



(Cable connection)



Features

- · Universal AC input / Full range
- Medical safety approved (2 x MOPP) accroding to ANSI/AAMI ES60601-1/ES60601-1-11
- · Extremely low leakage current
- No load power consumption < 0.075W(<0.1W for 18V/48V)
- · Energy efficiency Level VI
- · -20~+70°C wide range working temperature
- Class II power (no earth pin)
- · Protections: Short circuit / Overload / Over voltage
- · Fully enclosed plastic case
- · 3 years warranty



(USB connection)









Applications

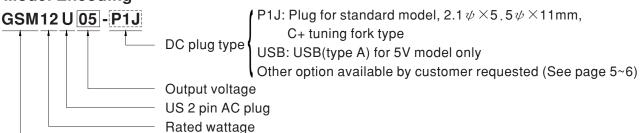
- · Blood glucose meter
- · Blood pressure meter
- Nebulizer
- Inhaler
- · Portable medical device
- · Sleep apnea devices

Description

GSM12U is a highly reliable, 12W wall-mounted style single-output green medical adaptor series, which is compact and convenient for carry. This product is equipped with the standard 2-pin U.S. plug. GSM12U is a class $\rm II$ power unit (no FG), accepting the input range from 80VAC to 264VAC that it can satisfy the demands for various types of medical electrical devices. The circuitry design meets the international medical standards (2*MOPP), having an ultra low leakage current (<100 μ A), fitting the medical devices in direct electrical contact with the patients.

With the working efficiency up to 87% and the extremely low no-load power consumption below 0.075W(<0.1W for 18V/48V), GSM12U is compliant with the latest USA energy regulation EISA 2007/DoE(Level~VI). The supreme feature allows the adaptor to save the energy when it is under either the operating mode or the standby mode. The entire series is approved for international safety regulations; moreover, it adopts the 94V-0 flame retardant plastic case that it can effectively prevent

