

# High Density DC-DC Modules



## PS200W Series 132-200 Watt DC-DC Converters Single Output

[www.powersolve.co.uk](http://www.powersolve.co.uk)

### Features

- Ultra wide 4:1 Input Range
- Half brick package
- Efficiency to 89%
- Regulated Outputs
- Continuous Short Circuit Protection
- Overvoltage, Overload & Over temperature Protections
- Remote On/Off control



### Electrical Specification

|                                    |   |
|------------------------------------|---|
| Input Voltage Range                | 24V input models: 10 ~ 36V<br>48V input models: 18 ~ 75V  |
| Input Surge Voltage (100ms max.)   | 24V input models: 50VDC max.<br>48V input models: 100VDC max.   |
| Undervoltage Lockout               | 24V input models: 9.5V (power up) / 8.5V (power down)<br>48V input models: 17V (power up) / 16V(power down)   |
| Positive Logic Remote ON/OFF       | Open collector ref. to -Input<br>Module ON: >3.5VDC to 75VDC or open circuit, Module OFF: <1.2VDC<br>Add suffix N to the Model Number for Negative Logic Remote ON/OFF control  |
| Input Filter                       | PI Type   |
| Output Voltage                     | See tables  |
| Output Current                     | See tables  |
| Voltage Accuracy                   | ±1.5% max.  |
| Transient Response                 | <500µsec for a 25% step load change   |
| External Trim Adj. Range           | ±10%  |
| Ripple & Noise, 20MHz BW           | 40mV RMS max, 100mV pk-pk max. (3.3V & 5V output versions)<br>60mV RMS max, 150mV pk-pk max. (12V & 15V output versions)<br>100mV RMS max, 240mV pk-pk max. (24V output versions)<br>150mV RMS max, 480mV pk-pk max. (48V output versions)<br>measured with a 10µF tantalum & 1.0µF ceramic capacitor across the output |
| Temperature Coefficient            | ±0.03%/°C   |
| Short Circuit Protection           | Continuous  |
| Line Regulation                    | ±0.2% max. measured over the full input voltage   |
| Load Regulation                    | ±0.2% max. measured from 0-100% load  |
| Over Voltage Protection trip range | 115% ~ 140% of nominal output voltage   |
| Current Limit                      | 110% ~ 150% of nominal output current   |
| Star Up Time                       | 120ms typical   |
| Efficiency                         | See table   |
| Isolation Voltage                  | IP/OP, IP/Case, OP/Case: 1500VDC min  |
| Isolation Resistance               | 10 <sup>7</sup> ohms min.   |
| Isolation Capacitance              | 2000pF typical  |
| Switching Frequency                | 250KHz typical  |
| Operating Case Temperature         | -40°C to +100°C   |
| Storage Temperature                | -55°C to +105°C   |
| Thermal Shutdown, Case Temp.       | +110°C Typ.   |
| Humidity                           | 95% RH max. non-condensing  |
| Dimensions                         | 2.28 x 2.40 x 0.52 inches (57.9 x 61.0 x 13.2 mm)   |
| Weight                             | 114g  |
| Case Material                      | Aluminium baseplate with plastic case   |

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## Output Voltage and Current Ratings

