

# MPU 12A SERIES

## 12W Wall Mount Switching Power Supplies For Medical Equipment

### Description:

The MPU12A series of AC/DC switching mode power supplies provide 12 Watts of continuous output power. All supplies are UL 94V-1 min compliant, include a 2 prong plug-in mains connector for wide range of Blood Pressure Measurements, Frequency Therapy Device and Dental Curing light applications. All models are designed to comply with UL 60601-1, First Edition (2003) and CAN/CSA-C22.2 No.601.1-M90 with updates 1 and 2 requirements. All units are 100% burned in and tested.

### Features:

- Wide Input Voltage 90 to 264 VAC, 47 to 63 Hz
- 2 Prong Plug-In Mains Connector
- Output Voltage Available From 5VDC Thru 27VDC
- Optional Output Connector (See appendix)
- Single Output
- Class II Insulation (Double Insulation)
- Over Voltage and Over Load protection.
- 2 year warranty



### Safety Approvals:



### Electrical Characteristics:

| Sym.  | Parameter                     | Test Conditions                            | Min.             | Typ. | Max. | Unit |
|-------|-------------------------------|--------------------------------------------|------------------|------|------|------|
| Vin   | Input Voltage                 | Operating Voltage                          | 90               |      | 264  | VAC  |
| Fin   | Input Frequency               |                                            | 47               |      | 63   | Hz   |
| Wo    | Output Power Range            | Vin=90 to 264VAC                           | 0                |      | 12   | W    |
| Vo    | Output Voltage Range          |                                            | See rating chart |      |      | V    |
| Io    | Output Current Range          |                                            | See rating chart |      |      | A    |
| Iil   | Input Current (Low Line)      | Io=Full load, Vin=115VAC                   |                  | 0.25 | 0.35 | A    |
| Iih   | Input Current (High Line)     | Io=Full load, Vin=230VAC                   |                  | 0.17 | 0.22 | A    |
| Irl   | Low Line Inrush Current       | Io=Full load, 25°C, Cool start, Vin=115VAC |                  | 14   | 16   | A    |
| Irh   | High Line Inrush Current      | Io=Full load, 25°C, Cool start, Vin=230VAC |                  | 28   | 30   | A    |
| Eff   | Efficiency                    | Io=Full Load, Vin=230VAC                   | 68               | 72   | 80   | %    |
| REG-i | Line Regulation               | Io=Full Load                               |                  | 0.5  | 1    | %    |
| REG-o | Load Regulation               | Vin=230VAC                                 |                  | 3    | 5    | %    |
| OVP   | Over Voltage Protection       |                                            | 112              |      | 132  | %    |
| OCP   | Over Current Protection       |                                            | 110              |      | 150  | %    |
| Ttr   | Transient Response            | Io=Full Load to Half Load, Vin=100VAC      |                  |      | 4    | mS   |
| Thold | Hold-Up Time                  | Io=Full Load, Vin=110VAC                   | 10               | 16   |      | mS   |
| Ts    | Start Up Time                 | Io=Full Load, Vin=100VAC                   | 0.3              | 1    | 2    | S    |
| Vrn   | Ripple & Noise (Peak to Peak) | Full Load, Vin=90VAC                       |                  | 0.5  | 1    | %    |
| Tc    | Temperature Coefficient       | All output                                 | -0.04            |      | 0.04 | %/°C |

### Environmental :

| Sym.  | Parameter                                                  | Test Conditions | Min. | Typ. | Max. | Unit |
|-------|------------------------------------------------------------|-----------------|------|------|------|------|
| Toper | Operating Temperature                                      |                 | 0    |      | 70   | °C   |
| Tstg  | Storage Temperature                                        |                 | -40  |      | 85   | °C   |
| Hr    | Relative Humidity                                          | No-Condensing   | 5    |      | 95   | %    |
| Pd    | Derate linearly from 100% load at 50°C to 50% load at 70°C |                 |      |      |      |      |

# MPU12A SERIES

## 12W Wall Mount Switching Power Supplies For Medical Equipment

### Safety Specifications:

| Sym.            | Parameter                                                | Test Conditions         | Min. | Typ. | Max. | Unit  |
|-----------------|----------------------------------------------------------|-------------------------|------|------|------|-------|
| V <sub>ps</sub> | Dielectric Withstanding Voltage for Primary to secondary | Primary to secondary    | 5803 |      |      | VDC   |
| CISPR           | EMI requirements for CISPR-11                            | V <sub>in</sub> =230VAC | B    |      |      | CLASS |
| FCC             | EMI requirements for FCC PART-18                         | V <sub>in</sub> =120VAC | B    |      |      | CLASS |

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

| Model Number | Output Voltage | Output Current | Total Regulation | Maximum Output Power | Safety |
|--------------|----------------|----------------|------------------|----------------------|--------|
| MPU12A-102   | 5 ~ 6 VDC      | 2.00 ~ 1.66 A  | 5%               | 10W                  | UL     |
| MPU12A-103   | 6 ~ 8 VDC      | 2.00 ~ 1.50 A  | 5%               | 12W                  | UL     |
| MPU12A-104   | 8 ~ 11 VDC     | 1.50 ~ 1.09 A  | 5%               | 12W                  | UL     |
| MPU12A-105   | 11 ~ 13 VDC    | 1.09 ~ 0.92 A  | 5%               | 12W                  | UL     |
| MPU12A-106   | 13 ~ 16 VDC    | 0.92 ~ 0.75 A  | 5%               | 12W                  | UL     |
| MPU12A-107   | 16 ~ 21 VDC    | 0.75 ~ 0.57 A  | 3%               | 12W                  | UL     |
| MPU12A-108   | 21 ~ 27 VDC    | 0.57 ~ 0.44 A  | 3%               | 12W                  | UL     |

### Mechanical Specifications:( USA Type)

Note:

1. Dimensions are shown in mm.
2. Weight: 160gs approx.
3. Optional output connector:  
See page Appendix.