■ Model Encoding



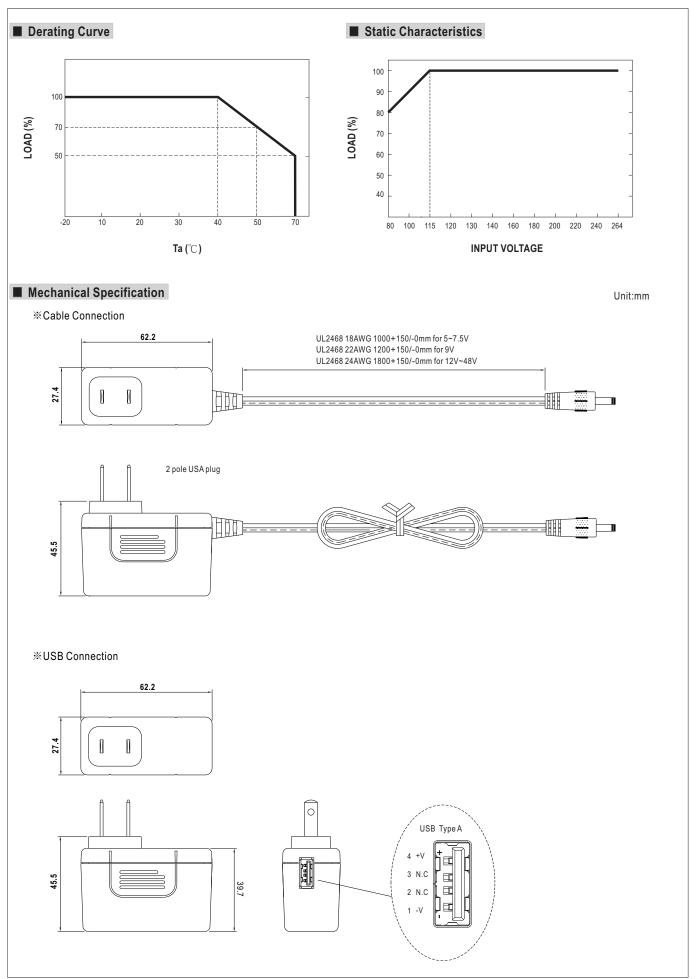
Series name



SPECIFICATION

OAD REGULATION Note.6 SETUP, RISE, HOLD UP TIME	5V 7 2.4A 1 0 ~ 2.4A 0 12W 1 60mVp-p 6 ±5.0% = ±1.0% = 500ms, 30ms, 16 80 ~ 264VAC 47 ~ 63Hz		GSM12U09 9V 1.33A 0~1.33A 12W 60mVp-p ±4.0% ±1.0% ±4.0%	GSM12U12 12V 1A 0~1A 12W 80mVp-p ±3.0% ±1.0%	GSM12U15 15V 0.8A 0 ~ 0.8A 12W 80mVp-p ±3.0%	GSM12U18 18V 0.66A 0 ~ 0.66A 12W 80mVp-p ±3.0%	GSM12U24 24V 0.5A 0 ~ 0.5A 12W 80mVp-p	GSM12U48 48V 0.25A 0 ~ 0.25A 12W 100mVp-p
RATED CURRENT CURRENT RANGE RATED POWER (max.) RIPPLE & NOISE (max.) Note.3 /OLTAGE TOLERANCE Note.4 LINE REGULATION Note.5 LOAD REGULATION Note.6 SETUP, RISE, HOLD UP TIME //OLTAGE RANGE Note.7 FREQUENCY RANGE EFFICIENCY (Typ.) AC CURRENT	2.4A 1 0 ~ 2.4A 0 12W 1 60mVp-p 6 ±5.0% = ±1.0% = 500ms, 30ms, 16 80 ~ 264VAC 47 ~ 63Hz	1.6A 1.0 ~ 1.6A 12W 60mVp-p ±5.0% ±1.0% ±5.0% sms/230VAC	1.33A 0 ~ 1.33A 12W 60mVp-p ±4.0% ±1.0%	1A 0~1A 12W 80mVp-p ±3.0%	0.8A 0~0.8A 12W 80mVp-p ±3.0%	0.66A 0 ~ 0.66A 12W 80mVp-p	0.5A 0 ~ 0.5A 12W 80mVp-p	0.25A 0 ~ 0.25A 12W
CURRENT RANGE RATED POWER (max.) RIPPLE & NOISE (max.) Note.3 /OLTAGE TOLERANCE Note.4 LINE REGULATION Note.5 LOAD REGULATION Note.6 SETUP, RISE, HOLD UP TIME //OLTAGE RANGE Note.7 EREQUENCY RANGE EFFICIENCY (Typ.) AC CURRENT	0~2.4A 0 12W 1 60mVp-p 6 ±5.0% = ±1.0% = ±5.0% = 500ms, 30ms, 16 80~264VAC 47~63Hz	0 ~ 1.6A 12W 50mVp-p ±5.0% ±1.0% ±5.0% sms/230VAC	0~1.33A 12W 60mVp-p ±4.0% ±1.0%	0~1A 12W 80mVp-p ±3.0%	0 ~ 0.8A 12W 80mVp-p ±3.0%	0 ~ 0.66A 12W 80mVp-p	0 ~ 0.5A 12W 80mVp-p	0 ~ 0.25A 12W
RATED POWER (max.) RIPPLE & NOISE (max.) Note.3 /OLTAGE TOLERANCE Note.4 LINE REGULATION Note.5 LOAD REGULATION Note.6 SETUP, RISE, HOLD UP TIME /OLTAGE RANGE Note.7 FREQUENCY RANGE EFFICIENCY (Typ.) AC CURRENT	12W 1 60mVp-p 6 ±5.0% = ±1.0% = 500ms, 30ms, 16 80 ~ 264VAC 47 ~ 63Hz	12W 60mVp-p ±5.0% ±1.0% ±5.0% sms/230VAC	12W 60mVp-p ±4.0% ±1.0%	12W 80mVp-p ±3.0%	12W 80mVp-p ±3.0%	12W 80mVp-p	12W 80mVp-p	12W
RIPPLE & NOISE (max.) Note.3 /OLTAGE TOLERANCE Note.4 LINE REGULATION Note.5 LOAD REGULATION Note.6 SETUP, RISE, HOLD UP TIME /OLTAGE RANGE Note.7 FREQUENCY RANGE EFFICIENCY (Typ.) AC CURRENT	60mVp-p 6 ±5.0% = ±1.0% = ±5.0% = 500ms, 30ms, 16 80 ~ 264VAC 47 ~ 63Hz	60mVp-p ±5.0% ±1.0% ±5.0% sms/230VAC	60mVp-p ±4.0% ±1.0%	80mVp-p ±3.0%	80mVp-p ±3.0%	80mVp-p	80mVp-p	
OLTAGE TOLERANCE Note.4 LINE REGULATION Note.5 LOAD REGULATION Note.6 SETUP, RISE, HOLD UP TIME OLTAGE RANGE Note.7 REQUENCY RANGE EFFICIENCY (Typ.) AC CURRENT	±5.0% = ±1.0% = ±5.0% = 500ms, 30ms, 16 80 ~ 264VAC 47 ~ 63Hz	±5.0% ±1.0% ±5.0% sms/230VAC	±4.0% ±1.0%	±3.0%	±3.0%			100mVp-p
LINE REGULATION Note.5 LOAD REGULATION Note.6 SETUP, RISE, HOLD UP TIME /OLTAGE RANGE Note.7 FREQUENCY RANGE EFFICIENCY (Typ.) AC CURRENT	±1.0% = 5.0% = 500ms, 30ms, 16 80 ~ 264VAC 47 ~ 63Hz	±1.0% ±5.0% 5ms/230VAC	±1.0%			±3.0%		
