90W AC-DC Reliable Green Industrial Adaptor

GST90A series

User's Manual

Video

UL62368-1 BS EN/EN62368-1 R33100 RoHS J62368-1 K60950-1 AS/NZS60950-1 GB4943.1 IS13252

MS IEC60950-1 (optional) IEC62368-1 TPTC004 Energy Verified Rendement Énergétique Vérifié

ECO Household Automate Industrial Security Network Telecom

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℃ wide range working temperature
- LED indicator for power on
- Various DC plug quick adapter accessory available (Plug kit sold sperately, please refer to : https://www.meanwell.com/upload/pdf/DC_plug.pdf)
- 3 years warranty

Applications

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

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

- DC plug type: P1M: Standard model,2.5φx5.5φx11mm,C+,tuning fork type; Other options available by customer requested (see Page 4~5)
- Output voltage
- IEC320-C14 AC inlet
- Rated wattage
- Series name

SPECIFICATION

ORDER NO.		GST90A12-P1M	GST90A15-P1M	GST90A19-P1M	GST90A24-P1M	GST90A48-P1M
OUTPUT	SAFETY MODEL NO.	GST90A12	GST90A15	GST90A19	GST90A24	GST90A48
	DC VOLTAGE Note.2	12V	15V	19V	24V	48V
	RATED CURRENT	6.67A	6A	4.74A	3.75A	1.87A
	CURRENT RANGE	0 ~ 6.67A	0 ~ 6A	0 ~ 4.74A	0 ~ 3.75A	0 ~ 1.87A
	RATED POWER (max.)	80W	90W	90W	90W	90W
	RIPPLE & NOISE (max.) Note.3	120mVp-p	150mVp-p	180mVp-p	200mVp-p	200mVp-p
	VOLTAGE TOLERANCE Note.4	±5.0%	±5.0%	±4.0%	±3.0%	±2.5%
	LINE REGULATION Note.5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LOAD REGULATION	±5.0%	±5.0%	±4.0%	±3.0%	±2.5%
	SETUP, RISE TIME Note.6	1000ms, 50ms / 230VAC 1000ms, 50ms / 115VAC at full load				
	HOLD UP TIME (Typ.)	20ms / 230VAC 20ms / 115VAC at full load				
INPUT	VOLTAGE RANGE Note.7	90 ~ 264VAC 127 ~ 370VDC				
	FREQUENCY RANGE	47 ~ 63Hz				
	POWER FACTOR (Typ.)	PF>0.91 / 230VAC PF>0.95 / 115VAC at full load				
	EFFICIENCY (Typ.)	89%	89.5%	90%	90%	91%
	AC CURRENT (Typ.)	1.3A / 115VAC 0.6A / 230VAC				
	INRUSH CURRENT (max.)	Cold start 35 / 115AC 70A / 230VAC				
	LEAKAGE CURRENT(max.)	1mA / 240VAC				
PROTECTION	OVERLOAD	110 ~ 150% rated output power				
		Protection type : Hiccup mode, recovers automatically after fault condition is removed				
	OVER VOLTAGE	105 ~ 135% rated output voltage				
		Protection type : Shut down o/p voltage, re-power on to recover				
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover				
ENVIRONMENT	WORKING TEMP.	-30 ~ +70℃ (Refer to "Derating Curve")				
	WORKING HUMIDITY	20% ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing				
	TEMP. COEFFICIENT	±0.03% / ℃ (0~40℃)				
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes				
SAFETY & EMC (Note. 9)	SAFETY STANDARDS Note. 8	UL62368-1, CSA C22.2 No.62368-1, TUV BS EN/EN62368-1, BSMI CNS14336, 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				
	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC				
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH				

EMC EMISSION	Parameter	Standard	Test Level / Note
	Conducted emission	BS EN/EN55032(CISPR32),FCC PART 15 / CISPR22 CAN ICES-3(B)/NMB-3(B),CNS13438,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),CNS13438,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	-------

EMC IMMUNITY	Parameter	Standard	Test Level /Note
	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

