

















Energy Verified



















CBCEF©(VI) ID GB4943 MS IEC60950-1 IEC60950-1

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
- · 3 years warranty

Applications

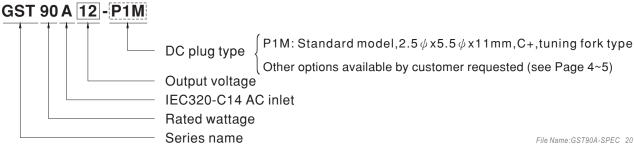
- · Consumer electronic devices
- Telecommunication devices
- · Office facilities
- Industrial equipments

Description

GST90A is a highly reliable, 90W desktop style single-output green adaptor series. This product is a class ${
m I}$ 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

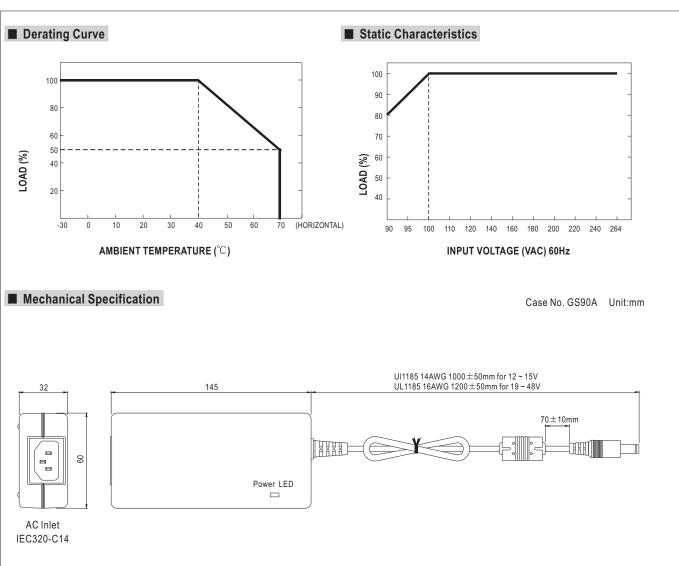


90W AC-DC High Reliability Industrial Adaptor

SPECIFICATION

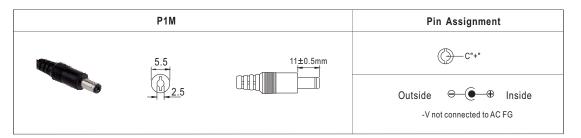
LOAD REGULATION SETUP, RISE TIME Note.6 HOLD UP TIME (Typ.)	12V 6.67A 6 0 ~ 6.67A 6 80W 9 120mVp-p 5 5.0% 5 1.0% 50ms / 230VAC 20ms / 230VAC 20ms / 230VAC 20ms / 230VAC 20ms / 230VAC 127 ~ 370V / 370VAC 20ms / 230VAC 20ms / 23	GST90A15 15V 6A 0 ~ 6A 90W 150mVp-p ±5.0% ±1.0% ±5.0% 1000ms, 50ms / 1' / 115VAC at full load /DC >>0.95 / 115VAC at full 89.5% 230VAC	19V 4.74A 0 ~ 4.74A 90W 180mVp-p ±4.0% ±1.0% ±4.0% 15VAC at full load	GST90A24 24V 3.75A 0~3.75A 90W 200mVp-p ±3.0% ±1.0%	GST90A48 48V 1.87A 0 ~ 1.87A 90W 200mVp-p ±2.5% ±1.0% ±2.5%			
RATED CURRENT CURRENT RANGE RATED POWER (max.) RIPPLE & NOISE (max.) Note.3 VOLTAGE TOLERANCE Note.4 LINE REGULATION Note.5 LOAD REGULATION SETUP, RISE TIME Note.6 HOLD UP TIME (Typ.) VOLTAGE RANGE Note.7 FREQUENCY RANGE POWER FACTOR (Typ.) EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	6.67A	6A 0 ~ 6A 90W 150mVp-p ±5.0% ±1.0% ±5.0% 1000ms, 50ms / 1' / 115VAC at full load /DC youngs , 50ms / 11 / 115VAC at full load /DC	4.74A 0~4.74A 90W 180mVp-p ±4.0% ±1.0% ±4.0% 15VAC at full load	3.75A 0 ~ 3.75A 90W 200mVp-p ±3.0% ±1.0%	1.87A 0~1.87A 90W 200mVp-p ±2.5% ±1.0%			
CURRENT RANGE RATED POWER (max.) RIPPLE & NOISE (max.) Note.3 VOLTAGE TOLERANCE Note.4 LINE REGULATION Note.5 LOAD REGULATION SETUP, RISE TIME Note.6 HOLD UP TIME (Typ.) VOLTAGE RANGE Note.7 FREQUENCY RANGE POWER FACTOR (Typ.) EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	0~6.67A	0 ~ 6A 90W 150mVp-p ±5.0% ±1.0% ±5.0% 1000ms, 50ms / 1: / 115VAC at full load /DC >0.95 / 115VAC at full 89.5%	0~4.74A 90W 180mVp-p ±4.0% ±1.0% ±4.0% 15VAC at full load	0 ~ 3.75A 90W 200mVp-p ±3.0% ±1.0%	0 ~ 1.87A 90W 200mVp-p ±2.5% ±1.0%			
RATED POWER (max.) RIPPLE & NOISE (max.) Note.3 VOLTAGE TOLERANCE Note.4 LINE REGULATION Note.5 LOAD REGULATION SETUP, RISE TIME Note.6 HOLD UP TIME (Typ.) VOLTAGE RANGE Note.7 FREQUENCY RANGE POWER FACTOR (Typ.) EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	80W 9 120mVp-p 2 5.0% 2 1.0% 2 1000ms, 50ms / 230VAC 2 20ms / 230VAC 20ms 90 ~ 264VAC 127 ~ 370V 47 ~ 63Hz PF>0.91 / 230VAC PF 89% 8 1.3A / 115VAC 0.6A / 2 Cold start 35 / 115AC 7	90W 150mVp-p ±5.0% ±1.0% ±5.0% 1000ms, 50ms / 1: / 115VAC at full load /DC >0.95 / 115VAC at full 89.5%	90W 180mVp-p ±4.0% ±1.0% ±4.0% 15VAC at full load	90W 200mVp-p ±3.0% ±1.0%	90W 200mVp-p ±2.5% ±1.0%			
RIPPLE & NOISE (max.) Note.3 VOLTAGE TOLERANCE Note.4 LINE REGULATION Note.5 LOAD REGULATION Note.6 HOLD UP TIME (Typ.) VOLTAGE RANGE Note.7 FREQUENCY RANGE POWER FACTOR (Typ.) EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	120mVp-p	150mVp-p ±5.0% ±1.0% ±5.0% 1000ms, 50ms / 1' / 115VAC at full load /DC >0.95 / 115VAC at full 89.5%	180mVp-p ±4.0% ±1.0% ±4.0% 15VAC at full load	200mVp-p ±3.0% ±1.0%	200mVp-p ±2.5% ±1.0%			
