


SERIES: VPM-S400 | **DESCRIPTION:** AC-DC POWER SUPPLY

FEATURES

- universal input, full range
- remote sense & remote on/off
- high power density: 7.15 watts/inch³
- power factor corrected to EN 61000-3-2 class D
- approved to UL/cUL, TUV, CB, CE & Class B Emissions
- metal-enclosed
- short circuit, overload, and overvoltage protections



| MODEL | preset voltage (Vdc) | output voltage ^{1,2,3} | | output current ⁴ max (A) | ripple and noise ^{5,6} max (% Vp-p) | output power max (W) | efficiency typ (%) |
|-------------|----------------------------|------------------------------------|--------------|--|---|-------------------------------|------------------------------|
| | | min (Vdc) | max (Vdc) | | | | |
| VPM-S400-12 | 12 | 12 | 15 | 33.34 | ±1 | 400 | 80 |
| VPM-S400-18 | 18 | 16 | 21 | 25 | ±1 | 400 | 80 |
| VPM-S400-24 | 24 | 22 | 30 | 18.19 | ±1 | 400 | 80 |
| VPM-S400-36 | 36 | 31 | 41 | 12.9 | ±1 | 400 | 80 |
| VPM-S400-48 | 48 | 42 | 55 | 9.53 | ±1 | 400 | 80 |

Notes:

1. customer must specify output voltage
2. output is fully isolated
3. output voltage is measured at output power connector
4. output current limited by max. power
5. 1% minimum load is required to maintain the ripple and regulation
6. ripple and noise is measured from 10 KHz to 20 MHz at output terminals with a 0.1 µF ceramic capacitor and 10 µF electrolytic capacitor in parallel.

PART NUMBER KEY


INPUT

| parameter | conditions/description | min | typ | max | units |
|-------------------------|--|-----|-----|-----|-------|
| voltage | | 90 | | 264 | Vac |
| frequency | | 47 | | 63 | Hz |
| input current | at 90 Vac, full load | | | 5 | A |
| inrush current | at 230 Vac, full load, cold start | | | 35 | mA |
| input fuse | built-in ac fuse. A blown fuse usually indicates permanent damage to the power supply serviceable by factory only. | | | | |
| power factor correction | meets EN 61000-3-2 Class D | | | | |

OUTPUT

| parameter | conditions/description | min | typ | max | units |
|---------------------|---|-----|-----|-----|-------|
| total regulation | | | ±1 | | % |
| transient response | output voltage returns to within 1% in less than 2.5 ms for a 50% load change. Peak transient does not exceed 5%. | | | | |
| overshoot | turn-on and turn-off overshoot shall not exceed 5% over nominal voltage. | | | | |
| start-up time | at 120 Vac | | | 1 | s |
| hold-up time | at 80% load | 20 | | | ms |
| adjustment range | output user adjustable | | ±5 | | % |
| remote sense | designated as V1S+ and V1S- on CN3. voltage compensates for up to 0.5V line drop. | | | | |
| remote on/off | defined INH on CN3, requiring a TTL remote on-off, low signal to inhibit output | | | | |
| LED display (LED 1) | green - the power supply is operating normally. orange - when any protection occurs or RSW is low. | | | | |
| power good | designated as PG on CN3. This signal goes high 100~500 ms after the output reaches regulation. It goes low at least 1 ms before loss of regulation. | | | | |

PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|--------------------------------|---|-----|-----|-----|-------|
| input under voltage protection | power supply shuts down when ac input is under 80 ±5 Vac. When ac line reappears over 86 ±5 Vac, the power supply restarts automatically. | | | | |
| over voltage protection | shutdown and latches, ac input reset required to restart | | | 130 | % |
| over current protection | auto recovery | 110 | | 140 | %Io |
| short circuit protection | continuous auto recovery upon removal of short | | | | |

SAFETY & COMPLIANCE

| parameter | conditions/description | min | typ | max | units |
|-------------------|--|---------|-----|-----|----------|
| isolation voltage | primary to secondary at 10 mA for 3 seconds | 3,000 | | | Vac |
| | primary to transformer core at 10 mA for 3 seconds | 1,500 | | | Vac |
| | primary to earth ground for at 10 mA 3 seconds | 1,500 | | | Vac |
| safety approvals | UL 60950-1, CSA C22.2 No. 60950-1-03, TUV EN 60950-1, CE Mark (LVD) EN 61000-3-(2,3) & IEC 61000-4 Series Regulations, CB | | | | |
| EMI/EMC | EN 60601-1, EN 61204-3 Class B conducted/radiated, EN 61000-3-(2,3), IEC 61000-4-(2,3,4,5,6,8,11) | | | | |
| leakage current | at 240 Vac | | | 3.5 | mA |
| grounding test | allowable resistance measured when 25 A current is applied from the ground pin of the three prong plug to the farthest earthed connection point. | | | 0.1 | Ω |
| RoHS compliant | yes | | | | |
| MTBF | according to MIL-HBK-217F at 30°C | 100,000 | | | hours |

