

# SPU65 SERIES

## 80W Desk Top Switching Power Supplies For I.T.E.

### Description:

The SPU65 series of AC/DC switching mode power supplies provide 80 Watts of continuous output power. All supplies are UL 94V-1 min compliant, include IEC-320-C14 input for worldwide applications. All models meet FCC Part-15 class B and CISPR-22 class B emission Limits and are designed to comply with UL/c-UL(UL 60950), TUV/GS(EN 60950) and new CE requirements. All units are 100% burned in and tested.



### Features:

- Wide Input Voltage 90 to 264 VAC, 47 to 63 Hz
- IEC-320-C14 Input Inlet
- Single to Quad Output
- Output Voltage Available From 3 VDC Thru 48 VDC
- Optional Output Connector (See appendix)
- Input Surge Current, Over Voltage and Over Load protection
- Over Voltage Protection (Crowbar Design)
- Splash proof
- Class I Insulation
- 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                |      | 80   | 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                   |                  |      | 1.9  | A    |
| Iih   | Input Current (High Line)     | Io=Full load, Vin=230VAC                   |                  |      | 1.5  | A    |
| Irl   | Low Line Inrush Current       | Io=Full load, 25°C, Cool start, Vin=115VAC |                  | 12   | 15   | A    |
| Irh   | High Line Inrush Current      | Io=Full load, 25°C, Cool start, Vin=230VAC |                  | 26   | 30   | A    |
| Eff   | Efficiency                    | Io=Full Load, Vin=230VAC                   | 75               | 83   | 88   | %    |
| REG-i | Line Regulation               | Io=Full Load                               |                  | 0.5  | 1    | %    |
| REG-o | Load Regulation               | Vin=230VAC                                 |                  | 5    | 7    | %    |
| 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                   | 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    | %    |
| 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 |

\* Note: The Ripple & Noise which is under 3.3VDC at 2% max

### Environmental :

| Sym.  | Parameter  | Test Conditions | Min. | Typ. | Max. | Unit |
|-------|--|-----------------|------|------|------|------|
| Toper | Operating Temperature                                      |                 | 0    |      | 70   | °C   |
| Tstg  | Storage Temperature  |                 | -40  |      | 85   | °C   |
| Hr    | Relative Humidity  |                 | 5    |      | 95   | %    |
| Pd    | Derate linearly from 100% load at 40°C to 50% load at 70°C |                 |      |      |      |      |

### 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   |
| Ri    | 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=110VAC           | B    |      |      | CLASS |

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## 80W Desk Top Switching Power Supplies For I.T.E. Output Voltage And Current Rating Chart (Single Output) :

| Model Number | Output Voltage | Output Current | Total Regulation | Maximum Output Power |
|--------------|----------------|----------------|------------------|----------------------|
| SPU65-101    | 3 ~ 5 VDC      | 16.6 ~ 10.0 A  | 7%               | 50W                  |
| SPU65-102    | 5 ~ 6 VDC      | 13.0 ~ 10.8 A  | 7%               | 65W                  |
| SPU65-103    | 6 ~ 8 VDC      | 11.6 ~ 8.70 A  | 5%               | 69.6W                |
| SPU65-104    | 8 ~ 11 VDC     | 9.37 ~ 6.81 A  | 5%               | 75W                  |
| SPU65-105    | 11 ~ 13 VDC    | 7.27 ~ 6.15 A  | 5%               | 80W                  |
| SPU65-106    | 13 ~ 16 VDC    | 6.15 ~ 5.00 A  | 5%               | 80W                  |
| SPU65-107    | 16 ~ 21 VDC    | 5.00 ~ 3.80 A  | 5%               | 80W                  |
| SPU65-108    | 21 ~ 27 VDC    | 3.80 ~ 2.96 A  | 5%               | 80W                  |
| SPU65-109    | 27 ~ 33 VDC    | 2.96 ~ 2.42 A  | 5%               | 80W                  |
| SPU65-110    | 33 ~ 40 VDC    | 2.42 ~ 2.00 A  | 5%               | 80W                  |
| SPU65-111    | 40 ~ 48 VDC    | 2.00 ~ 1.66 A  | 5%               | 80W                  |

