-HDBK-217F (25°C)					
	<b>DIMENSION</b>	145*60*32mm (L*W*H)					
	<b>PACKING</b>	0.45Kg; 30pcs/14.05Kg/0.9CUFT					
CONNECTOR	<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					

**NOTE**

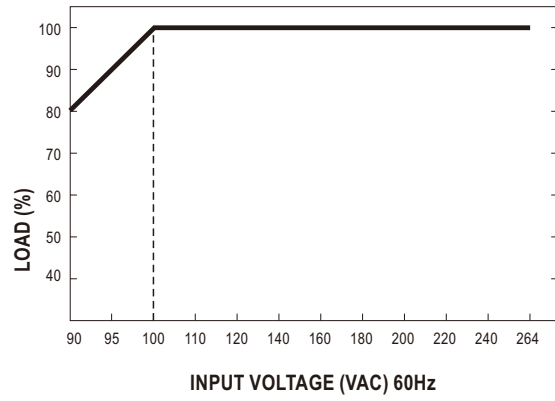
- All parameters are specified at 230VAC input, rated load, 25°C 70% RH ambient.
- DC voltage: The output voltage set at point measure by plug terminal & 50% load.
- Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1 μF & 47 μF capacitor.
- Tolerance: includes set up tolerance, line regulation, load regulation.
- Line regulation is measured from low line to high line at rated load.
- 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.
- Derating may be needed under low input voltages. Please check the derating curve for more details.
- The demand for Malaysia safety is processed with the order no. GST90A□□-SIRIM by request. Please contact MEAN WELL for details.
- 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).
- 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 [https://www.meanwell.com/Upload/PDF/EMI\\_statement\\_en.pdf](https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf))

※ Product Liability Disclaimer : For detailed information, please refer to <https://www.meanwell.com/serviceDisclaimer.aspx>

### Derating Curve

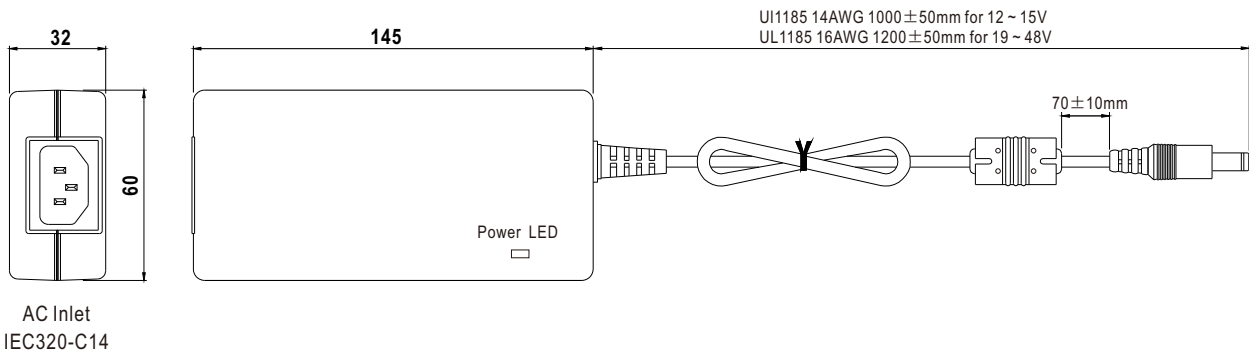


### Static Characteristics



### Mechanical Specification

Case No. GS90A Unit:mm



### DC output plug

Standard plug: P1M

P1M	Pin Assignment
	<p>C<sup>+</sup></p>
	<p>Outside  Inside</p> <p>-V not connected to AC FG</p>

◎ DC plug changeable through:



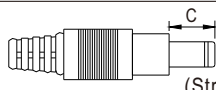
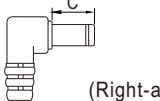


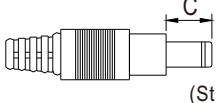
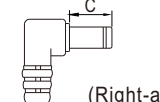


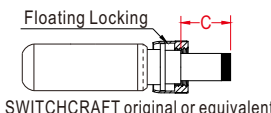


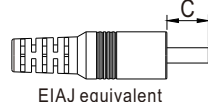

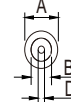
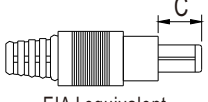
- (1) Customization of the standard part with an optional DC plug according to the table (MOQ applicable)
- (2) Quick adapter accessory (sold separately without MOQ)

