# PSS18

## 18 W, Single Phase Din Rail Mountable Switching Power Supplies

### FEATURES

- Full Range Input selection from 90 to 264 VAC
- Typical efficiency of 77%
- Compact design with a width of only 22.5 mm
- Two years product warranty

c UL us 508 c UL us UL 60950-1 CE

### ORDERING INFORMATION

| Cat. No. | Input Voltage | Output Wattage | Output Voltage | Output Current | Eff. (min.) | Eff. (typ.) |
|---|---|---|---|---|---|---|
| PSS15/5/3 | 90~264 VAC | 15 WATTS | + 5 VDC | 3000 mA | 73% | 75% |
| PSS18/12/1.5 | 90~264 VAC | 18 WATTS | + 12 VDC | 1500 mA | 75% | 77% |
| PSS18/15/1.2 | 90~264 VAC | 18 WATTS | + 15 VDC | 1200 mA | 75% | 77% |
| PSS18/24/0.75 | 90~264 VAC | 18 WATTS | + 24 VDC | 750 mA | 75% | 77% |

### SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, 25° C Unless Otherwise Noticed

| GENERAL | | | | | | |
|---|---|---|---|---|---|---|
| **Characteristics** | **Conditions** | | **min.** | **typ.** | **max.** | **unit** |
| Switching Frequency | Vi nom, Io nom | | | 132 | | KHz |
| Isolation Voltage | Input-Output | | 3000 / 4242 | | | VAC / VDC |
| | Input-FG | | 1500 / 2121 | | | VAC / VDC |
| Isolation Resistance | Input-Output, @ 500 VDC | | 100 | | | MΩ |
| Ambient Temperature | Operating at Vi nom | | -20 | | + 71 | °C |
| Derating (see derating curve) | Vi nom, from +61°C to +71°C | | | | 2.5 | % / °C |
| Storage Temperature | Non Operational | | -25 | | + 85 | °C |
| Relative Humidity | Vi nom, Io nom | | 20 | | 95 | % RH |
| Temperature Coefficient | Vi nom, Io min | | | | ± 0.03 | % / °C |
| MTBF | Bellcore Issue 6 @40°C, GB | 5V model | | 795000 | | Hours |
| | | 12V model | | 797000 | | Hours |
| | | 15V model | | 796000 | | Hours |
| | | 24V model | | 800000 | | Hours |
| Altitude During Operation | IEC 60068-2-13 | | | | 4850 | m |
| Dimension | Spring Terminal Type | | | L 90 x W 22.5 x D 114 | | mm |
| Cooling | Free Air Convection | | | | | |
| Pollution Degree | | | | 2 | | |
| Connection Wire Range | 0.2 - 2 sq.mm / 24 - 14 AWG | | | | | |
| Wire Stripping Length | 10 mm | | | | | |
| Housing Material | Plastic | | | | | |
| Product Weight | 150 g | | | | | |

| INPUT SPECIFICATIONS | | | | | | |
|---|---|---|---|---|---|---|
| **Characteristics** | **Conditions** | | **min.** | **typ.** | **max.** | **unit** |
| Rated Input Voltage | Io nom | | 100 | | 240 | VAC |
| Input Voltage Range | | AC in | 90 | | 264 | VAC |
| | | DC in | 120 | | 375 | VDC |
| Input Current | Vi : 115 / 230 VAC, Io nom | | | 335 / 210 | | |
| Rated Input Current | Vi : 90 VAC, Io nom | | | | 500 | mA |
| Line Frequency | Vi nom, Io nom | | 47 | | 63 | Hz |
| Inrush Current | Vi : 115 / 230 VAC, Io nom | | | | 10 / 18 | A |
| Power Dissipation | Vi : 230 VAC, Io nom | 5V model | | 5.0 | | W |
| | | 12V model | | 4.65 | | W |
| | | 15V model | | 4.25 | | W |
| | | 24V model | | 4.45 | | W |
| Leakage Current | Input-Output | | | | 0.25 | mA |
| | Input-FG | | | | 3.5 | mA |

