




**PS5R Standard Series
Switching Power Supplies**

Key features:

- Wide power range: 7.5W-240W
- Universal input :
7.5W-50W: 85-264V AC/105-370V DC
100W: 85-132V AC/170-264V AC
240-370V DC (selectable)
75W, 120W, 240W: 85-264V AC/110-350V DC
- Overcurrent/overvoltage protection
- Power Factor Correction (75W, 120W, 240W models)
EN61000-3-3
EN61000-3-2
- Voltage adjustment +10%
- Spring-up crew terminal, IP20 (finger-safe)
- DIN rail or panel surface mount
- Approvals:
CE marked
UL 508 Listed
c-UL
TÜV approved
EMC Directives:
EN50081-2
EN50082-2
EN61000-6-2
LVD EN60950:2000



Part Numbers

| Style | Watts | Rated Voltage | Rated Current | Part Number |
|---|-------|---------------|---------------|-------------|
|  | 7.5 | 5V DC | 1.5A | PS5R-A05 |
| | | 12V DC | 0.6A | PS5R-A12 |
| | | 24V DC | 0.3A | PS5R-A24 |
|  | 15 | 5V DC | 2.5A | PS5R-B05 |
| | | 12V DC | 1.2A | PS5R-B12 |
| | | 24V DC | 0.6A | PS5R-B24 |
|  | 30 | 12V DC | 2.5A | PS5R-C12 |
| | | 24V DC | 1.3A | PS5R-C24 |
|  | 50 | 24V DC | 2.1A | PS5R-D24 |

| Style | Watts | Rated Voltage | Rated Current | Part Number |
|--|-------|---------------|---------------|-------------|
|  | 75 | 24V DC | 3.1A | PS5R-Q24 |
|  | 100 | 24V DC | 4.2A | PS5R-E24 |
|  | 120 | 24V DC | 5A | PS5R-F24 |
|  | 240 | 24V DC | 10A | PS5R-G24 |