VOLTAGE TOLERANCE Note.4 LINE REGULATION Note.5 LOAD REGULATION SETUP, RISE TIME Note.6 HOLD UP TIME (Typ.) VOLTAGE RANGE Note.7 FREQUENCY RANGE POWER FACTOR (Typ.) EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	±5.0% ±1.0% ±5.0% 1000ms, 50ms / 230VAC 20ms / 230VAC 20ms / 230VAC 20ms / 230VAC 47 ~ 63Hz PF>0.91 / 230VAC 89% 1.3A / 115VAC Cold start 35 / 115AC 7	±5.0% ±1.0% ±5.0% 1000ms, 50ms / 1: / 115VAC at full load /DC >0.95 / 115VAC at full 39.5%	±4.0% ±1.0% ±4.0% 15VAC at full load	±3.0% ±1.0%	±2.5% ±1.0%			
LINE REGULATION Note.5 LOAD REGULATION SETUP, RISE TIME Note.6 HOLD UP TIME (Typ.) VOLTAGE RANGE Note.7 FREQUENCY RANGE POWER FACTOR (Typ.) EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	±1.0% ±5.0% 1000ms, 50ms / 1' / 115VAC at full load /DC >0.95 / 115VAC at full 89.5%	±1.0% ±4.0% 15VAC at full load	±1.0%	±1.0%			
LOAD REGULATION SETUP, RISE TIME Note.6 HOLD UP TIME (Typ.) VOLTAGE RANGE Note.7 FREQUENCY RANGE POWER FACTOR (Typ.) EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	±5.0% 1000ms, 50ms / 230VAC 20ms / 230VAC 20ms / 230VAC 127 ~ 370V 47 ~ 63Hz PF>0.91 / 230VAC 89% 1.3A / 115VAC Cold start 35 / 115AC 7	±5.0% 1000ms, 50ms / 1: / 115VAC at full load /DC >0.95 / 115VAC at full 89.5%	±4.0% 15VAC at full load					
SETUP, RISE TIME Note.6 HOLD UP TIME (Typ.) VOLTAGE RANGE Note.7 FREQUENCY RANGE POWER FACTOR (Typ.) EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	1000ms, 50ms / 230VAC 20ms / 230VAC 20ms / 230VAC 20ms 90 ~ 264VAC 127 ~ 370V 47 ~ 63Hz PF>0.91 / 230VAC PF 89% 8% 1.3A / 115VAC 0.6A / 2 Cold start 35 / 115AC 7	1000ms, 50ms / 1 / 115VAC at full load /DC >0.95 / 115VAC at full 89.5%	15VAC at full load	±3.0%	±2.5%			
HOLD UP TIME (Typ.) VOLTAGE RANGE Note.7 FREQUENCY RANGE POWER FACTOR (Typ.) EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	20ms / 230VAC 20ms 90 ~ 264VAC 127 ~ 370V 47 ~ 63Hz PF>0.91 / 230VAC PF 89% { 1.3A / 115VAC 0.6A / 2 Cold start 35 / 115AC 7	/ 115VAC at full load /DC >0.95 / 115VAC at full 89.5%						
VOLTAGE RANGE Note.7 FREQUENCY RANGE POWER FACTOR (Typ.) EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	90 ~ 264VAC 127 ~ 370V 47 ~ 63Hz PF>0.91 / 230VAC PF 89% { 1.3A / 115VAC 0.6A / 2 Cold start 35 / 115AC 7	/DC :>0.95 / 115VAC at full 89.5%	lload					
FREQUENCY RANGE POWER FACTOR (Typ.) EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	47 ~ 63Hz PF>0.91 / 230VAC PF 89% 1.3A / 115VAC 0.6A / 2 Cold start 35 / 115AC 7	>0.95 / 115VAC at full 89.5%	lload					
POWER FACTOR (Typ.) EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	PF>0.91 / 230 VAC PF 89% 8 1.3A / 115 VAC 0.6A / 2 Cold start 35 / 115 AC 7	89.5%	lload					
EFFICIENCY (Typ.) AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	89% 89% 8 1.3A / 115VAC 0.6A / 2 Cold start 35 / 115AC 7	89.5%	lload					
AC CURRENT (Typ.) INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	1.3A / 115VAC							
INRUSH CURRENT (max.) LEAKAGE CURRENT(max.)	Cold start 35 / 115AC 7	230VAC	90%	90%	91%			
LEAKAGE CURRENT(max.)					'			
· · · · · · · · · · · · · · · · · · ·	1mA / 240VAC	70A / 230VAC						
OVERLOAD								
UVERLUAD	110 ~ 150% rated output po	ower						
			atically after fault condition is	removed				
OVED VOLET OF								