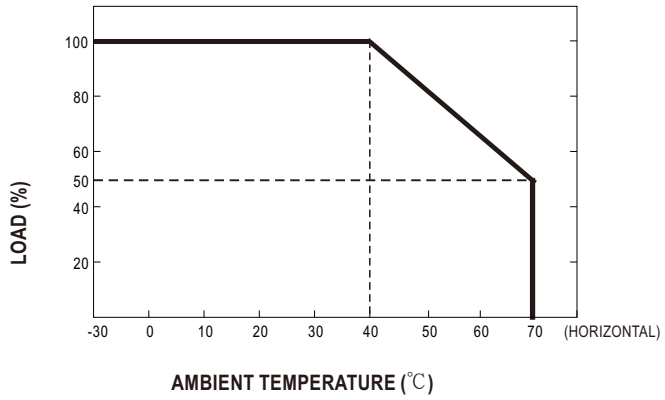
OTHERS	MTBF	348.7K hrs min. MIL-HDBK-217F(25℃)
	DIMENSION	145*60*32mm (L*W*H)
	PACKING	0.45Kg; 30pcs/14.05Kg/0.9CUFT
CONNECTOR	PLUG	See page 4~5 ; Other type available by customer requested
	CABLE	See page 4~5 ; Other type available by customer requested

NOTE

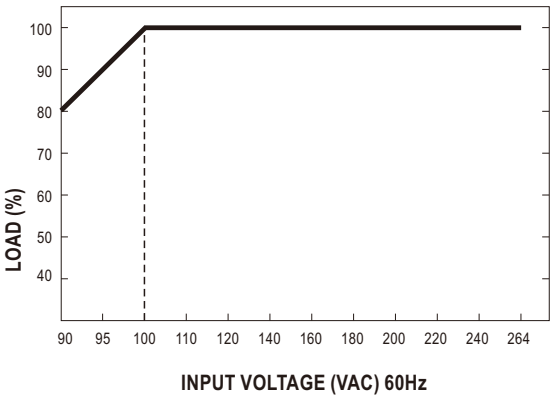
1. All parameters are specified at 230VAC input, rated load, 25℃ 70% RH ambient.
2. DC voltage: The output voltage set at point measure by plug terminal & 50% load.
3. Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1μf & 47μf capacitor.
4. Tolerance: includes set up tolerance, line regulation, load regulation.
5. Line regulation is measured from low line to high line at rated load.
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.
7. Derating may be needed under low input voltages. Pleas check the derating curve for more details.
8. The demand for Malaysia safety is processed with the order no. GST90A □-SIRIM by request. Please contact MEAN WELL for details.
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 http://www.meanwell.com)

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

■ Derating Curve

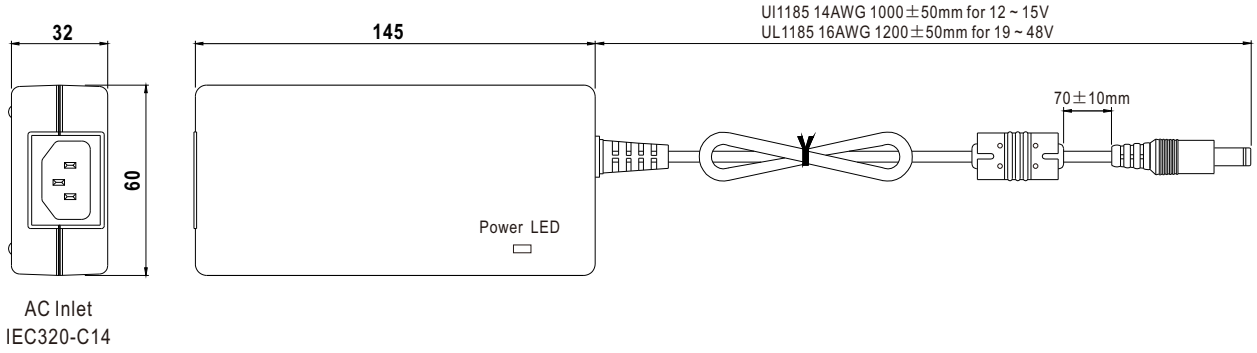


■ Static Characteristics



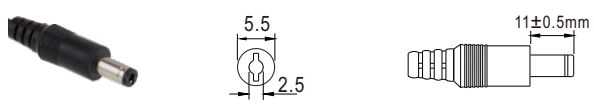
■ Mechanical Specification

Case No. GS90A Unit:mm



■ DC output plug

◎ Standard plug: P1M

P1M	Pin Assignment
	  -V not connected to AC FG

◎ DC plug changeable through:

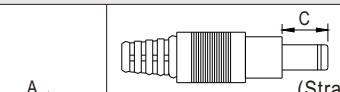
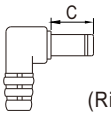
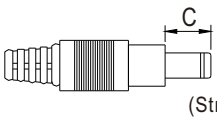
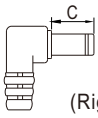
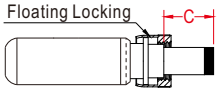
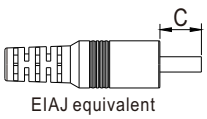
(1) Customization of the standard part with an optional DC plug according to the table (MOQ applicable)

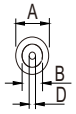
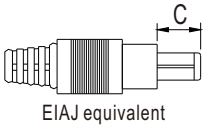
(2) Quick adapter accessory (sold separately without MOQ)

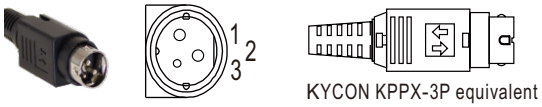
Please refer to below table and online selection guide : https://www.meanwell.com/upload/pdf/DC_plug.pdf

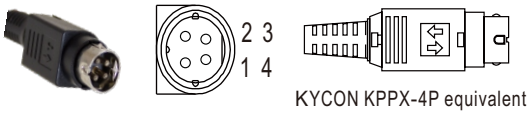
Example quick adapter accessory:

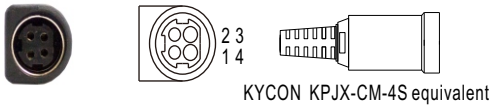
◎ Optional DC plug: (Available in customized cable or quick adapter)

Tuning Fork Style	Type No.	A / OD	B / ID	C / L	Quick Adapter Accessory
  (Straight)  (Right-angled)	P1I	5.5	2.1	9.5	
	P1L	5.5	2.5	9.5	
	P1J	5.5	2.1	11.0	Available (Current rating: 7.5A max.)
	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 / OD**	**B / ID**	**C / L**	
  (Straight)  (Right-angled)	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 / OD**	**B / ID**	**C / L**	
   SWITCHCRAFT original or equivalent	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 / OD**	**B / ID**	**C / L**	
   EIAJ equivalent	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 / OD	B / ID	C / L	D / Center Pin	
   EIAJ equivalent	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		Quick Adapter Accessory
		PIN No.	Output	
 KYCON KPPX-4P equivalent	R7B	1	+Vo	Available (Current rating: 7.5A max.)
		2	-Vo	
		3	-Vo	
		4	+Vo	

Min. DIN 4 Pin with Lock (female)	Type No.	Pin Assignment		Quick Adapter Accessory
		PIN No.	Output	
 KYCON KPJX-CM-4S equivalent	R7BF	1	+Vo	None
		2	-Vo	
		3	-Vo	
		4	+Vo	

DIN 5 Pin (male)	Type No.	Pin Assignment		Quick Adapter Accessory
		PIN No.	Output	
	R1B	1	-Vo	None
		2	-Vo	
		3	+Vo	
		4	-Vo	
		5	+Vo	

Stripped and tinned leads	Type No.	Pin Assignment		Quick Adapter Accessory
		PIN No.	Output	
 Length of Land L1 by request (MW's standard length, L: 25 mm, L1: 5 mm)	by customer	1	+Vo	None
		2	-Vo	

■ Installation Manual

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