OAD REGULATION Note.6 SETUP, RISE, HOLD UP TIME /OLTAGE RANGE Note.7 FREQUENCY RANGE EFFICIENCY (Typ.) AC CURRENT	±5.0% = 500ms, 30ms, 16 80 ~ 264VAC 47 ~ 63Hz	±5.0%		±1.0%			±2.0%	±2.0%
SETUP, RISE, HOLD UP TIME /OLTAGE RANGE Note.7 FREQUENCY RANGE FFFICIENCY (Typ.) AC CURRENT	500ms, 30ms, 16 80 ~ 264VAC 47 ~ 63Hz	ims/230VAC	±4.0%		$\pm 1.0\%$	±1.0%	±1.0%	±1.0%
OLTAGE RANGE Note.7 FREQUENCY RANGE EFFICIENCY (Typ.) AC CURRENT	80 ~ 264VAC 47 ~ 63Hz			±3.0%	±3.0%	±3.0%	±2.0%	±2.0%
FREQUENCY RANGE EFFICIENCY (Typ.) AC CURRENT	47 ~ 63Hz	113 ~ 370VD	500ms, 30ms, 16ms/230VAC 500ms, 30ms, 16ms/115VAC at full load					
EFFICIENCY (Typ.) AC CURRENT								
AC CURRENT	80% 8							
		32%	82%	82.5%	84%	85%	85%	87%
NRUSH CURRENT (max.)	0.4A / 115VAC	0.2A / 230V	AC					
	Cold start 30A/	115VAC 6	0A / 230VAC					
.EAKAGE CURRENT(max.)	Touch current < 1	100µA/264VAC						
	110 ~ 200% rated output power							
OVERLOAD	Protection type : Hiccup mode, recovers automatically after fault condition is removed							
PROTECTION	110 ~ 140% rated output voltage							
OVER VOLTAGE	Protection type : Clamp by zener diode, output short							
VORKING TEMP.	-20 ~ +70°C (Refer to "Derating Curve")							
VORKING HUMIDITY	20% ~ 90% RH non-condensing							
STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH non-condensing							
TEMP. COEFFICIENT	±0.03% / °C (0~40°C)							
/IBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes							
SAFETY STANDARDS	ANSI/ AAMI ES60601-1/ES60601-1-11(3.1 version), CAN/CSA-C22 3rd edition, EAC TP TC 004 approved GSM12U05-USB without ANSI/ AAMII ES60601-1-11							
SOLATION LEVEL	Pimary - Secondary: 2 x MOPP I/P-O/P:5656VDC							
VITHSTAND VOLTAGE								
SOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C/ 70% RH							
EMC EMISSION	Parameter		Sta	ndard	Tes	Test Level / Note		
	Conducted emiss	sion	FC	C PART 15 / CISF	PR22 Cla	Class B		
IFE	3 years: 100% load 40°C, 12hours / day							
ITBF	400Khrs min. MII	L-HDBK-217F(25°℃)					
IMENSION	62.2*27.4*45.5mi	m (L*W*H)						
ACKING	109g, 110pcs / 13kg / CARTON for cable connection; 73g, 150pcs / 12kg / CARTON for USB connection							
LUG	See page 4~5; other type available by customer requested							
ABLE	See page 4~5; of	ther type availa	ble by custome	r requested				
1.All parameters are specified at 115VAC input, rated load, 25°C 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.Load regulation is measured from 10% to 100% rated load. 7.Derating may be needed under low input voltage. Please check the derating curve for more details. 8.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."					the			
