

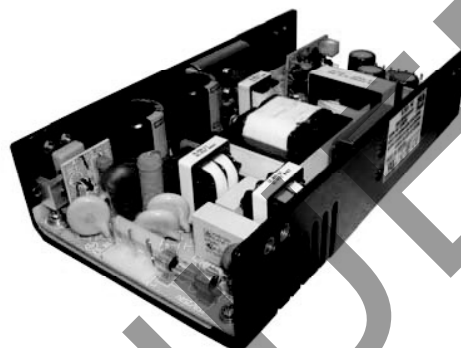


PART NUMBER: VPF-S200-XXRI series

DESCRIPTION: switching power supply

features

- power factor correction
- power good signal
- short circuit protection
- over load, voltage, temperature protection
- approved to UL/cUL, TUV, CE with CB scheme
- N+1 parallel redundancy
- extended temperature range: -40 ~ +75°C available



MODEL

| | output ^{1, 2, 3} (V) | preset voltage (V) | max. output ⁴ power / current (A) | | regulation ⁵ | ripple & noise ^{5, 6} (Vp-p) |
|---------------|----------------------------------|--------------------------|---|------------|-------------------------|--|
| | | | with force air | convection | | |
| VPF-S200-03RI | 3 - 4 V | 3.3 V | 30 A | 22 A | ±1% | ±1% |
| VPF-S200-05RI | 5 - 6 V | 5 V | 200W | 22 A | ±1% | ±1% |
| VPF-S200-12RI | 12 - 18 V | 12 V | 200W | 150W | ±1% | ±1% |
| VPF-S200-24RI | 24 - 30 V | 24V | 200W | 150W | ±1% | ±1% |
| VPF-S200-36RI | 32 - 46 V | 36 V | 200W | 150W | ±1% | ±1% |
| VPF-S200-48RI | 48 - 56 V | 48 V | 200W | 150W | ±1% | ±1% |

- notes:
1. customer must specify output voltage on PO
 2. output is fully isolated
 3. output voltage is measured at output power connector
 4. maximum 200 W with 18- cfm forced ventilation
 5. **1% minimum load is required to maintain the ripple and regulation**
 6. ripple and noise are measured from 10 KHz to 20 MHz at output terminals with a 0.1 µF ceramic capacitor and a 22 µF capacitor in parallel.



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INPUT

| parameter | conditions/description | min | nom | max | units |
|-----------------|---|-----|-----|-----|-------|
| input frequency | | 47 | | 63 | Hz |
| input voltage | 90~132 / 180~264 auto-selectable | 90 | | 264 | VAC |
| input current | AC input of 115 VAC | | | 5 | A |
| | AC input of 230 VAC | | | 2.5 | A |
| inrush current | peak measured at 115 VAC at full load, cold start | | | 35 | A |
| | peak measured at 230 VAC at full load, cold start | | | 70 | A |
| power factor | active power factor correction meets EN61000-3-2 class A (total output power not to exceed 200 W) | | | | |

OUTPUT

| parameter | conditions/description | min | nom | max | units |
|--------------------|--|-----|-----|-----|-------|
| transient response | output voltage returns to within 1% in less than 2.5ms for a 50% load change. peak transient does not exceed 5%. | | | | |
| overshoot | turn-on and turn-off overshoot will not exceed 5% over nominal voltage | | | | |
| efficiency | measured at 230 V and full load: | | | | |
| | 3.3 V model | | | 70 | % |
| | 5 V model | | | 75 | % |
| | 12 V model | | | 80 | % |
| | all other models | | | 83 | % |
| start up time | at 120 V ac, full load | | | 1 | S |
| hold up time | at 120 V ac, full load | | | 20 | mS |
| adjustability | output use adjustable | - 5 | | +5 | % |
| LED display | when green (LED1) is on, power supply is operating normally | | | | |
| power good | designated as PG on the CN1. this signal goes high 100-500 mS after the output reaches regulation. | | | | |
| | low at least 1 mS before loss of regulation. | | | | |

PROTECTION CIRCUITS

| parameter | conditions/description |
|---------------------|---|
| input fuse | one T5A / 250V fuse inserted in primary |
| overload | current limiting starts at 110~135% of the rated output current in foldback mode and recovers automatically |
| output over-voltage | output is protected against overvoltage. Unit shuts down and latches when voltage at output terminals exceeds 130%. ac input needs to be reset to restart the power supply. |
| short circuit | trip without damage and auto-recovery. |
| over temp. | Power supply shuts down when temperature is in excess of 85 °C. auto recovery. |