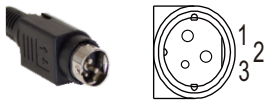
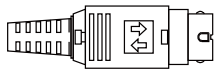
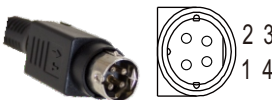
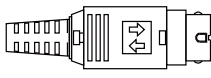

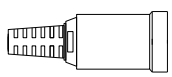

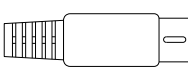

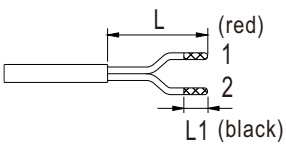
Please refer to below table and online selection guide : [https://www.meanwell.com/upload/pdf/DC\\_plug.pdf](https://www.meanwell.com/upload/pdf/DC_plug.pdf)

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		
 <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>A B</p> </div> <div style="text-align: center;">  <p>C (Straight)</p> </div> <div style="text-align: center;">  <p>C (Right-angled)</p> </div> </div>	P1I	5.5	2.1	9.5	Available (Current rating: 7.5A max.)		
	P1L	5.5	2.5	9.5			
	P1J	5.5	2.1	11.0			
	P1JR	5.5	2.1	11.0			
	P1IR	5.5	2.1	9.5			
	P1LR	5.5	2.5	9.5			
P1MR	5.5	2.5	11.0				
Barrel Style		Type No.	A	B	C	Quick Adapter Accessory	
			OD	ID	L		
 <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>A B</p> </div> <div style="text-align: center;">  <p>C (Straight)</p> </div> <div style="text-align: center;">  <p>C (Right-angled)</p> </div> </div>	P2I	5.5	2.1	9.5	None		
	P2J	5.5	2.1	11.0			
	P2L	5.5	2.5	9.5			
	P2M	5.5	2.5	11.0			
	P2IR	5.5	2.1	9.5			
	P2JR	5.5	2.1	11.0			
	P2LR	5.5	2.5	9.5			
	P2MR	5.5	2.5	11.0			
Lock Style		Type No.	A	B	C	Quick Adapter Accessory	
			OD	ID	L		
 <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>A B</p> </div> <div style="text-align: center;">  <p>Floating Locking SWITCHCRAFT original or equivalent C</p> </div> </div>	P2S(S761K)	5.53	2.03	12.06	None		
	P2K(761K)	5.53	2.54	12.06			
	P2C(S760K)	5.53	2.03	9.52			
	P2D(760K)	5.53	2.54	9.52			
Min. Pin Style		Type No.	A	B	C	Quick Adapter Accessory	
			OD	ID	L		
 <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>A B</p> </div> <div style="text-align: center;">  <p>EIAJ equivalent C</p> </div> </div>	P3A	2.35	0.7	11.0	None		
	P3B	4.0	1.7	11.0			
	P3C	4.75	1.7	11.0			
Center Pin Style		Type No.	A	B	C	D	Quick Adapter Accessory
			OD	ID	L	Center Pin	
 <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>A B D</p> </div> <div style="text-align: center;">  <p>EIAJ equivalent C</p> </div> </div>	P4A	5.5	3.4	11.0	1.0	None	
	P4B	6.5	4.4	11.0	1.4		
	P4C	7.4	5.1	11.0	0.6		

Min. DIN 3 Pin with Lock (male)	Type No.	Pin Assignment		Quick Adapter Accessory
		PIN No.	Output	
  KYCON KPPX-3P equivalent	R6B	1	+Vo	None
		2	-Vo	
		3	+Vo	
Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment		Available (Current rating: 7.5A max.)
  KYCON KPPX-4P equivalent	R7B	1	+Vo	
		2	-Vo	
		3	-Vo	
		4	+Vo	
Min. DIN 4 Pin with Lock (female)	Type No.	Pin Assignment		None
  KYCON KPJX-CM-4S equivalent	R7BF	1	+Vo	
		2	-Vo	
		3	-Vo	
		4	+Vo	
DIN 5 Pin (male)	Type No.	Pin Assignment		None
 	R1B	1	-Vo	
		2	-Vo	
		3	+Vo	
		4	-Vo	
		5	+Vo	
Stripped and tinned leads	Type No.	Pin Assignment		None
  Length of Land L1 by request (MW's standard length, L: 25 mm, L1: 5 mm) ( NOTE: The wire color is for reference only, please refer to the actual product)	by customer	1	+Vo	
		2	-Vo	

■ Installation Manual

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