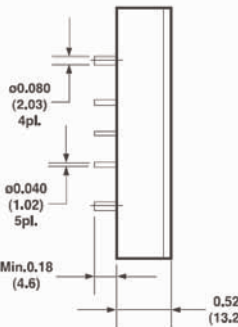
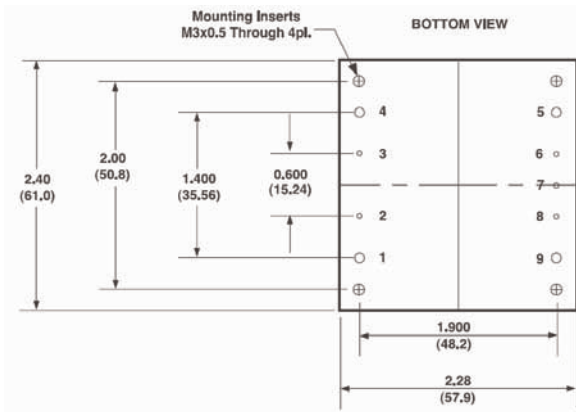
| MODEL         | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | INPUT CURRENT |           | % EFF. | CAPACITOR LOAD max. |
|---------------|---------------|----------------|----------------|---------------|-----------|--------|---------------------|
|               |               |                |                | NO LOAD       | FULL LOAD |        |                     |
| PS200W-24S3V3 | 10-36VDC      | 3.3VDC         | 50A            | 130mA         | 7.90A     | 87     | 10000µF             |
| PS200W-24S05  | 10-36VDC      | 5VDC           | 40A            | 150mA         | 9.58A     | 87     | 10000µF             |
| PS200W-24S12  | 10-36VDC      | 12VDC          | 16.7A          | 50mA          | 9.71A     | 86     | 2200µF              |
| PS200W-24S15  | 10-36VDC      | 15VDC          | 13.3A          | 50mA          | 9.56A     | 87     | 2200µF              |
| PS200W-24S24  | 10-36VDC      | 24VDC          | 8.3A           | 45mA          | 9.54A     | 87     | 2200µF              |
| PS200W-24S48  | 10-36VDC      | 48VDC          | 4.2A           | 60mA          | 9.77A     | 86     | 2200µF*             |
| PS200W-48S3V3 | 18-75VDC      | 3.3VDC         | 40A            | 80mA          | 3.13A     | 88     | 10000µF             |
| PS200W-48S05  | 18-75VDC      | 5VDC           | 40A            | 80mA          | 4.68A     | 89     | 10000µF             |
| PS200W-48S12  | 18-75VDC      | 12VDC          | 16.7A          | 60mA          | 4.74A     | 88     | 2200µF              |
| PS200W-48S15  | 18-75VDC      | 15VDC          | 13.3A          | 60mA          | 4.72A     | 88     | 2200µF              |
| PS200W-48S24  | 18-75VDC      | 24VDC          | 8.3A           | 60mA          | 4.72A     | 88     | 2200µF              |
| PS200W-48S48  | 18-75VDC      | 48VDC          | 4.2A           | 50mA          | 4.83A     | 87     | 2200µF*             |

### NOTES:

Nominal Input Voltage 24VDC or 48VDC

The output terminal of 48Vout models requires a minimum capacitor of 47µF to maintain specified regulation.

## Mechanical and Connection Details



All dimensions in inches (mm)

Tolerances Inches x.xx ±0.02

Millimeters x.x ±0.5

x.xxx ±0.010

x.xx ±0.25

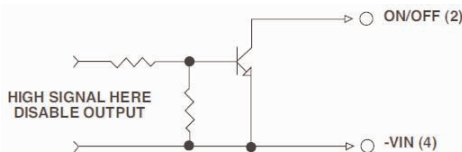
## Pin Connection

| Pin | Function |
|-----|----------|
| 1   | +Vin     |
| 2   | ON/OFF   |
| 3   | CASE     |
| 4   | -Vin     |
| 5   | -Vout    |
| 6   | -Sense   |
| 7   | Trim     |
| 8   | +Sense   |
| 9   | +Vout    |

## Remote ON/OFF Control

The PS200W Series allows the user to switch the module on and off electronically with the remote on/off feature.

The PS200W Series are available with "positive logic" or "negative logic" (option).

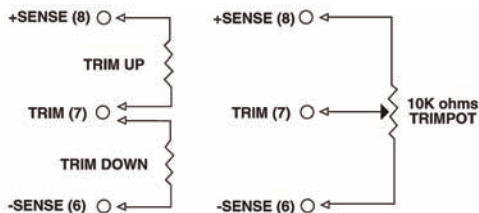


### Logic Table

| Logic State (Pin 2)     | Negative Logic | Positive Logic |
|-------------------------|----------------|----------------|
| Logic low-Switch closed | Module on      | Module off     |
| Logic high-Switch open  | Module off     | Module on      |

## External Output Trim

The output can be trimmed externally (±10%) using a fixed resistor or a trimpot as shown.



## Output Noise

The output noise is measured with a 10µF tantalum and a 1.0µF ceramic capacitor across the output.