ENVIRONMENTAL

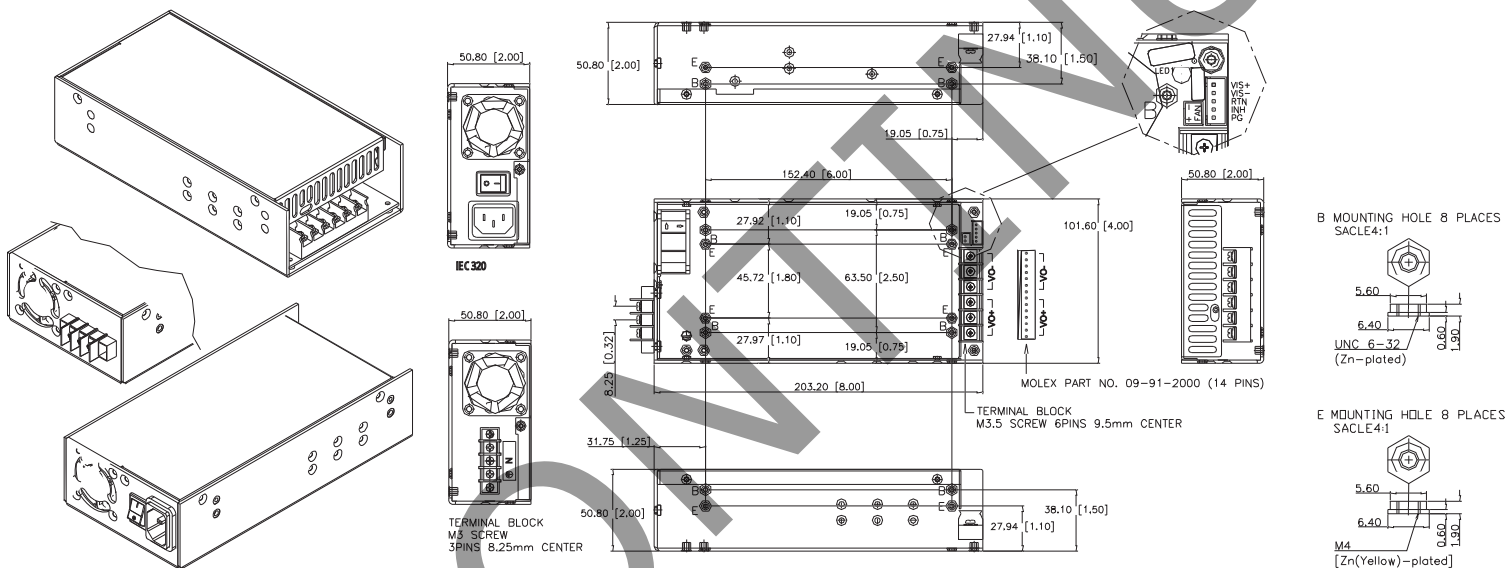
| parameter | conditions/description | min | typ | max | units |
|-----------------------|--|-----|-----|-----|-------|
| operating temperature | derating linearly at 2.5% from 50~70°C | 0 | | 70 | °C |
| storage temperature | | -20 | | 85 | °C |
| operating humidity | non-condensing | 5 | | 90 | %RH |
| storage humidity | non-condensing | 5 | | 95 | %RH |

MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|----------------|---|-----|-----|------|-------|
| dimensions | 8 x 4 x 2 (203.2 x 101.6 x 50.8 mm) | | | | inch |
| weight | | | | 1.05 | kg |
| Mounting holes | Two sets of 8 threaded mounting holes available on the enclosure. B: 6-32, maximum insertion depth of 0.2 inches. C: M4, maximum insertion depth of 0.2 inches. | | | | |

MECHANICAL DRAWING

units: inches (mm)
tolerance: inches: x.xx = ±0.02
mm: x.xx = ±0.5



| INPUT CONNECTOR [CN1] | |
|---|--|
| IEC320 or equivalent snap-in mounting type (option 1) | DINKLE DT-35-A02W-03 (option 2) |
| Suggested mating plug IEC320 | Suggested mating connector Molex 19198-0016 or similar |

| OUTPUT CONNECTOR [CN2] | | | |
|---|----------|--|----------|
| Molex Part No. 26-48-1141 or similar (option 1) | | Howder HD-121-6P (option 2) | |
| Suggested mating connector Molex 09-91-1400 | | Suggested mating connector Molex 19198-0045 or similar | |
| PIN | FUNCTION | PIN | FUNCTION |
| 1~7 | +Vo | 1~3 | +Vo |
| 8~14 | -Vo | 4~6 | -Vo |

| LOGIC CONNECTOR [CN3] | | FAN |
|--|-------------------------------------|--|
| JS B5B-XH-A | | JS B2B-XH-A |
| Suggested mating connector JST XHP-5 or equivalent Contact: SXH-002T-P0.6 | | Suggested mating connector JST XHP-2 or equivalent Contact: SXH-001T-P0.6 |
| PIN | FUNCTION | |
| 1 | PG - power good signal | |
| 2 | INH - inhibit / remote On-Off | |
| 3 | RTN - return | |
| 4 | VIS- - output voltage remote sense- | |
| 5 | VIS+ - output voltage remote sense+ | |

REVISION HISTORY

| rev. | description | date |
|------|---|------------|
| 1.0 | initial release | 07/21/2006 |
| 1.01 | new template applied, V-Infinity branding removed | 08/28/2012 |

The revision history provided is for informational purposes only and is believed to be accurate.



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