

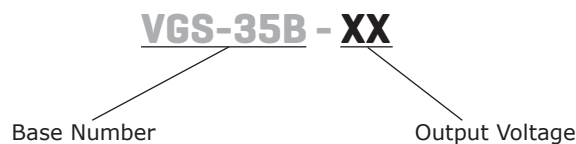
SERIES: VGS-35B | DESCRIPTION: AC-DC POWER SUPPLY
FEATURES

- +70°C operation
- output trim
- current/voltage/temperature protections
- screw terminal interface
- low standby power consumption
- 30 mm height



| MODEL | output voltage | output current | output power | ripple and noise ¹ | efficiency ² |
|------------|----------------|----------------|--------------|-------------------------------|-------------------------|
| | (Vdc) | max (A) | max (W) | max (mVp-p) | typ (%) |
| VGS-35B-12 | 12 | 3 | 36 | 100 | 85 |
| VGS-35B-24 | 24 | 1.5 | 36 | 150 | 88 |
| VGS-35B-48 | 48 | 0.75 | 36 | 200 | 88 |

Notes: 1. 20 MHz bandwidth oscilloscope, 12" of twisted load cables paralleled with 0.1 μ F ceramic and 47 μ F electrolytic capacitors placed across the terminals at the load.
 2. At 230 Vac, 50 Hz, full load.
 3. All specifications are measured at $T_a=25^\circ\text{C}$, nominal input voltage, and rated output load unless otherwise specified.

PART NUMBER KEY

INPUT

| parameter | conditions/description | min | typ | max | units |
|---------------------------|--|-----|-----|------------|--------|
| voltage | | 90 | | 264 | Vac |
| frequency | | 47 | | 63 | Hz |
| current | at 115 Vac, full load at 230 Vac, full load | | | 0.8 0.4 | A A |
| inrush current | at 230 Vac, cold start, full load 24 Vdc output model all other models | | | 30 35 | A A |
| leakage current | | | | 3.5 | mA |
| no load power consumption | at 230 Vac | | | 0.3 | W |

OUTPUT

| parameter | conditions/description | min | typ | max | units |
|---------------------|--|----------|----------|------------|----------|
| line regulation | 12 Vdc output model all other models | | | ±1 ±0.5 | % % |
| load regulation | 12 Vdc output model all other models | | | ±1 ±0.5 | % % |
| adjustability | built in trim pot | | ±10 | | % |
| start-up time | at 115/230 Vac input, full load | | | 2 | s |
| rise time | at 115/230 Vac input, full load 24 Vdc output model all other models | | 35 30 | | ms ms |
| hold-up time | at 115 Vac input, full load at 230 Vac input, full load | 12 30 | | | ms ms |
| switching frequency | | | 65 | | kHz |

PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|--------------------------|--|-----|-----|-----|-------|
| over voltage protection | output shutdown, must recycle power to recover | 120 | | 145 | % |
| over current protection | output shutdown, auto recovery | 110 | | 180 | % |
| short circuit protection | output shutdown, auto recovery | | | | |

SAFETY & COMPLIANCE

| parameter | conditions/description | min | typ | max | units |
|------------------------------------|--|-------------------|-----------------------|-----|-------------------|
| isolation voltage | input to output for 1 minute, 10 mA input to ground for 1 minute, 10 mA output to ground for 1 minute, 10 mA | | 1,500 1,500 500 | | Vac Vac Vac |
| isolation resistance | input to output at 500 Vdc input to ground at 500 Vdc output to ground 500 Vdc | 100 100 100 | | | MΩ MΩ MΩ |
| safety approvals | certified to 62368: EN certified to 60950: IEC/UL | | | | |
| safety class | class I | | | | |
| conducted emissions | EN 55032:2015, Class B | | | | |
| radiated emissions | EN 55032:2015, Class B | | | | |
| input current harmonics | EN 61000-3-2:2014, Class A | | | | |
| voltage fluctuation and flicker | EN 61000-3-3:2013, Class A | | | | |
| ESD immunity | IEC 61000-4-2, air: ±8 kV; contact: ±4 kV, Class A | | | | |
| radiated field immunity | IEC 61000-4-3, 3 V/m, Class A | | | | |
| electrical fast transient immunity | IEC 61000-4-4, Ac power port: 1 kV; signal & telecommunication ports: 0.5 kV, Class B | | | | |

Notes: 1. The power supply is considered a component which will be installed into final equipment. The final equipment still must be tested to meet the necessary EMC directives.

