

# TPHPU15 SERIES

15W Interchangeable Power Supplies for MEDICAL

## Features:

- Wide Operating Voltage, 80 to 275 VAC, 47 to 440 Hz
- Interchangeable Plug
- Single Output
- Over Voltage and Over Load protection
- Medical Safety 3rd (IEC60601-1 3rd Edition)
- Input to Output : 2MOPP
- Energy Star 2.0, Efficiency level V
- Class II system
- 2 year warranty



## Electrical Characteristics:

Vins	Safety Approvals	Input Voltage Range	Safety Approval & Specification in Label	100~240VAC
Vin	Operate Voltage Range		See derating curve	80~275VAC
Fi	Input Frequency		Sine wave	47~440Hz
Po	Output Power Range		See rating chart	15W
Iil	Input Current (Low Line)		Io=Full load, Vin=100VAC	0.6A
Iih	Input Current (High Line)		Io=Full load, Vin=240VAC	0.4A
Ir	Low Line Inrush Current		Io=Full load, 25°C, Cool start, Vin=100VAC	35A (max.)
	High Line Inrush Current		Io=Full load, 25°C, Cool start, Vin=240VAC	85A (max.)
Eff	Efficiency		Io=Full Load, Vin=230VAC	68~85%
REG-i	Line Regulation		Io=Full Load, Vin=100~240VAC	1% (max.)
REG-o	Load Regulation		Vin=230VAC	3~5%
OVP	Over Voltage Protection			Nil
OCP	Over Current Protection		Nil, But, Output protected to short circuit conditions	
Ttr	Time of Transient Response		Io=Full Load, Vin=110VAC	4mS (max.)
Thu	Hold-Up Time		Io=Full Load, Vin=110VAC	12mS (typ.)
Ts	Start Up Time		Io=Full Load, Vin=100~240VAC	2S (max.)
Vp-p	Ripple & Noise(Peak to Peak)		Full Load, Vin=90VAC	1% (max.)
Tc	Temperature Coefficient		All Condition	±0.04%/°C
Pno	No-Load Power Consumption		No load, Vin=230VAC	See rating chart
Vps	Dielectric Withstanding Voltage		Primary to secondary	6483VDC (min.)
EMI	EMC Emission		Compliance to EN55011 (CISPR11), EN61000-3-2,-3	B Class

## Application:

- Home Healthcare Equipment
- Patient Monitor
- Blood Pressure system
- Portable medical devices
- ECG machine

## Safety Approvals:



## Environmental

To	Operating Temperature	See derating curve	-10~70°C
Ts	Storage Temperature	10 ~ 95% RH	-40~85°C
Ho	Operating Humidity	Non-condensing	0~95% RH
Hr	Storage Humidity	See Rating Chart	0~95% RH
Vsg	Surge Voltage	All Condition	2kV (min.)
ESDa	Electro Static Discharge	Air Discharge, IEC61000-4-2	8kV (min.)
ESDc	Electro Static Discharge	Contact Discharge, IEC61000-4-2	6kV (min.)
MTBF	Mean Time Between Failure	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F	0.1M Hrs (min.)
ELEV	Operating Altitude (Elevation)	All condition	5000m (max.)
VBR	Vibration	10 ~ 500Hz, 10min./1cycle, 60min. Each along X, Y, Z axes	5G (min.)