IO Touchscreens

PLCs

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Sensors

Communication

Barriers

Specifications

| Model | PS5R-A05 | PS5R-B05* | — | — | — | — | — | — | | |
|-------------------------------|---|---|------------------------------------|--------------------------|---|--------------------|--|---|--|--|
| | PS5R-A12 | PS5R-B12 | PS5R-C12 | — | — | — | — | — | | |
| | PS5R-A24 | PS5R-B24 | PS5R-C24 | PS5R-D24 | PS5R-Q24 | PS5R-E24 | PS5R-F24 | PS5R-G24 | | |
| Output Capacity | 7.5W | 15W | 30W | 50W | 75W | 100W | 120W | 240W | | |
| Input | Input Voltage (single-phase, 2-wire) | 100 to 240V AC nominal (85 to 264V AC), 50/60Hz (47 to 63Hz) 110 to 340V DC nominal (105 to 370V DC) | | | | | 100 to 120V AC, 50/60Hz 200 to 240V AC, 50/60Hz (jumper selectable) 240 to 370V DC | 100 to 240V AC, 50/60Hz, 110 to 340V DC | | |
| | Input Current (typical) | 0.17A at 100V AC | 0.3A at 100V AC | 0.68A at 100V AC | 1.15A at 100V AC | 1.1A at 100V AC | 2.5A at 100V AC 1.5A at 200V AC | 1.8A at 100V AC | 4A at 100V AC | |
| | Internal Fuse Rating | 2A | 2A | 3.15A | 3.15A | 3.15A | 4A | 4A | 6.3A | |
| | Inrush Current | 50A maximum (at cold start at 200V AC) | | | | | 70A maximum (at cold start at 230V AC) | 50A maximum (at cold start at 200V AC) | 70A maximum (at cold start at 230V AC) | |
| | Leakage Current (at no load) | 0.75mA maximum (60Hz, measured in conformance with UL, CSA, VDE) | | | | | | | | |
| | Typical Efficiency | 69% at 5V 75% at 12V 79% at 24V | | 75% at 12V 75% at 24V | 79% at 24V | 83% at 24V | 85% at 24V | 83% at 24V | | |
| | Oversvoltage Protection | Outputs turns off at 105% (typical) | | | | | | | | |
| Output | Voltage and Current Ratings | 5V, 1.5A 12V, 0.6A 24V, 0.3A | 5V, 2.5A 12V, 1.2A 24V, 0.6A | 12V, 2.5A 24V, 1.3A | 24V, 2.1A | 24V, 3.1A | 24V, 4.2A | 24V, 5A | 24V, 10A | |
| | Voltage Adjustments | ±10% (V.ADJ screw on top) | | | | | | | | |
| | Output Holding Time | 20ms minimum (at full rated input and output) | | | | | | | | |
| | Rise Time | 200ms maximum (at full rated input and output) | | | | | | | 150ms max. | |
| | Line Regulation | 0.4% maximum | | | | | | | | |
| | Load Regulation | 1.5% maximum | | | | | | | | |
| | Fluctuation due to Ambient Temperature Change | 0.05% maximum | | | | | | | | |
| | Ripple Voltage | 2% peak to peak maximum (including noise) | | | | | | | | |
| Overload Protection | 120% typical (Zener-limiting) | | | 120% typical, auto reset | | | | | | |
| Operation Indicator | LED (green) | | | | | | | | | |
| Parallel Operation Allowed | PS5R-A | PS5R-B | PS5R-C | PS5R-D | PS5R-Q | PS5R-E | PS5R-F | PS5R-G | | |
| | No | | | | Yes | No | Yes | | | |
| Dielectric Strength | Between input and output terminals: 3,000V AC, 1 minute Between input terminals and housing: 2,000V AC, 1 minute Between output terminal and housing: 500V AC, 1 minute | | | | | | | | | |
| Insulation Resistance | Between input and output terminals/input terminals and housing: 100MΩ minimum (500V DC megger) | | | | | | | | | |
| Operating Temperature | -10° to +60°C (14° to 140°F) (see derating curves) | | | | | | | | | |
| Storage Temperature | -30° to +85°C (-22° to 185°F) | | | | | | | | | |
| Operating Humidity | 20 to 90% relative humidity (no condensation) | | | | | | | | | |
| Vibration Resistance | 45m/s ² , 10 to 55Hz, 2 hours on each of 3 axes | | | | 10 to 50Hz, 0.75mm p-p, 2 hrs on each of 3 axes | | | | | |
| Shock Resistance | 300m/s ² (30G), 3 shocks in each of 6 directions | | | | | | | | | |
| Approvals | Conforms to EMC Directives EN50081-2 & EN50082-2. LVD Directive EN60529 — Certified to EN60950. UL508 listed. c-UL, TUV approved. CE marked. EN61000-3-2 | | | | | | | | | |
| Weight | 150g | 170g | 360g | 390g | 800g | 600g | 1200g | 2000g | | |
| Termination | Spring-up, fingersafe terminals with captive M3.5 screws | | | | | | | | | |
| IP protection | IP20 (finger safe) | | | | | | | | | |
| Dimensions H x W x D (mm) | 75 x 45 x 70 | 75 x 45 x 95 | 75 x 90 x 95 | 75 x 90 x 95 | 120 x 85 x 140 | 75 x 145 x 95 | 120 x 115 x 140 | 120 x 200 x 140 | | |
| Dimensions H x W x D (inches) | 2.95 x 1.77 x 2.76 | 2.95 x 1.77 x 3.74 | 2.95 x 3.54 x 3.74 | 2.95 x 3.54 x 3.74 | 4.72 x 3.35 x 5.52 | 2.95 x 5.71 x 3.74 | 4.72 x 4.53 x 5.52 | 4.72 x 7.87 x 5.51 | | |



1. For dimensions, see page 151. 3. *12.5W for 5VDC model.
2. For usage instructions, see page 150.

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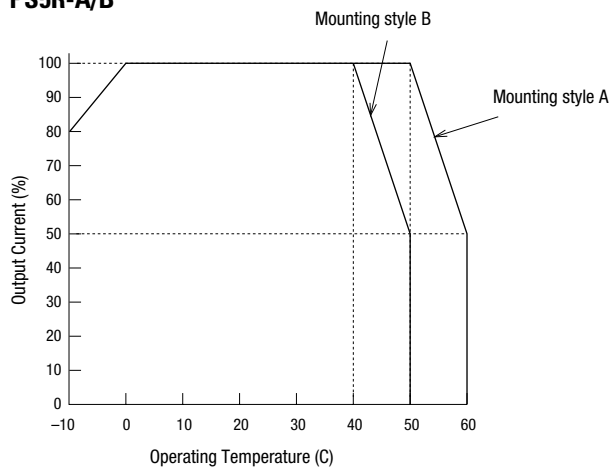
Sensors