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GENERAL & SAFETY

| parameter | conditions/description | min | nom | max | units |
|----------------------------|--|----------------------|-----|---------|-------------------|
| operating temp. | derates linearly from 100% load at 50°C to 50% load at 70°C | 0 | | 40 | °C |
| optional operating temp. | derates linearly from 100% load at 50°C to 37.5% load at 75°C | -40 | | 75 | °C |
| storage temp. | | -20 | | 85 | °C |
| optional storage temp. | | -40 | | 85 | °C |
| operating humid. | non-condensing | 5% | | 90% | RH |
| storage humid. | non-condensing | 5% | | 95% | RH |
| operating altitude | | | | 3,000 | m |
| | | | | 10,000 | ft |
| storage altitude | | | | 9,000 | m |
| | | | | 30,000 | ft |
| EMI safety | conducted emissions comply with FCC part 15, CISPR 22 class B approved to UL 1950(E222889), CSA C22.2 No. 60950-1-03, TUV EN60950-1, CE Mark (LVD), EN61000-3-2, & IEC61000-4 series regulations, CB | | | | |
| leakage current | at 240 V ac | | | 1.5 | mA |
| vibration | acceleration ± 7.35 M/(SxS), on X, Y, and Z axis | 5 | | 50 | Hz |
| isolation voltage (HI-POT) | applied for 3 seconds. primary to secondary: primary to transformer core: primary to earth ground: | 3000 1500 1500 | | | VAC VAC VAC |
| grounding test | allowable resistance measured when 25 A current is applied from the ground pin of the three pronged plug to the farthest earthed connection point. | | | 0.1 | Ω |
| RoHS | yes | | | | |
| warranty | standard warranty length | | | 2 | years |
| MTBF | according to MIL-HDBK-217 at 30°C | | | 100,000 | hours |
| burn-in | full load, at 45 ± 5 °C, 230 V ac | | | 1 | hours |
| cooling | built-in dc fan speed control | | | | |

Note: Customer must specify extended temperature on PO.

MECHANICAL

| parameter | conditions/description | min | nom | max | units |
|----------------|---|-----|-----|-----|-------|
| dimensions | 6.8"(172.7mm) x 3.8"(96.5mm) x 1.5"(38.1mm) U-case | | | | |
| weight | | | | 600 | g |
| mountin screws | one set of 8 threaded mounting holes available on the enclosure A:M4, maximum insertion depth of 0.2 inches. | | | | |

MATING CONNECTORS

| parameter | conditions/description |
|--------------------|--|
| AC input(option 1) | Molex Part No. 26-48-1201 or similar (5 pin). Suggested mating plug: Molex Part No. 09-91-0500 or equivalent (5 pin, 3 used) |
| AC input(option 2) | Terminal block Part No. FTB-702-3P (3 pin, M3 Screw) 7.62mm spacing Suggested mating connector: Molex 19198-0016 or similar |

Note: Input connector must be specified on PO.



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OUTPUT CONNECTOR - (CN2)

| parameter | conditions/description | min | nom | max | units |
|-------------------|---|-----|-----|-----|-------|
| output (option 1) | Molex Part No. 09-91-1200 or similar. (12 pin) Output pin assignment, VO+ (Pins 1-6), VO- (Pins 7-12) Suggested mating connector: Molex 12 pin (part No. 09-91-1200) | | | | |
| output (option 2) | Howder Terminal block Part No. HD-301-4P (4 pin, M3.5 Screw) 11mm spacing Output pin assignment, VO+ (Pins 1-2), VO- (Pins 3-4) Suggested mating connector: Molex 19198-0045 or similar. | | | | |

Note: Output connector must be specified on PO.

LOGIC CONNECTOR - (CN3)

| parameter | conditions/description | min | nom | max | units |
|------------------|--|-----|-----|-----|-------|
| Logic | JS B6B-XH-A Suggested mating connector: JS-2001-06 or equivalent , Contact: SXH-002T-P0.6. | | | | |
| Pin Assignments: | 1. FAN+ 2. FAN- 3. RTN 4. PG 5. REMO 6. RTN | | | | |



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OUTLINE DRAWING

