

# APU20C SERIES

## 20W Desk Top Low Operating Temperature Power Supplies.

### Description:

The APU20C series of AC/DC switching mode power supplies provide 20 Watts of continuous output power and is well-suited for a variety of applications. All supplies are UL 94V-1 min compliant. All model meet FCC Part-15 class B and CISPR-22 class B emission Limits and are designed to comply with UL/c-UL (UL 60950-1:2<sup>nd</sup> Edition), TUV/GS (EN 60950-1:2<sup>nd</sup> Edition) and new CE requirements. All units are 100% burned-in and tested.



### Features:

- Wide Operating Voltage 90 to 264 VAC, 47 to 63 Hz
- IEC-320-C6 Input Inlet
- Optional Output Connector (See appendix)
- Single Output
- Class I
- Energy Star 2.0, Efficiency level V
- Operating temperature -40~70°C
- 2 year warranty

**PRELIMINARY**

### Electrical Characteristics:

| Sym.  | Parameter                            | Test Conditions  | Min.             | Typ. | Max. | Unit. |
|-------|--------------------------------------|--|------------------|------|------|-------|
| Vin   | Safety Approvals Input Voltage Range |  | 100              |      | 240  | VAC   |
|       | Operate Voltage Range                |  | 90               |      | 264  | VAC   |
| fin   | Input Frequency                      |  | 47               |      | 63   | Hz    |
| Po    | Output Power Range                   | Vin=90 to 264VAC                                       | 0                |      | 20   | 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                               |                  |      | 0.5  | A     |
| Iih   | Input Current (High Line)            | Io=Full load, Vin=230VAC                               |                  |      | 0.25 | A     |
| Irl   | Low Line Inrush Current              | Io=Full load, 25°C, Cool start, Vin=115VAC             |                  | 25   | 50   | A     |
| Irh   | High Line Inrush Current             | Io=Full load, 25°C, Cool start, Vin=230VAC             |                  | 50   | 100  | A     |
| Eff   | Efficiency                           | Io=Full Load, Vin=230VAC                               | See rating chart |      |      | %     |
| REG-i | Line Regulation                      | Io=Full Load   |                  | 0.5  | 1    | %     |
| 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 to Half Load, Vin=100VAC                  |                  |      | 4    | mS    |
| Thold | Hold-Up Time                         | Io=Full Load, Vin=110VAC                               | 8                |      |      | mS    |
| Ts    | Start Up Time                        | Io=Full Load, Vin=100VAC                               |                  | 2    | 3    | S     |
| Vp-p  | Ripple & Noise (Peak to Peak)        | Full Load, Vin=90VAC                                   |                  | 0.5  | 1    | %     |
| Ilk   | Safety Ground Leakage Current        | Io=Full Load, Vin=240VAC                               |                  | 0.5  | 0.75 | mA    |
| TC    | Temperature Coefficient              | All output   | -0.04            |      | 0.04 | %/°C  |
| Pno   | No-Load Power Consumption            | No load, Vin=230VAC                                    | See rating chart |      |      | W     |

### Environmental :

| Sym.  | Parameter   | Test Conditions | Min. | Typ. | Max. | Unit |
|-------|---|-----------------|------|------|------|------|
| Toper | Operating Temperature                                       |                 | -40  | 40   | 70   | °C   |
| Tstg  | Storage Temperature   |                 | -40  |      | 85   | °C   |
| Ho    | Operating Humidity  |                 | 0    |      | 95   | %    |
| Hr    | Storage Humidity  |                 | 0    |      | 95   | %    |
| MTBF  | Operating Temperature at 25°C, Calculated per MIL-HDBK-217F |                 | 0.1M |      |      | Hrs  |
| Pd    | Derate linearly from 100% load at 40°C to 50% load at 70°C  |                 |      |      |      |      |