Communication

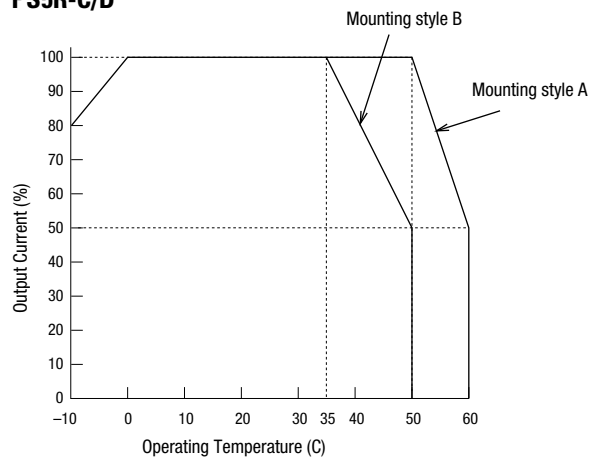
Barriers

Temperature Derating Curves

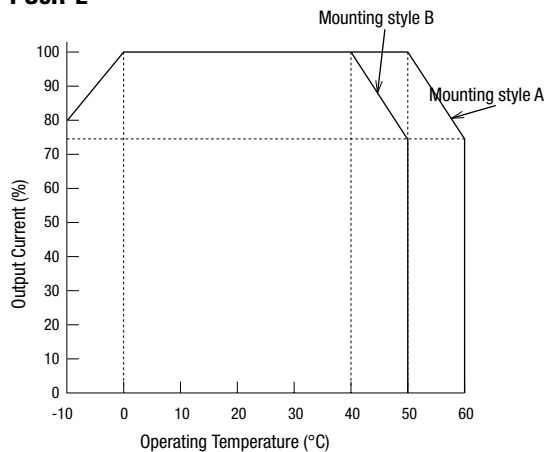
PS5R-A/B



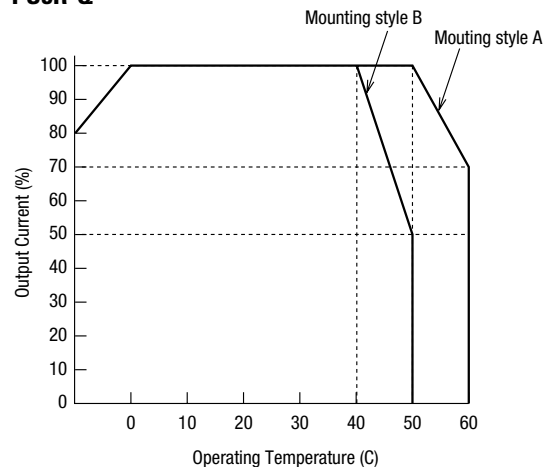
PS5R-C/D



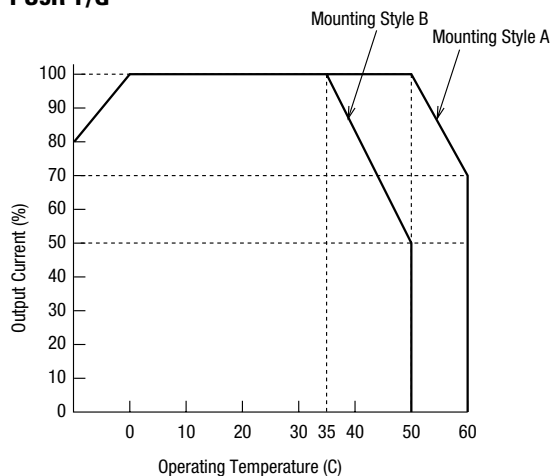
PS5R-E



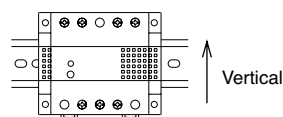
PS5R-Q



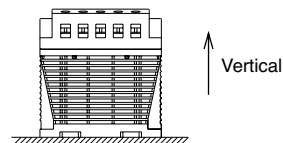
PS5R-F/G



A Mounting (standard)



B Mounting (Facing Upward)



OT Touchscreens

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Accessories

Part Numbers: PS5R Accessories

| Appearance | Description | Part Number |
|------------|-------------------|-------------|
| | DIN rail (1000mm) | BNDN1000 |
| | DIN rail end clip | BNL5 |

Installation Instructions

Time-Saving Spring-up Terminals

The innovative terminals on the PS5R series use a spring-loaded screw. This makes installation as easy as pushing down and turning with a screwdriver. Installation time is cut in half since the screws do not need to be backed out to install wiring. The screws are held captive once installed and are 100% finger-safe. Screw terminals accept bare wire or ring or fork connectors.