TE SA A A A A A A A A A A A A A A A A A A	ER VOLTAGE DRKING TEMP. DRKING HUMIDITY ORAGE TEMP., HUMIDITY MP. COEFFICIENT BRATION FETY STANDARDS DLATION LEVEL THSTAND VOLTAGE DLATION RESISTANCE IC EMISSION E BF MENSION CKING UG BLE All parameters are specified DC voltage: The output volta Ripple & noise are measure Tolerance: includes set up to Line regulation is measured Load regulation is For guidance EMC directives. For guidance EMC directives. For guidance	FER VOLTAGE Protection type: 110 ~ 140% rater Protection type: 20 ~ +70°C (Re 20% ~ 90% RH r 20% ~ 90% RHr 20	Protection type: Hiccup mode, 110 ~ 140% rated output voltage Protection type: Clamp by zend	Protection type: Hiccup mode, recovers auton 110 ~ 140% rated output voltage Protection type: Clamp by zener diode, output 20 ~ +70°C (Refer to "Derating Curve") 20% ~ 90% RH non-condensing ORAGE TEMP., HUMIDITY 20% ~ 90% RH non-condensing MP. COEFFICIENT ±0.03% / °C (0 ~ 40°C) BRATION 10 ~ 500Hz, 2G 10min./1cycle, period for 60min ANSI/AAMI ES60601-1/ES60601-1-11(3.1 vers GSM12U05-USB without ANSI/AAMII ES606 DLATION LEVEL Pimary - Secondary: 2 x MOPP IHSTAND VOLTAGE I/P-O/P:5656VDC DLATION RESISTANCE I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH Parameter Conducted emission FCI Radiated emission FCI Radiated emission FCI BINSION 62.2*27.4*45.5mm (L*W*H) CKING 109g, 110pcs / 13kg / CARTON for cable connect JG See page 4~5; other type available by customer All parameters are specified at 115VAC input, rated load, 25°C 70% RH ar DC voltage: The output voltage set at point measure by plug terminal & 50° Ripple & noise are measured at 20MHz by using a 12" twisted pair terminal Tolerance: includes set up tolerance, line regulation, load regulation. Line regulation is measured from low line to high line at rated load. Load regulation is measured from low line to high line at rated load. Load regulation is measured from 10% to 100% rated load. Derating may be needed under low input voltage. Please check the deratin The power supply is considered as an independent unit, but the final equip EMC directives. For guidance on how to perform these EMC tests, please	Protection type: Hiccup mode, recovers automatically after fat 110 ~ 140% rated output voltage Protection type: Clamp by zener diode, output short 20 ~ +70°C (Refer to "Derating Curve") 20% ~ 90% RH non-condensing 20% ~ 90% RH non-condensing Protection type: Clamp by zener diode, output short 20% ~ 90% RH non-condensing 20% ~ 90% RH non-condensing 20% ~ 90% RH non-condensing MP. COEFFICIENT 20% ~ 90% RH non-condensing 20% ~ 90% RH non-c	Protection type : Hiccup mode, recovers automatically after fault condition is not protection type : Clamp by zener diode, output short Protection type : Clamp by zener diode, output short 20 ~ +70°C (Refer to "Derating Curve") PRINTING HUMIDITY 20 ~ 90% RH non-condensing DRAGE TEMP., HUMIDITY 20 ~ +85°C, 10 ~ 95% RH non-condensing ### ### ### ### ### ### ### ### ### #	Protection type: Hiccup mode, recovers automatically after fault condition is removed 110 ~ 140% rated output voltage Protection type: Clamp by zener diode, output short 20 ~ +70°C (Refer to "Derating Curve") 20 ~ 90% RH non-condensing 20 ~ +95°C, 10 ~ 95% RH non-condensing MP. COEFFICIENT ± 0.03% /°C (0 ~ 40°C) 3RATION 