

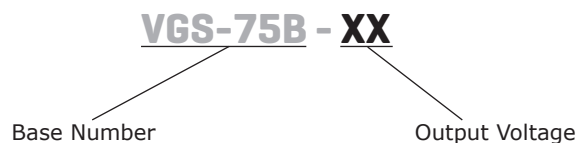
**SERIES: VGS-75B | DESCRIPTION: AC-DC POWER SUPPLY**
**FEATURES**

- +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 <sup>1</sup> | efficiency <sup>2</sup> |
|------------|----------------|----------------|--------------|-------------------------------|-------------------------|
|            | (Vdc)          | max (A)        | max (W)      | max (mVp-p)                   | typ (%)                 |
| VGS-75B-12 | 12             | 6.3            | 75.6         | 100                           | 85                      |
| VGS-75B-24 | 24             | 3.2            | 76.8         | 150                           | 88                      |
| VGS-75B-30 | 30             | 2.5            | 75           | 150                           | 88                      |
| VGS-75B-48 | 48             | 1.6            | 76.8         | 200                           | 88                      |

Notes: 1. 20 MHz bandwidth oscilloscope, 12" of twisted load cables paralleled with 0.1  $\mu$ F ceramic and 47  $\mu$ F electrolytic capacitors placed across the terminals at the load.  
 2. At 230 Vac, 50 Hz, full load.  
 3. All specifications are measured at Ta=25°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 input, full load<br>at 230 Vac input, full load |     |     | 1.7<br>1.0 | A<br>A |
| inrush current            | at 230 Vac input, cold start, full load                    |     |     | 50         | A      |
| leakage current           |  |     |     | 3.5        | mA     |
| no load power consumption | at 230 Vac   |     |     | 0.4        | W      |

## OUTPUT

| parameter           | conditions/description                                     | min      | typ | max        | units    |
|---------------------|--|----------|-----|------------|----------|
| line regulation     | 12 Vdc output model<br>all other models                    |          |     | ±1<br>±0.5 | %<br>%   |
| load regulation     | 12 Vdc output model<br>all other models                    |          |     | ±1<br>±0.5 | %<br>%   |
| 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                            |          |     | 40         | ms       |
| hold-up time        | at 115 Vac input, full load<br>at 230 Vac input, full load | 12<br>30 |     |            | ms<br>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 |     | 150 | %     |
| 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<br>input to ground for 1 minute, 10 mA<br>output to ground for 1 minute, 10 mA |                   | 1,500<br>1,500<br>500 |     | Vac<br>Vac<br>Vac |
| isolation resistance               | input to output at 500 Vdc<br>input to ground at 500 Vdc<br>output to ground 500 Vdc                               | 100<br>100<br>100 |                       |     | MΩ<br>MΩ<br>MΩ    |
| safety approvals                   | certified to 62368: EN<br>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;<br>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.

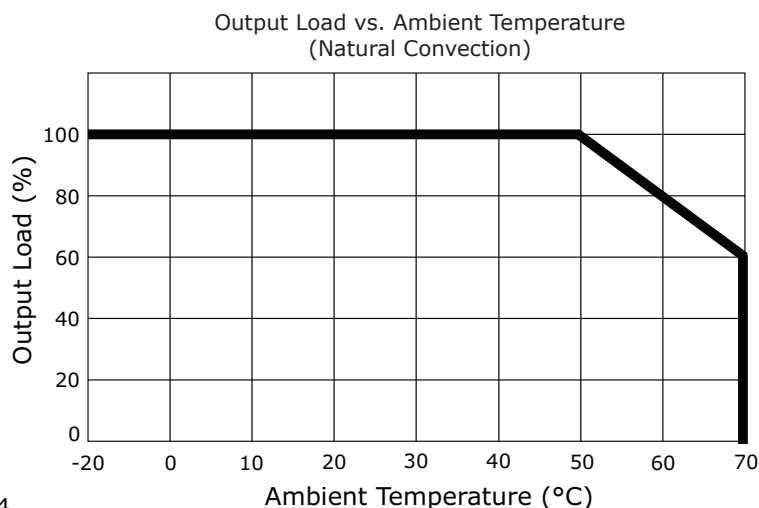
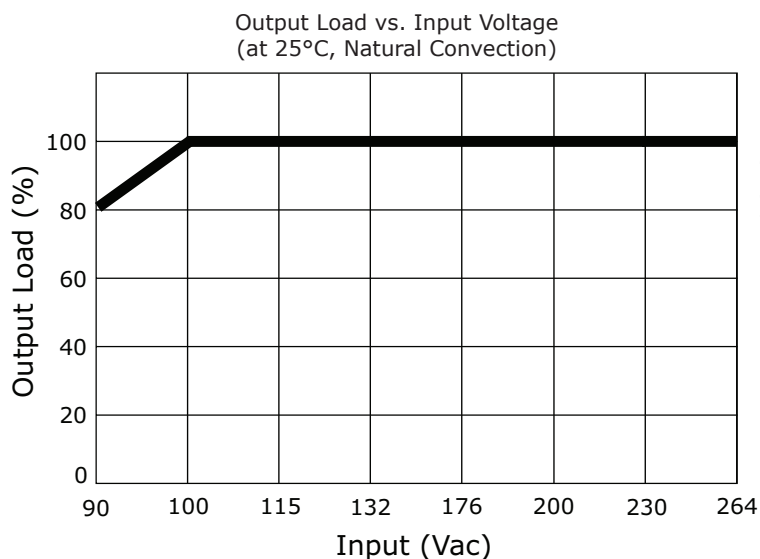
**SAFETY & COMPLIANCE (CONTINUED)**