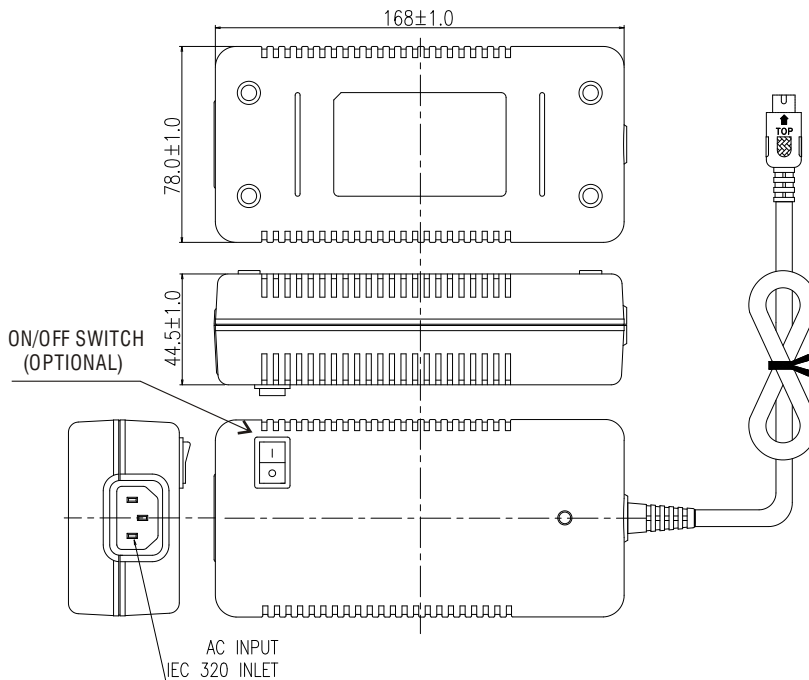
\* Note: The output power under 65W had been approved by CCC

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

| Model Number | Output #1 |       |       |        | Output #2 |       |       |        | Output #3 |       |       |        | Output #4 |       |       |        | Maximum Output Power |
|--------------|-----------|-------|-------|--------|-----------|-------|-------|--------|-----------|-------|-------|--------|-----------|-------|-------|--------|----------------------|
|              | Vonom     | Iomin | Iomax | Regmax | Vonom     | Iomin | Iomax | Regmax | Vonom     | Iomin | Iomax | Regmax | Vonom     | Iomin | Iomax | Regmax |                      |
| SPU65-200    | +3.3V     | 0.7A  | 7A    | 7%     | +12V      | 0.55A | 2.75A | 5%     |           |       |       |        |           |       |       |        | 56.1W                |
| SPU65-201    | +5V       | 0.7A  | 7A    | 5%     | +12V      | 0.6A  | 3A    | 5%     |           |       |       |        |           |       |       |        | 65W                  |
| SPU65-202    | +5V       | 1.4A  | 7A    | 5%     | +15V      | 0.6A  | 3A    | 5%     |           |       |       |        |           |       |       |        | 65W                  |
| SPU65-203    | +5V       | 1.4A  | 7A    | 5%     | +24V      | 0.3A  | 2A    | 5%     |           |       |       |        |           |       |       |        | 65W                  |
| SPU65-204    | +3.3V     | 1.4A  | 7A    | 7%     | +5V       | 0.6A  | 3A    | 5%     |           |       |       |        |           |       |       |        | 38.1W                |
| SPU65-215    | +5V       | 1.4A  | 7A    | 5%     |           |       |       |        | -24V      | 0.4A  | 2A    | 5%     |           |       |       |        | 65W                  |
| SPU65-300    | +3.3V     | 1.4A  | 7A    | 7%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0.1A  | 0.8A  | 5%     |           |       |       |        | 65W                  |
| SPU65-301    | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | -5V       | 0A    | 0.8A  | 5%     |           |       |       |        | 65W                  |
| SPU65-302    | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 65W                  |
| SPU65-303    | +5V       | 0.6A  | 6A    | 5%     | +15V      | 0.3A  | 3A    | 5%     | -15V      | 0A    | 0.8A  | 5%     |           |       |       |        | 65W                  |
| SPU65-304    | +5V       | 0.7A  | 7A    | 5%     | +24V      | 0.2A  | 2A    | 5%     | -24V      | 0A    | 0.8A  | 5%     |           |       |       |        | 65W                  |
| SPU65-305    | +5V       | 0.6A  | 6A    | 5%     | +24V      | 0.2A  | 2A    | 5%     | -12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 65W                  |
| SPU65-306    | +3.3V     | 0.7A  | 7A    | 7%     | +12V      | 0.6A  | 3A    | 5%     | -5V       | 0A    | 0.8A  | 5%     |           |       |       |        | 63.1W                |
| SPU65-403    | +5V       | 0A    | 3.5A  | 5%     | +24V      | 0.1A  | 1.5A  | 5%     | +12V      | 0A    | 0.25A | 5%     | -12V      | 0A    | 0.15A | 5%     | 65W                  |

Mark " \* " means " PSE approval " ; The output voltage under 15V had been approved by TUV/PSE

## Mechanical Specifications :



- Note:
1. Dimensions are shown in mm.
  2. Weight: 570-750gs approx.
  3. Optional output connector: See page Appendix.