10 ~ 500Hz, 2G 10min/1cycle, period for 60min. each along X, Y, Z axes ANSI/AAMI ES60601-1/ES60601-1-11(3.1 version), CAN/CSA-C22 3" edition, EAC TPTC 004 ap GSM12U05-USB without ANSI/AAMI ES60601-1-11 PITTSTANDARDS ANSI/AAMI ES60601-1/ES60601-1-11 PITTSTAND VOLTAGE I/P-O/P:5656VDC I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH Parameter Cemission Conducted emission Radiated emission FCC PART 15 / CISPR22 Class B 400Khrs min. MIL-HDBK-217F(25°C) MENSION 62.2*27.4*45.5mm (L*W*H) CKING 109g, 110pcs / 13kg / CARTON for cable connection; 73g, 150pcs / 12kg / CARTON for USB connuction JG See page 4-5; other type available by customer requested All parameters are specified at 115VAC 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 0.1µf & 47µf capacitor. Tolerance: includes set up tolerance, line regulation, load regulation. Line regulation is measured from 10% to 100% rated load. Load regulation is measured from 10% to 100% rated load. Derating may be needed under low input voltage. Please check the derating curve for more details. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole syste EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplie EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplie	Protection type: Hiccup mode, recovers automatically after fault condition is removed 110 ~ 140% rated output voltage Protection type: Clamp by zener diode, output short 20x ~ 170°C (Refer to "Derating Curve") 20x ~ 90% RH non-condensing MP. COEFFICIENT 20 ~ 85°C, 10 ~ 95% RH non-condensing MP. COEFFICIENT 20 ~ 85°C, 10 ~ 95% RH non-condensing MP. COEFFICIENT 20 ~ 80% RH non-condensing MP. COEFFICIENT 30 ANSI/AMI ES60601-1/ES66001-1/13 (3.1 version), CAN/CSA-C22 3" edition, EAC TP TC 004 approved GSM12005-USB without ANSI/AMII ES60601-1-11 GSM1205-USB without ANSI/AMII ES60601-1-11 FETY STANDARDS GSM12005-USB without ANSI/AMII ES60601-1-11 GLATION LEVEL Pimary - Secondary: 2 x MOPP Parameter I/P-O/P-5656VDC I/P-O/P-100M Ohms / 500VDC / 25°C/70% RH Parameter C EMISSION C EMISSION GENERAL STANDARDS Radiated emission FCC PART 15 / CISPR22 Class B E 3 years: 100% load 40°C, 12hours / day BF 400Khrs min. MIL-HDBK-217F(25°C) MENSION 62.2*27.4*45.5mm (L*W*H) CKING 109g, 110pcs / 13kg / CARTON for cable connection; 73g, 150pcs / 12kg / CARTON for USB connection General Standard Standard Standard Standard Standard Standard Repulsion All parameters are specified at 115VAC 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° wisted pair terminated with a 0.1 µf & 47µf capacitor. Tolerance: includes set up tolerance, line regulation, load regulation. Line regulation is measured from 10% to 100% rated load. Load regulation is measured from 10% to 100% rated load. Load regulation is measured as an independent unit, but the final equipment still need to re-confirm that the whole system complies with EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing







■ DC output plug

Standard plug: P1J

Unit:mm

P1J		Pin Assignment
5.5	11±0.5mm	Outside ⊖ ⊕ Inside

Optional DC plug:

Tuning For	Type No.	Α	В	С	
Tulling For	Type No.	OD	ID	L	
	C	P1I	5.5	2.1	9.5
	(Straight)	P1L	5.5	2.5	9.5
Δ.		P1M	5.5	2.5	11.0
A B		P1IR	5.5	2.1	9.5
₩ <u>B</u>		P1JR	5.5	2.1	11.0
	(Dight angled)	P1LR	5.5	2.5	9.5
	(Right-angled)	P1MR	5.5	2.5	11.0
Barrel	Type No.	Α	В	С	
Darrer	Type No.	OD	ID	L	
	C C	P2I	5.5	2.1	9.5
		P2J	5.5	2.1	11.0
<u> </u>		P2L	5.5	2.5	9.5
	(Straight)	P2M	5.5	2.5	11.0
A B	C C C C C C C C C C C C C C C C C C C	P2IR	5.5	2.1	9.5
		P2JR	5.5	2.1	11.0
		P2LR	5.5	2.5	9.5
	(Right-angled)	P2MR	5.5	2.5	11.0
l a ala	Type No.	Α	В	С	
Lock S	Lock Style			ID	L
. A .	Locking C	P2S(S761K)	5.53	2.03	12.06
		P2K(761K)	5.53	2.54	12.06
A B SU	VITCHCRAFT original or equivalent	P2C(S760K)	5.53	2.03	9.52
SV	P2D(760K)	5.53	2.54	9.52	
Min. Pin S	Type No.	Α	В	С	
IVIIII. I III V		OD	ID	L	
,A,	C.	P3A	2.35	0.7	11.0
A B		P3B	4.0	1.7	11.0
——————————————————————————————————————	EIAJ equivalent	P3C	4.75	1.7	11.0



Center Pin Style	Type No.	Α	В	С	D
Ochter i in otyle	турстто.	OD	ID	L	Center Pin
A A	P4A	5.5	3.4	11.0	1.0
	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			
wiiii. Diiv 31 iii witii Lock (iiiale)		PIN No).	Output	
	R6B	1		+Vo	
		2		-Vo	
KYCON KPPX-3P equivalent		3	3		+Vo
Min DINI 4 Din with Look (mode)	Type No.	Pin Assignment			
Min. DIN 4 Pin with Lock (male)	Type No.	PIN No.		Output	
	R7B	1		+Vo	
		2		-Vo	
KYCON KPPX-4P equivalent		3		-Vo	
KTOON KIT X-41 equivalent		4	+V		
Stripped and tipped loads	Type No	Pin Assignment			
Stripped and tinned leads	Type No.	PIN No).	Output	
1	by customer	1 (Ribbed	1)	+Vo	
L1 Length of Land L1 by request (MW's standard length, L: <u>25</u> mm, L1: <u>10</u> mm)		2 (Letter)	-Vo	

■ Installation Manual

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