## OUTPUT SPECIFICATIONS

| Characteristics | Conditions | | min. | typ. | max. | unit |
|---|---|---|---|---|---|---|
| Output voltage accuracy (Adjusted before shipment) | Vi nom, Io max | | 0 | | + 1 | % |
| Minimum Load | Vi nom | | 0 | | | % |
| Line Regulation | Io nom, Vi min ...Vi max | | | | ± 1 | % |
| Load Regulation | Vi nom, Io min ...Io nom | | | | ± 2 | % |
| Voltage Trim Range | Vi nom, | 5V...15V models | - 10 | | + 15 | % |
| | 0.8 Io nom | 24V model | - 10 | | + 20 | % |
| Rated Continuous Loading | Vi nom | 5V model | 3 A @ 5Vdc / 2.6 A @ 5.75 Vdc | | | |
| | | 12V model | 1.5 A @ 12Vdc / 1.3 A @ 13.8 Vdc | | | |
| | | 15V model | 1.2 A @ 15Vdc / 1.0 A @ 17.25 Vdc | | | |
| | | 24V model | 0.75 A @ 24Vdc / 0.6 A @ 28.8 Vdc | | | |
| Hold Up Time | Vi : 115 / 230 VAC, Io nom | | 20 / 75 | | | ms |
| Turn On Time | Vi nom, Io nom | | | | 1000 | ms |
| | Vi nom, Io nom → with 7000 μF CAP | | | | 1500 | ms |
| Rise Time | Vi nom, Io nom | | | | 150 | ms |
| | Vi nom, Io nom → with 7000 μF CAP | | | | 500 | ms |
| Fall Time | Vi nom, Io nom | | | | 150 | ms |
| Transient Recovery Time | Vi nom, 1~0.5 Io nom | | | | 2 | ms |
| Ripple & Noise | Vi nom, Io nom, BW = 20MHz | | | | 50 | mV |
| Power Back Immunity | Vi nom, Io nom | 5V model | 7.5 | | | VDC |
| | 1 second | 12V model | 18 | | | VDC |
| | | 15V model | 22 | | | VDC |
| | | 24V model | 35 | | | VDC |
| Capacitor Load | Vi nom, Io nom | | | | 7000 | μF |
| DC ON Indicator Threshold at start up (Green LED) | Vi nom, Io nom | 5V model | 3.5 | | 4.5 | VDC |
| | | 12V model | 9.0 | | 10.8 | VDC |
| | | 15V model | 11.0 | | 13.5 | VDC |
| | | 24V model | 18 | | 21.6 | VDC |
| DC LOW Indicator Threshold after start up (Red LED) | Vi nom, Io nom | 5V model | 3.5 | | 4.5 | VDC |
| | | 12V model | 9.0 | | 10.8 | VDC |
| | | 15V model | 11.0 | | 13.5 | VDC |
| | | 24V model | 18 | | 21.6 | VDC |
| Efficiency | Vi nom, Io nom, Po / Pi | | Up to 77%, See model list and typ efficiency curve | | | |

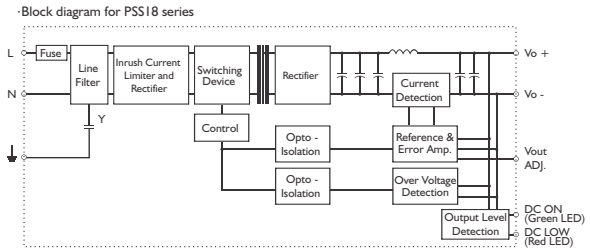
## CONTROL AND PROTECTION

| Characteristics | Conditions | min. | typ. | max. | unit |
|---|---|---|---|---|---|
| Input fuse | | | T2A / 250VAC internal | | |
| Internal surge voltage protection | IEC 61000-4-5 | | Varistor | | |
| Rated over load protection | Vi nom (see typ current limited curve) | 110 | | 140 | % |
| Over voltage protection | Vi nom, Io nom (Auto Recovery) | 125 | | 145 | % |
| Output short circuit | | | Hiccup mode | | |
| Degree of protection | | | IP20 | | |

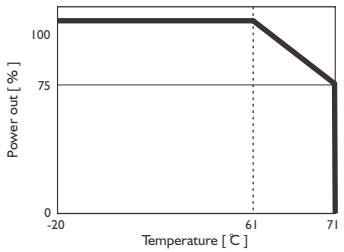
## Standards Used For Testing

| | |
|---|---|
| UL / cUL | UL 508 Listed<br>UL 60950-1, UL 1310 Class 2 Power Recognized<br>ISA 12.12.01(Class I, Division 2, Groups A, B, C and D) |
| TUV | EN 60950-1, CB scheme |
| CE | EN 61000-6-3, EN 55022 Class B, EN 61000-3-2, EN 61000-3-3<br>EN 61000-6-2,EN 55024, EN 61000-4-2 Level 4, EN 61000-4-3 Level 3<br>EN 61000-4-4 Level 4, EN 61000-4-5 L-N Level 3, L / N-FG Level 4<br>EN 61000-4-6 Level 3, EN 61000-4-8 Level 4, EN 61000-4-11<br>ENV 50204 Level 2, EN 61204-3 |
| CCC | GB4943, GB9254, GB17625.1 |
| Vibration Resistance | Meet IEC 60068-2-6 (Mounting by rail : 10-500 Hz, 2G, along X, Y, Z each Axis, 60 min for each Axis ) |
| Shock Resistance | Meet IEC 60068-2-27 (15G, 11ms, 3 Axis, 6 Faces, 3 times for each Face) |

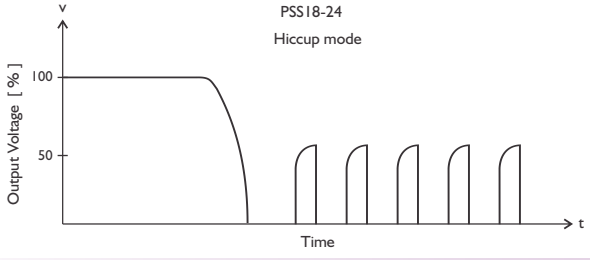
## CIRCUIT SCHEMATIC




## DERATING CURVE




## TYP. CURRENT LIMITED CURVE




## TYP. EFFICIENCY CURVE