# TPHPU15 SERIES

15W Interchangeable Power Supplies for MEDICAL

## Output Voltage And Current Rating Chart ( Single Output ) :

Model Number	Output Voltage	Output Current	Total Regulation	Max. Output Power	Pno (max.)
TPHPU15-101	3.3 VDC	2.18 A	5%	7.2W	0.3W
TPHPU15-102	5 ~ 6.5 VDC	2.40 ~ 1.84 A	5%	12W	0.3W
TPHPU15-103	7.5 ~ 8 VDC	1.60 ~ 1.50 A	5%	12W	0.3W
TPHPU15-104	9 ~ 11 VDC	1.80 ~ 1.68 A	5%	13.5W	0.3W
TPHPU15-105	12 ~ 13 VDC	1.25 ~ 1.15 A	5%	15W	0.3W
TPHPU15-106	14 ~ 16 VDC	1.07 ~ 0.93 A	5%	15W	0.3W
TPHPU15-107	17 ~ 21 VDC	0.88 ~ 0.71 A	5%	15W	0.3W
TPHPU15-108	22 ~ 27 VDC	0.68 ~ 0.55 A	5%	15W	0.3W
TPHPU15-109	28 ~ 33 VDC	0.53 ~ 0.45 A	3%	15W	0.3W
TPHPU15-110	34 ~ 40 VDC	0.44 ~ 0.37 A	3%	15W	0.3W
TPHPU15-111	41 ~ 50 VDC	0.36 ~ 0.30 A	3%	15W	0.3W
TPHPU15-112	51 ~ 55 VDC	0.29 ~ 0.27 A	3%	15W	0.3W

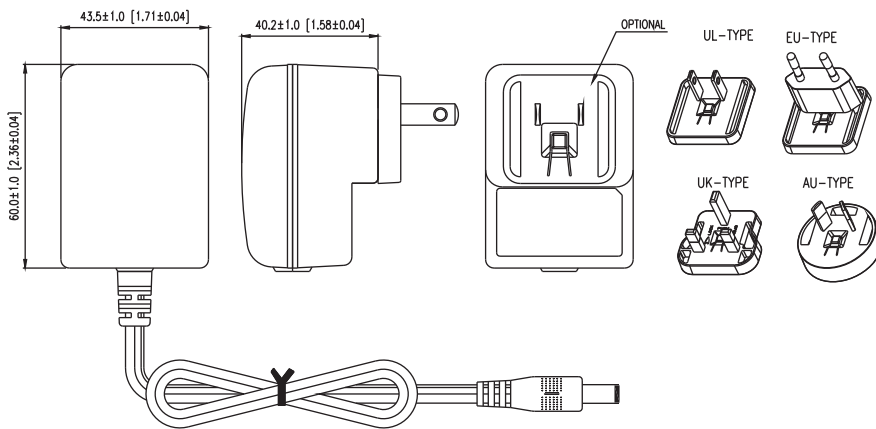
TPHPU15-101~104 are required to use AWG#18/4FT output cable.

TPHPU15-105~109 are required to use AWG#20/4FT output cable.

TPHPU15-110~112 are required to use AWG#22/4FT output cable.

The electrical characteristics will be changed by modified output cable.

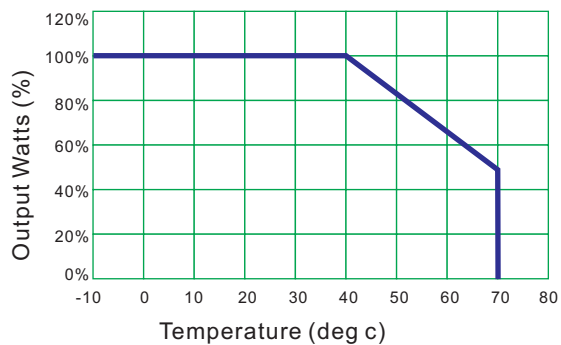
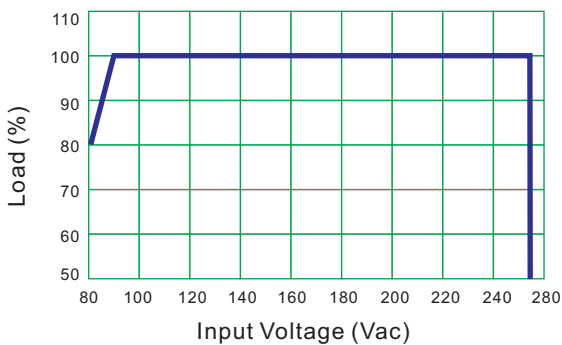
## Mechanical Specifications:



### Note:

1. Dimensions are shown in mm.
2. Weight: 165gs approx.
3. Optional output connector: See page Appendix.

## Derating Curve :



1. Operating Temperature: -10 to 70°C
2. Derate linearly from 100% load at 40°C to 50% load at 70°C