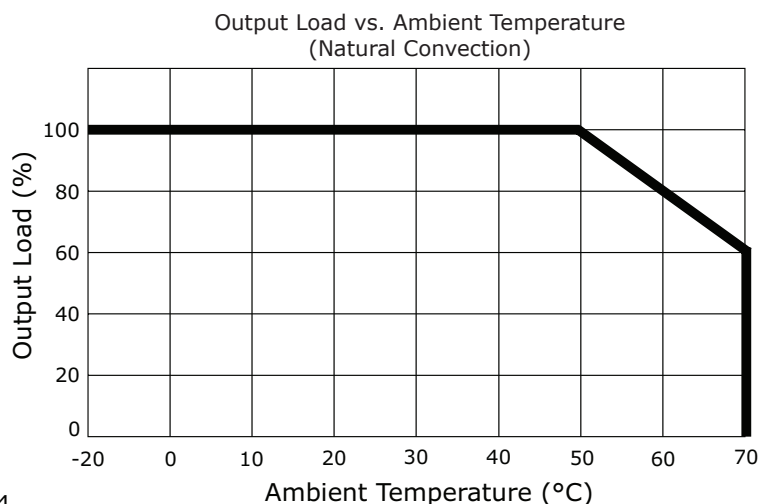
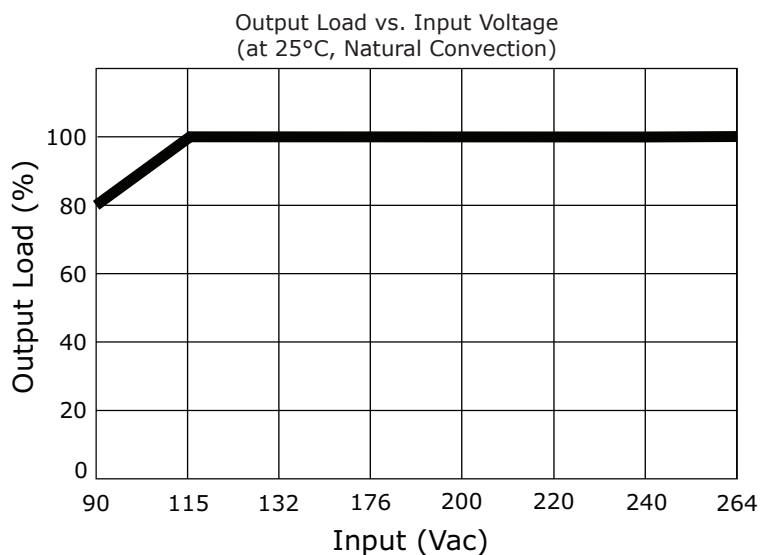
SAFETY & COMPLIANCE (CONTINUED)

| parameter | conditions/description | min | typ | max | units |
|-----------------------------|---|-----|---------|-----|-------|
| surge immunity | IEC 61000-4-5, input L to input N: 1 kV; input L to FG: 2 kV; input N to FG: 2 kV, Class C | | | | |
| conducted immunity | IEC 61000-4-6, frequency range: 0.15~80 MHz; field strength: 3 Vms, Class A | | | | |
| magnetic field immunity | IEC 61000-4-8, 1 A/m, Class A | | | | |
| voltage dips, interruptions | IEC 61000-4-11: voltage dips >95% reduction, 0.5 period, Class A voltage dips 30% reduction, 25 period, Class B voltage dips >95% reduction, 250 period, Class C | | | | |
| MTBF | as per MIL-HDBK-217F, 25°C | | 200,000 | | hours |
| RoHS | yes | | | | |

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ENVIRONMENTAL

| parameter | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature | see derating curves | -20 | | 70 | °C |
| storage temperature | | -40 | | 85 | °C |
| operating humidity | non-condensing | 20 | | 90 | % |
| storage humidity | non-condensing | 10 | | 95 | % |