OVER VOLTAGE	Protection type : Shut dow	n o/p voltage, re-pov	ver on to recover					
OVER TEMPERATURE	Shut down o/p voltage, re-	power on to recover						
WORKING TEMP.	-30 ~ +70°C (Refer to "Dera	ating Curve")						
WORKING HUMIDITY								
STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH	non-condensing						
TEMP. COEFFICIENT	·							
VIBRATION	10 ~ 500Hz, 2G 10min./1cv	cle, period for 60min.	each along X, Y, Z axes					
SAFETY STANDARDS Note. 8	·			E J60950-1, AS/NZS 6	60950.1 , BIS IS13252,			
			, , , , ,	proved				
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG:2	2KVAC O/P-FG:0.5	KVAC					
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:10	00M Ohms / 500VDC /	25°C / 70% RH					
	Parameter			Test Level / Note				
	Conducted emission	CAN ICES-3(B)/I	NMB-3(B),CNS13438,GB17625.	1 Class B				
EMC EMISSION	Radiated emission	CAN ICES-3(B)/I	NMB-3(B),CNS13438,GB17625.	1 Class B				
	Harmonic current	EN61000-3-2,GI	B9254	Class A				
	Voltage flicker	EN61000-3-3						
	Parameter	Standard		Test Level /Note				
	ESD	EN61000-4-2		Level 4, 15KV air;	Level 4, 8KV contact			
	RF field susceptibility	EN61000-4-3		Level 2, 3V/m				
	EFT bursts	EN61000-4-4		Level 2, 1KV				
EMC IMMUNITY	Surge susceptibility	EN61000-4-5		Level 3, 1KV/Lin	e-Line , 2KV/Line-FG			
	Conducted susceptibility	EN61000-4-6		Level 2, 3V				
	Magnetic field immunity	EN61000-4-8		Level 2, 3A/m				
	Voltage dips , interruption	EN61000-4-11		· ·	riods, 30% dip 25 period ns 250 periods			
MTBF	348.7K hrs min. MIL-HDB	K-217F(25°C)						
DIMENSION	145*60*32mm (L*W*H)							
PACKING								
PLUG	See page 4~5 ; Other type	available by custome	r requested					
CABLE	See page 4~5 ; Other type	available by custome	r requested					
2. DC voltage: The output voltage: The output voltage: A Tolerance: includes set up 5. Line regulation is measured 6. Length of set up time is me 7. Derating may be needed up 8. The demand for Malaysias 9. The power supply is considerable for the	tage set at point measure bed at 20MHz by using a 12' tolerance, line regulation, lo if from low line to high line a sasured at first cold start. Punder low input voltages. Pusafety is processed with the lered as an independent un	y plug terminal & 50% ' twisted pair terminat ad regulation. tt rated load. itrining ON/OFF the po as check the derating order no. GST90A □ it, but the final equipr	% load. ed with a 0.1µf & 47µf capacit ower supply may lead to increa g curve for more details. ☐ -SIRIM by request. Please or nent still need to re-confirm the	ase of the set up time ontact MEAN WELL f at the whole system o	for details.			
	WORKING TEMP. WORKING HUMIDITY STORAGE TEMP., HUMIDITY TEMP. COEFFICIENT VIBRATION SAFETY STANDARDS Note. 8 WITHSTAND VOLTAGE ISOLATION RESISTANCE EMC EMISSION MTBF DIMENSION PACKING PLUG CABLE 1. All parameters are specified and the second sec	OVER TEMPERATURE Shut down o/p voltage, re- WORKING TEMP. -30 ~ +70°C (Refer to "Den- WORKING HUMIDITY 50% ~ 90% RH non-conder STORAGE TEMP., HUMIDITY -40 ~ +85°C, 10 ~ 95% RH TEMP. COEFFICIENT -0.03% / °C (0~40°C) VIBRATION 10 ~ 500Hz, 2G 10min./1cy SAFETY STANDARDS Note. 8 UL60950-1, CSA C22.2, TI KC K60950-1, EAC TP TC WITHSTAND VOLTAGE I/P-O/P. I/P-FG, O/P-FG:10 Parameter Conducted emission EMC EMISSION Radiated emission Harmonic current Voltage flicker