| parameter                   | conditions/description  | min | typ     | max | units |
|-----------------------------|---|-----|---------|-----|-------|
| surge immunity              | IEC 61000-4-5, input L to input N: 1 kV;<br>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;<br>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:<br>voltage dips >95% reduction, 0.5 period, Class A<br>voltage dips 30% reduction, 25 period, Class B<br>voltage dips >95% reduction, 250 period, Class C |     |         |     |       |
| MTBF                        | as per MIL-HDBK-217F, 25°C  |     | 200,000 |     | hours |
| RoHS                        | yes   |     |         |     |       |

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.

**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             | 129 x 97.5 x 30                                       |     |     |     | mm    |
| weight                 |   |     | 300 |     | g     |
| cooling                | natural convection                                    |     |     |     |       |
| input/output connector | screw terminals accept 22~12 AWG wire, 1.2 N-m torque |     |     |     |       |

## MECHANICAL DRAWING

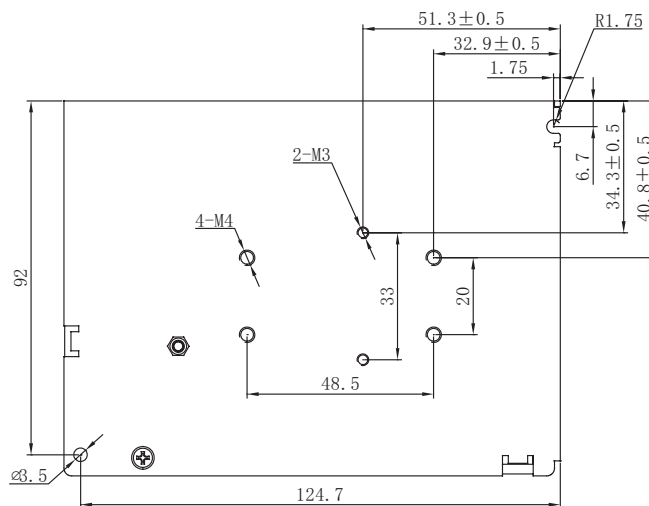
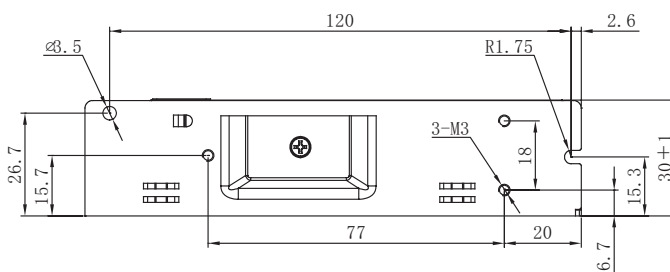
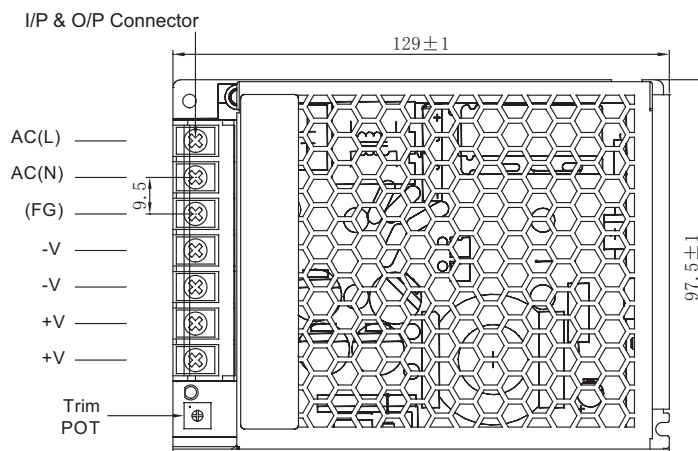
units: mm  
tolerance: ±0.3 mm

| Input/Output Connector |          |
|------------------------|----------|
| PIN                    | Function |
| 1                      | AC(L)    |
| 2                      | AC(N)    |
| 3                      | FG       |
| 4                      | -V       |
| 5                      | -V       |
| 6                      | +V       |
| 7                      | +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

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| 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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