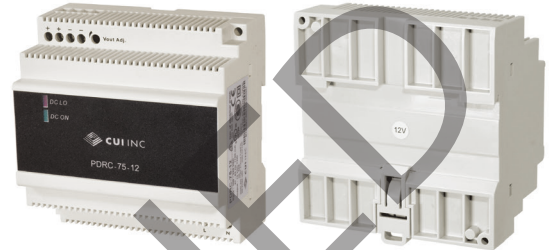


SERIES: PDRC-75 | **DESCRIPTION:** AC-DC DIN RAIL POWER SUPPLY

FEATURES

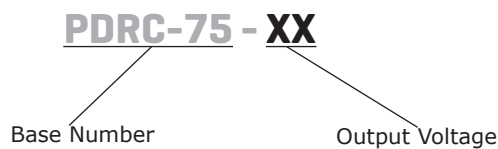
- low profile for building automation
- universal input (90~264 Vac)
- integrated fuse and surge protection
- 3,000 Vac input/output isolation voltage
- DC On/Low LED indicators
- over-voltage/current protection
- UL/cUL, TUV, CE certified



| MODEL | output voltage | output current | output power | ripple and noise ¹ | efficiency ² |
|---------------------------|----------------|----------------|--------------|-------------------------------|-------------------------|
| | (Vdc) | max (A) | max (W) | max (mVp-p) | typ (%) |
| PDRC-75-5 | 5 | 12.0 | 60 | 50 | 80 |
| PDRC-75-12 | 12 | 6.0 | 72 | 50 | 86 |
| PDRC-75-15 | 15 | 5.0 | 75 | 50 | 86 |
| PDRC-75-24 | 24 | 4.2 | 100 | 50 | 89 |
| PDRC-75-24-2 ³ | 24 | 3.8 | 91 | 50 | 89 |

Notes:

1. At full load, nominal input, 20 MHz bandwidth oscilloscope.
2. At nominal input.
3. Model PDRC-75-24-2 is UL 1310 certified.
4. 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 |
| | | 120 | | 375 | Vdc |
| frequency | | 47 | | 63 | Hz |
| current | at 90 Vac, full load | | | 1.5 | A |
| | 5 Vdc output model | | | 1.7 | A |
| | 12, 15 output model | | | 2.2 | A |
| inrush current | at 115 Vac, full load | | | 30 | A |
| | at 230 Vac, full load | | | 60 | A |
| leakage current | input to output | | | 0.25 | mA |

OUTPUT

| parameter | conditions/description | min | typ | max | units |
|---|---|------|-----|-------|-------|
| capacitive load | at Vi nom, full load | | | 3,500 | μF |
| initial set point accuracy | | | | ±1 | % |
| line regulation | at full load, V in min to V in max | | | ±1 | % |
| load regulation | at Vi nom, 0~100% load | | | ±1 | % |
| adjustability | via built in trim pot, 0.8 A load | | | | |
| | 5 Vdc output model | 5 | | 5.5 | Vdc |
| | 12 Vdc output model | 12 | | 14 | Vdc |
| | 15 Vdc output model | 13.5 | | 16.5 | Vdc |
| | 24 Vdc output model | 24 | | 28 | Vdc |
| rated continuous loading at max trim voltage | 24 Vdc output model (PDRC-75-24-2) | 20 | | 24.2 | Vdc |
| | 5 Vdc output model (5.5 Vdc) | | | 10.5 | A |
| | 12 Vdc output model (14.0 Vdc) | | | 5.1 | A |
| | 15 Vdc output model (16.5 Vdc) | | | 4.5 | A |
| | 24 Vdc output model (28.0 Vdc) | | | 3.6 | A |
| start-up time | 24 Vdc output model (PDRC-75-24-2) (24.2 Vdc) | | | 3.7 | A |
| | at Vi nom, full load | | | 1.0 | s |
| rise time | at Vi nom, full load with max capacitive load | | | 1.5 | s |
| | at Vi nom, full load | | | 150 | ms |
| hold-up time | at Vi nom, full load with max capacitive load | | | 500 | ms |
| | 5, 12 Vdc output models | | | | |
| | at 115 Vac, full load | 16 | | | ms |
| fall time | at 230 Vac, full load | 60 | | | ms |
| | 15, 24 Vdc output models | | | | |
| | at 115 Vac, full load | 12 | | | ms |
| transient recovery time | at 230 Vac, full load | 60 | | | ms |
| switching frequency | at Vi nom, full load | 35 | | 45 | kHz |
| temperature coefficient | | | | ±0.03 | %/°C |
| power back immunity | at Vi nom, full load, for 1 second | | | | |
| | 5 Vdc output model | 7.5 | | | Vdc |
| | 12 Vdc output model | 18 | | | Vdc |
| | 15 Vdc output model | 22 | | | Vdc |
| DC ON indicator threshold at start-up (GREEN) | 24 Vdc output model | 35 | | | Vdc |
| | 5 Vdc output model | 3.5 | | 4.5 | Vdc |
| | 12 Vdc output model | 9.0 | | 10.8 | Vdc |
| | 15 Vdc output model | 11.0 | | 13.5 | Vdc |
| DC LOW indicator threshold after start-up (RED) | 24 Vdc output model | 19.2 | | 21.6 | Vdc |
| | 5 Vdc output model | 3.5 | | 4.5 | Vdc |
| | 12 Vdc output model | 9.0 | | 10.8 | Vdc |
| | 15 Vdc output model | 11.0 | | 13.5 | Vdc |
| | 24 Vdc output model | 19.2 | | 21.6 | Vdc |

PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|--------------------------|-------------------------------------|------|-----|------|-------|
| over voltage protection | at Vi nom, full load, auto recovery | | | | |
| | 5 Vdc output model | 5.75 | | 6.5 | Vdc |
| | 12 Vdc output model | 15 | | 16.5 | Vdc |
| | 15 Vdc output model | 18 | | 20 | Vdc |
| | 24 Vdc output model | 30 | | 33 | Vdc |
| | 24 Vdc output model (PDRC-75-24-2) | 24.5 | | 25.5 | Vdc |
| over current protection | fold forward (see curve) | | | | |
| | 24 Vdc output model (PDRC-75-24-2) | 102 | | 108 | % |
| | all other models | 110 | | 150 | % |
| short circuit protection | fold forward | | | | |

SAFETY & COMPLIANCE

| parameter | conditions/description | min | typ | max | units |
|-------------------------------|--|-------|---------|-----|-------|
| isolation voltage | input to output for 1 minute | 3,000 | | | Vac |
| | | 4,242 | | | Vdc |
| isolation resistance | input to output at 500 Vdc | 100 | | | MΩ |
| safety approvals ⁵ | UL 508, UL 1310, UL/EN 62368-1 ISA 12.12.01 (Class I, Div 2, Groups A~D) | | | | |
| safety class | class I | | | | |
| EMI/EMC | EN 55032 Class B, EN 55024, ENV 50204, EN 61204-3, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-3, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11 | | | | |
| pollution degree | 2 | | | | |
| degree of protection | IP20 | | | | |
| MTBF | as per Bellcore Issue 6 at 40 °C, GB | | | | |
| | 5 Vdc output model | | 610,000 | | hours |
| | 12 Vdc output model | | 578,000 | | hours |
| | 15 Vdc output model | | 581,000 | | hours |
| | 24 Vdc output model | | 554,000 | | hours |
| | 24 Vdc output model (PDRC-75-24-2) | | 583,000 | | hours |
| RoHS | yes | | | | |

Notes: 5. Model PDRC-75-24-2 is only model that is UL 1310 certified.

6. 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 | -40 | | 71 | °C |
| storage temperature | | -40 | | 85 | °C |
| humidity | non-condensing | 20 | | 95 | % |
| altitude | IEC 60068-2-13 | | | 4,850 | m |
| vibration | meets IEC 60068-2-6 (Mounting on rail: 10~500 Hz, 2 G, along X,Y,Z axis, for 60 minutes on each axis) | | | | |
| shock | meets IEC 60068-2-27 (15 G, 11 ms, 3 axis, 6 faces, 3 times for each face) | | | | |

MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|------------------------|---|-----|-----|-----|-------|
| dimensions | 91.00 x 90.00 x 57.00 (3.58 x 3.54 x 2.24 inches) | | | | mm |
| material | plastic | | | | |
| weight | | | 380 | | g |
| cooling | natural convection | | | | |
| input/output connector | accepts 24~12 AWG wire | | | | |

MECHANICAL DRAWING

units: mm [inch]

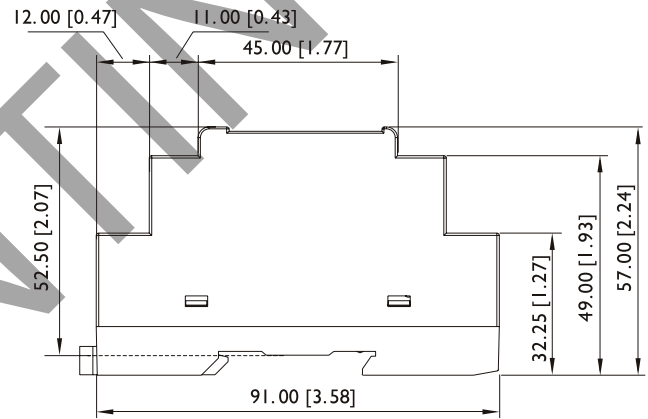
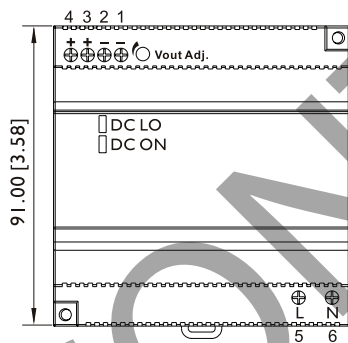
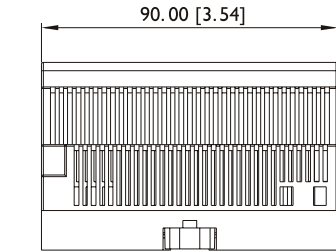
tolerance:

$X \leq 30.00$: ± 0.30 [± 0.01]

$30.00 < X \leq 120.00$: ± 0.50 [± 0.02]

unless otherwise noted

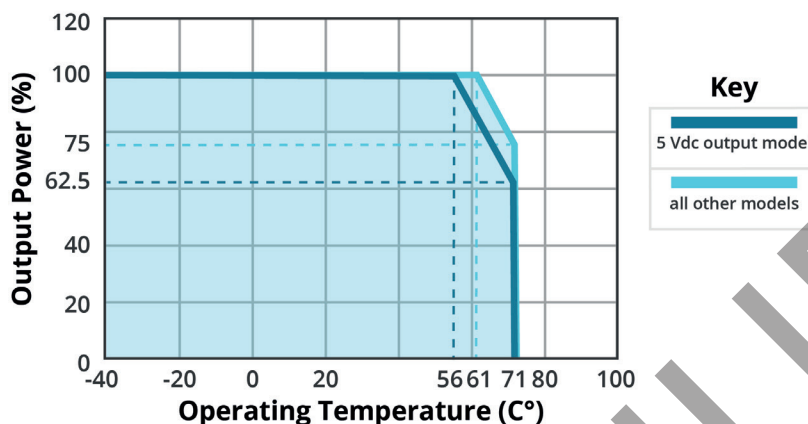
| TERMINAL CONNECTIONS | |
|----------------------|----------|
| TERMINAL | Function |
| 1 | V- |
| 2 | V- |
| 3 | V+ |
| 4 | V+ |
| 5 | L |
| 6 | N |



| INSTALLATION | |
|--------------|--|
| DIN RAIL | TS35/7.5 or TS35/15 |
| Cable | flexible/solid, copper conductors only, 60/75°C |
| Wire Range | 24~12 AWG (0.2~2.5 mm ²) |
| Strip Length | 7 mm |
| Screw Torque | 6 lb·in |
| Position | Vertical |
| Cooling | Natural convection, 25 mm clearance on all sides |

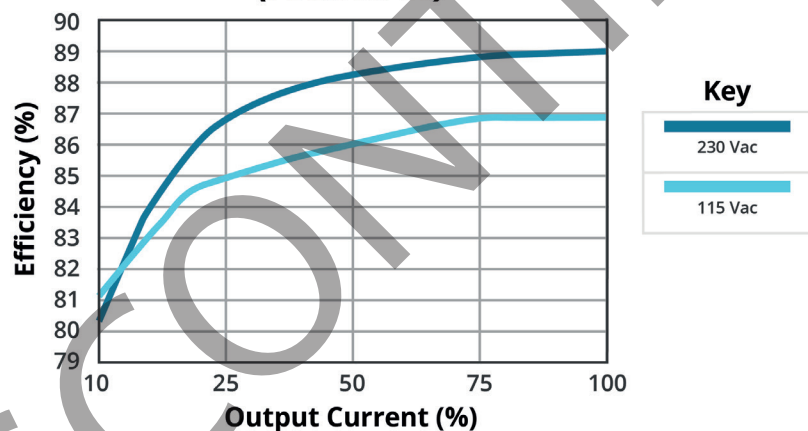
DERATING CURVES

TEMPERATURE DERATING CURVE



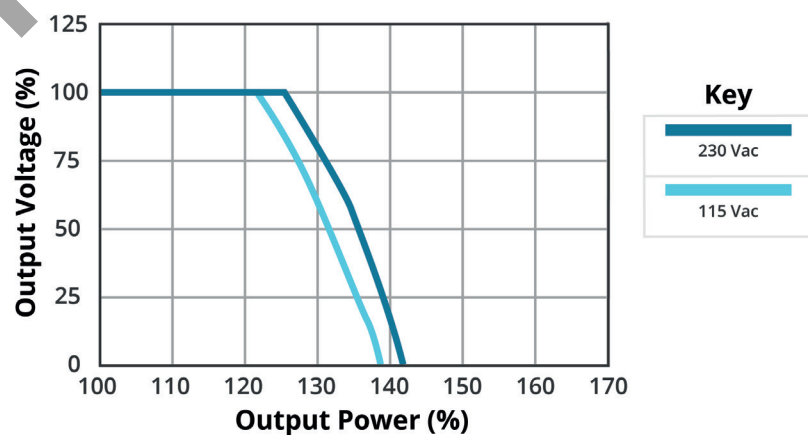
EFFICIENCY CURVES

EFFICIENCY VS OUTPUT LOAD (PDRC-75-24)



CURRENT LIMITED CURVE

TYPICAL OVER CURRENT PROTECTION CURVE (PDRC-75-24)



REVISION HISTORY

| rev. | description | date |
|------|--|------------|
| 1.0 | initial release | 06/17/2019 |
| 1.01 | updated safety certifications | 08/04/2020 |
| 1.02 | safety marks updated | 04/27/2021 |
| 1.03 | efficiency and derating curves updated | 02/21/2022 |

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



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a bel group

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CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

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