Parameter ESD RF field susceptibility EFT bursts Surge susceptibility Conducted susceptibility Voltage dips , interruption MTBF 348.7K hrs min. MIL-HDBF DIMENSION MTBF 348.7K hrs min. MIL-HDBF DIMENSION 145*60*32mm (L*W*H) PACKING 0.45Kg; 30pcs/14.05Kg/10 PLUG See page 4~5; Other type CABLE See page 4~5; Other type 1. All parameters are specified at 230VAC input, rated load 2. DC voltage: The output voltage set at point measure be 3. Ripple & noise are measured at 20MHz by using a 12' 4. Tolerance: includes set up tolerance, line regulation, loes to the demand for Malaysia safety is processed with the 8. The demand for Malaysia safety is processed with the	Protection type: Shut down o/p voltage, re-pow OVER TEMPERATURE Shut down o/p voltage, re-power on to recover WORKING TEMP. -30 ~ +70°C (Refer to "Derating Curve") 20% ~ 90% RH non-condensing -40 ~ +85°C, 10 ~ 95% RH non-condensing ±0.03% / °C (0~40°C) VIBRATION SAFETY STANDARDS Note. 8 UL60950-1, CSA C22.2, TUV EN60950-1, BSMI KC K60950-1, EAC TP TC 004 approved; SIRIM WITHSTAND VOLTAGE I/P-O/P: 3KVAC I/P-FG:2KVAC O/P-FG:0.5i ISOLATION RESISTANCE I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / Parameter Standard EN55032(CISPR CAN ICES-3(B)/I EAC TP TC 020, Harmonic current EN61000-3-2, Gi Voltage flicker EN61000-3-2 RF field susceptibility EN61000-4-2 RF field susceptibility EN61000-4-3 EFT bursts EN61000-4-4 Surge susceptibility EN61000-4-5 Conducted susceptibility EN61000-4-1 MTBF 348.7K hrs min. MIL-HDBK-217F(25°C) DIMENSION AS RESULATION SERVENCE SERVENCE ON CAN ICES-3(B)/I ENCIPON CAN ICES-3(B)/I	OVER TEMPERATURE Shut down o/p voltage, re-power on to recover WORKING TEMP. 30 - +70°C (Refer to "Derating Curve") WORKING HUMIDITY 20% - 90% RH non-condensing STORAGE TEMP., HUMIDITY 10 - 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes SAFETY STANDARDS Note. 8 8 (C 60950-1, CSA C22, TUV EN60950-1, BSMI CNS14336, CCC GB4943, PSI KC K60950-1, EACT PT C 004 approved; SIRIM MS IEC60950-1 (optional) app WITHSTAND VOLTAGE I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500V/DC / 25°C / 70% RH Parameter Standard EN5032/CISPR32),FCC PART 15 / CISPR22 CAN ICES-3(B)/NMB-3(B), CNS13438, GB17625. EAC TP TC 020, MSIP KN32 Harmonic current Voltage flicker Parameter Standard EN55032/CISPR32),FCC PART 15 / CISPR22 CAN ICES-3(B)/NMB-3(B), CNS13438, GB17625. EAC TP TC 020, MSIP KN32 Harmonic current Voltage flicker EN61000-4-2 RF field susceptibility EN61000-4-3 EFT Dursts ERG 1000-4-8 Voltage dips , interruption EN61000-4-8 Voltage dips , interruption EN61000-4-8 Voltage dips , interruption EN61000-4-1 All parameters are specified at 230VAC input, rated load, 25°C 70% RH Phambient. 2 CA DC Voltage: The output voltage set at point measure by plug terminal & 50% load 1. All parameters are specified at 230VAC input, rated load, 25°C 70% RH Phambient. 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 0.1 µf & 47 µf capacit 4. Tolerance: includes set up tolerance, 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 increa? 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 — SHINI by request. Please of the power supply is considered as an independent unit, but the final equipment still ince to record the power plants and the po	Protection type : Shut down of y voltage, re-power on to recover			