1. Insert the wire connector into the slot on the side of the power supply.



2. Using a flat head or Phillips screwdriver, push down and turn the screw.

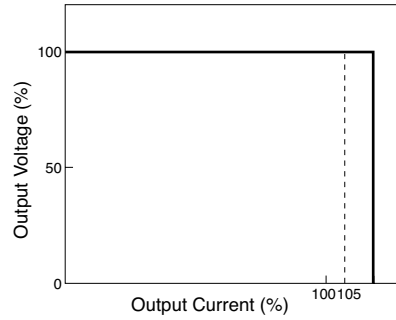
The wire is now connected, and the screw terminal is fingersafe!

Front Panel (terminals)

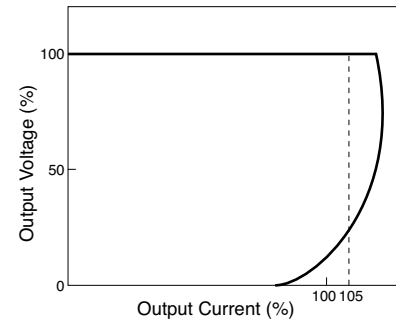
| Markings | Name | Description |
|----------|---------------------|--|
| V. ADJ | Voltage adjustment | Adjusts within $\pm 10\%$; turn clockwise to increase output voltage |
| DC ON | Operation indicator | Green LED is lit when output voltage is on |
| +V, -V | DC output terminals | +V: Positive output Terminal -V: Negative output terminal |
| | Frame ground | Ground this terminal to reduce high-frequency currents caused by switching |
| L, N | Input terminals | Accept a wide range of voltages and frequencies (no polarity at DC input) |
| NC | No connection | Do not insert wires here, as this may damage the power supply |

Overcurrent Protection Characteristics

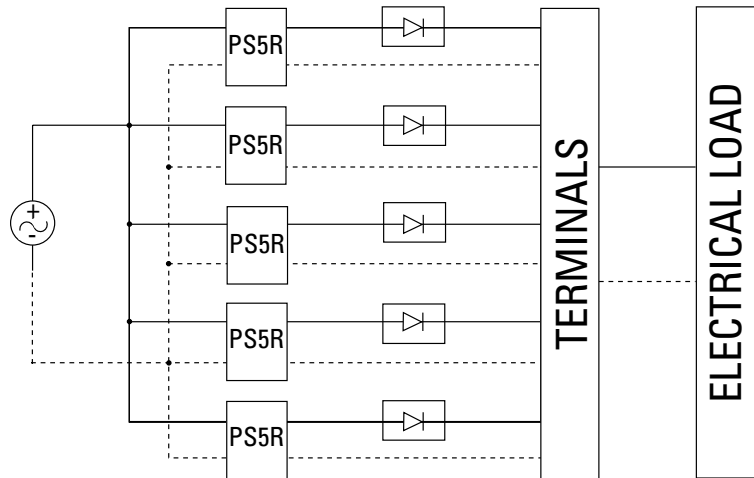
PS5R-A/B



PS5R-C/D/E



Parallel Operation



1. Parallel operation only recommended for PS5R-Q24, PS5R-F24 and PS5R-G24.
2. Factory recommended diode ST Microelectronics BYV54V-50, BYV54V-100, BYV54V-200, BYV541V-200 or with equivalent electrical specifications.
3. Using the voltage adjustment make sure out-voltage is the same for all power supplies.