# APU20C SERIES

**20W Desk Top Low Operating Temperature Power Supplies.**

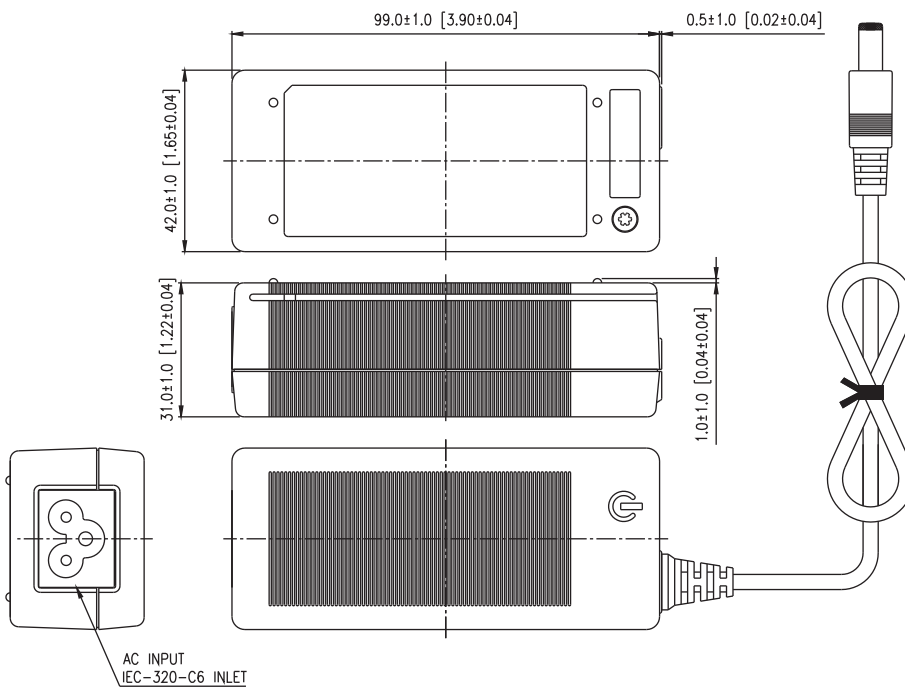
## Safety Specifications:

| Sym.  | Parameter  | Test Conditions      | Min. | Typ. | Max. | Unit  |
|-------|--|----------------------|------|------|------|-------|
| Vps   | Dielectric Withstanding Voltage for Primary to secondary | Primary to secondary | 4242 |      |      | VDC   |
| Vpg   | Dielectric Withstanding Voltage for Primary to Ground    | Primary to ground    | 2121 |      |      | VDC   |
| Ris   | Isolation Resistance                                     | Test Voltage=500VDC  | 50   |      |      | MΩ    |
| CISPR | EMI requirements for CISPR-22                            | Vin=220VAC           | B    |      |      | CLASS |
| FCC   | EMI requirements for FCC PART-15                         | Vin=120VAC           | B    |      |      | CLASS |

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

| Model Number | Output Voltage | Output Current | Total Regulation | Efficiency (min.) | Maximum Output Power | Pno (max.) |
|--------------|----------------|----------------|------------------|-------------------|----------------------|------------|
| APU20C-102   | 5 ~ 6 VDC      | 3.00 ~ 2.50 A  | 5%               | 76.5%             | 15W                  | 0.3W       |
| APU20C-103   | 6 ~ 8 VDC      | 2.50 ~ 1.87 A  | 5%               | 79.2%             | 15W                  |            |
| APU20C-104   | 8 ~ 11 VDC     | 2.50 ~ 1.81 A  | 5%               | 82%               | 20W                  |            |
| APU20C-105   | 11 ~ 13 VDC    | 1.81 ~ 1.53 A  | 5%               | 84%               | 20W                  |            |
| APU20C-106   | 13 ~ 16 VDC    | 1.53 ~ 1.25 A  | 4%               | 84%               | 20W                  |            |
| APU20C-107   | 16 ~ 21 VDC    | 1.25 ~ 0.95 A  | 4%               | 84%               | 20W                  |            |
| APU20C-108   | 21 ~ 27 VDC    | 0.95 ~ 0.74 A  | 4%               | 84%               | 20W                  |            |
| APU20C-109   | 27 ~ 33 VDC    | 0.74 ~ 0.60 A  | 3%               | 86%               | 20W                  |            |
| APU20C-110   | 33 ~ 40 VDC    | 0.60 ~ 0.50 A  | 3%               | 86%               | 20W                  |            |
| APU20C-111   | 40 ~ 50 VDC    | 0.50 ~ 0.40 A  | 3%               | 86%               | 20W                  |            |

## Mechanical Specifications :



### Note:

1. Dimensions are shown in mm.
2. Weight: 170gs approx.
3. Optional output connector: See page Appendix.