■ DC output plug

© Standard plug: P1M





Optional DC plug:

Tuning Fork Style		Type No.	А		В	С
			OD		ID	L
C		P1I	5.5		2.1	9.5
A B		P1J	5.5		2.1	11.0
	(Straight)	P1L	5.5		2.5	9.5
	C	P1IR	5.5		2.1	9.5
	(Right-angled)	P1JR	5.5		2.1	11.0
		P1LR	5.5		2.5	9.5
		P1MR	5.5		2.5	11.0
Barrel Style		Type No.	А		В	С
			OD		ID	L
	, C ,	P2I	5.5		2.1	9.5
		P2J	5.5		2.1	11.0
A	(Otasiaka)	P2L	5.5		2.5	9.5
A A B	(Straight)	P2M	5.5		2.5	11.0
- F.B	(Right-angled)	P2IR	5.5		2.1	9.5
		P2JR	5.5		2.1	11.0
		P2LR	5.5		2.5	9.5
	(rtight diigicu)	P2MR	5.5		2.5	11.0
Lock Style		Type No.	A		В	С
·			OD		ID	L
Locking C		P2S(S761K)	5.53		2.03	12.06
A B SV		P2K(761K)	5.53		2.54	12.06
B CV		P2C(S760K)	5.53		2.03	9.52
SWITCHCRAFT original or equivalent		P2D(760K)	5.53		2.54	9.52
Center Pin Style		Type No.	Α	В	С	D
			OD	ID	L	Center Pin
	C	P4A	5.5	3.4	11.0	1.0
<u>B</u> <u>D</u>		P4B	6.5	4.4	11.0	1.4
	EIAJ equivalent	P4C	7.4	5.1	11.0	0.6
Min. DIN 3 Pin with Lock (male)		Type No.	Pin Assignment			
			PIN No			
		R6B	1		+Vo	
			2		-Vo	
32	KYCON KPPX-3P equivalent		3		+Vo	١



M: DIN (B:	Tuna Ma	Pin Assignment		
Min. DIN 4 Pin with Lock (male)	Type No.	PIN No.	Output	
	R7B	1	+Vo	
		2	-Vo	
		3	-Vo	
KYCON KPPX-4P equivalent		4	+Vo	
Min DIN 4 Din with Look (famala)	Type No.	Pin Assignment		
Min. DIN 4 Pin with Lock (female)		PIN No.	Output	
	R7BF	1	+Vo	
2 3 [1000]		2	-Vo	
		3	-Vo	
KYCON KPJX-CM-4S equivalent		4	+Vo	
DIN 5 Pin (male)	Type No.	Pin Assignment		
Dily 3 Fill (Illale)		PIN No.	Output	
	R1B	1	-Vo	
		2	-Vo	
		3	+Vo	
		4	-Vo	
		5	+Vo	
Stripped and tinned leads	Type No.	Pin Assignment		
Stripped and tilliled leads		PIN No.	Output	
L (red) 1 xxx 2	by customer	1	+Vo	
L1 (black) Length of Land L1 by request (MW's standard length, L: <u>25</u> mm, L1: <u>5</u> mm)	by oustomer	2	-Vo	

■ Installation Manual

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