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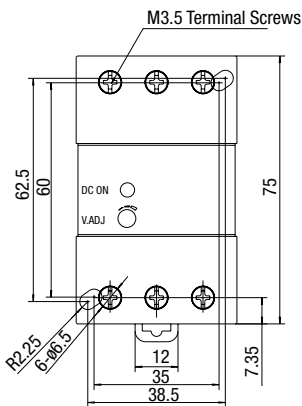
Sensors

Communication

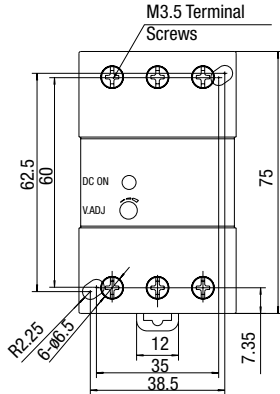
Barriers

Dimensions

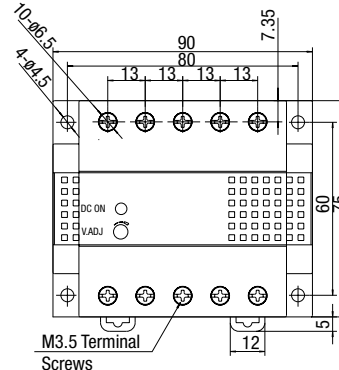
PS5R-A (7.5W)



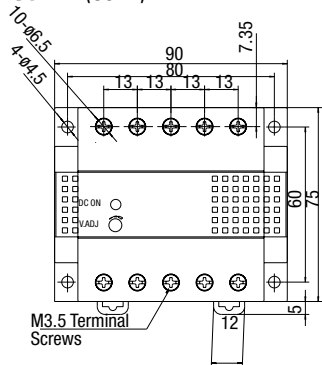
PS5R-B (15W)



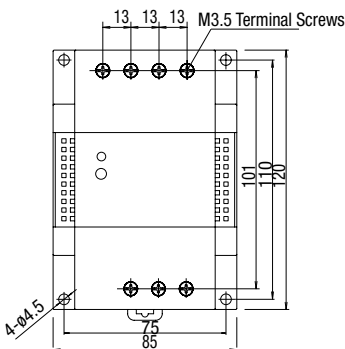
PS5R-C (30W)



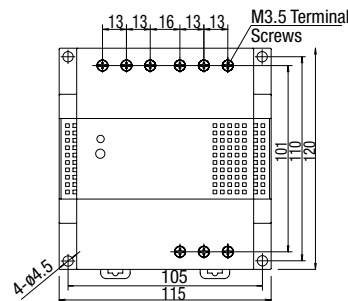
PS5R-D (50W)



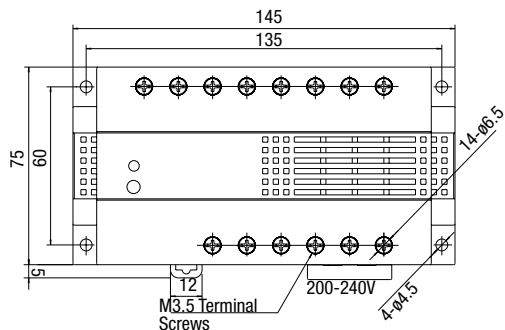
PS5R-Q (75W)



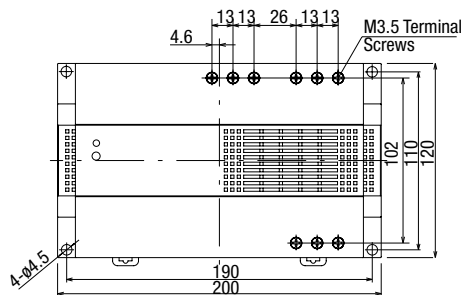
PS5R-F (120W)



PS5R-E (100W)

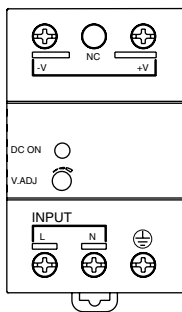


PS5R-G (240W)

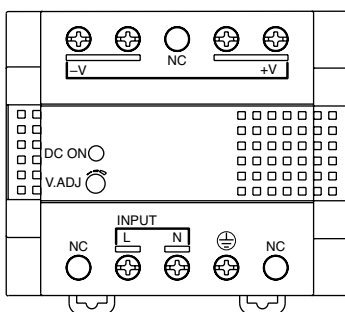


Terminal Markings

PS5R-A/B



PS5R-C/D/Q/F/G



PS5R-E