DERATING CURVES

MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|------------------------|---|-----|-----|-----|-------|
| dimensions | 99 x 82 x 30 | | | | mm |
| weight | | | 200 | | g |
| cooling | natural convection | | | | |
| input/output connector | screw terminals accept 22~12 AWG wire, 1.2 N-m torque | | | | |

MECHANICAL DRAWING

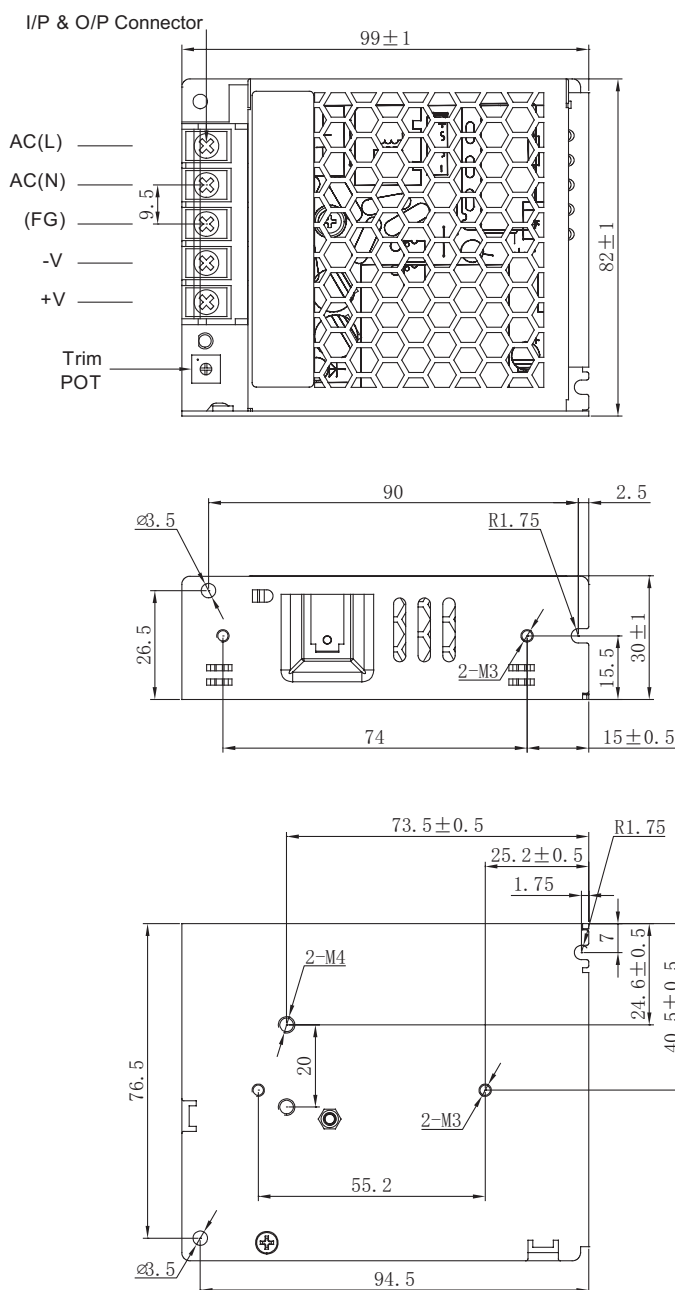
units: mm
tolerance: ±0.3 mm

| Input/Output Connector | |
|------------------------|----------|
| PIN | Function |
| 1 | AC(L) |
| 2 | AC(N) |
| 3 | FG |
| 4 | -V |
| 5 | +V |

| MOUNTING SCREWS | | |
|-----------------|-----------|-----------|
| Screw Size | Max Depth | Torque |
| M3X0.5 | 4 mm | <0.75 N-m |
| M4X0.7 | 4 mm | <0.8 N-m |

| MOUNTING ORIENTATION |
|----------------------|
| |

Note: 1. Parts should not be mounted in an upside down orientation.



REVISION HISTORY

| rev. | description | date |
|------|----------------------|------------|
| 1.0 | initial release | 06/20/2018 |
| 1.01 | company logo updated | 12/22/2020 |
| 1.02 | safeties updated | 01/25/2021 |

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



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