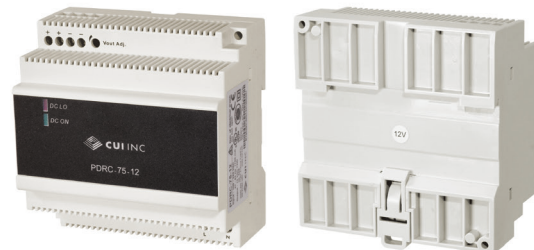




## SERIES: PDRC-75 | DESCRIPTION: AC-DC DIN RAIL POWER SUPPLY

### 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

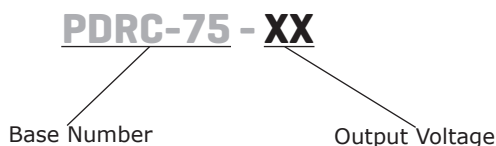


| MODEL                     | output voltage | output current | output power | ripple and noise <sup>1</sup> | efficiency <sup>2</sup> |
|---------------------------|----------------|----------------|--------------|-------------------------------|-------------------------|
|                           | (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 <sup>3</sup> | 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    |
|   | at 230 Vac, full load                         | 60   |     |       | ms    |
| fall time                                       | 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 <sup>5</sup> | UL 508, UL 1310, UL 60950-1, EN 60950-1<br>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,<br>EN 61204-3, EN 61000-3-2, EN 61000-3-3,<br>EN 61000-6-2, EN 61000-6-3, EN 61000-4-2,<br>EN 61000-4-3, EN 61000-4-4, EN 61000-4-5,<br>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

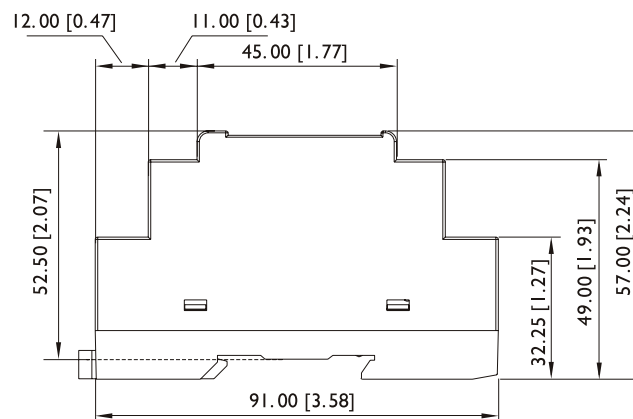
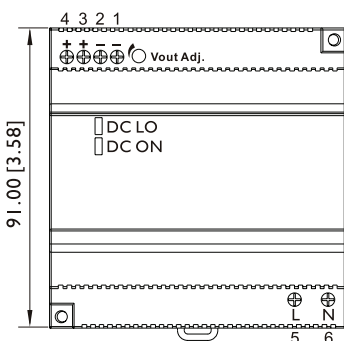
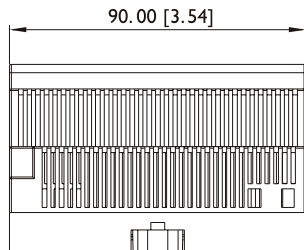
| parameter             | conditions/description  | min | typ | max   | units |
|-----------------------|---|-----|-----|-------|-------|
| operating temperature | see derating curves   | -40 |     | 71    | °C    |
| storage temperature   |   | -40 |     | 85    | °C    |
| humidity              | non-condensing  | 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

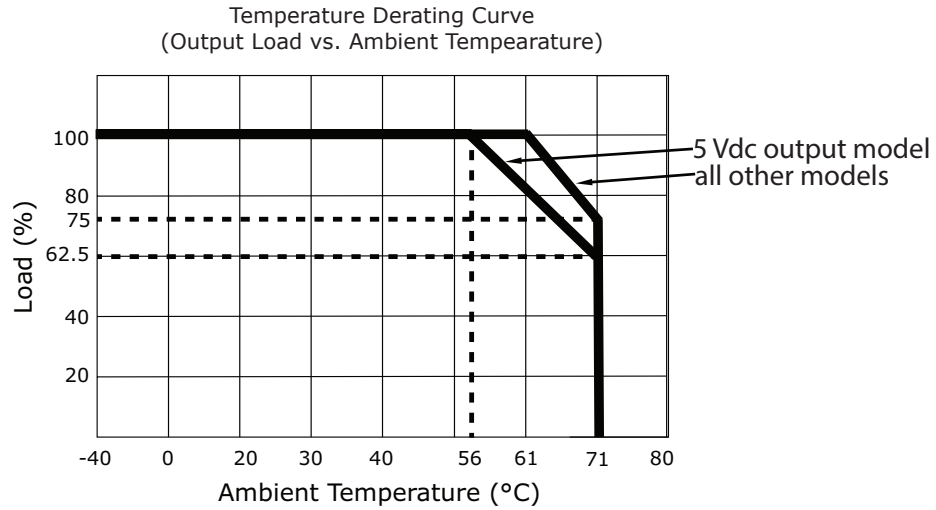
units: mm [inch]  
 tolerance:  
 X≤30.00: ±0.30 [±0.01]  
 30.00<X≤120.00: ±0.50 [±0.02]  
 unless otherwise noted



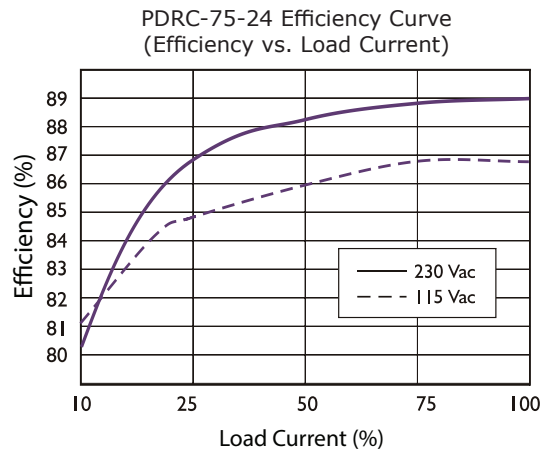
| TERMINAL CONNECTIONS |          |
|----------------------|----------|
| TERMINAL             | Function |
| 1                    | V-       |
| 2                    | V-       |
| 3                    | V+       |
| 4                    | V+       |
| 5                    | L        |
| 6                    | 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 <sup>2</sup> )             |
| Strip Length | 7 mm   |
| Screw Torque | 6 lb·in  |
| Position     | Vertical   |
| Cooling      | Natural convection, 25 mm clearance on all sides |

## DERATING CURVES

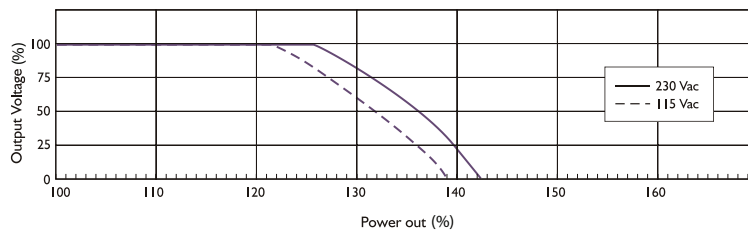


## EFFICIENCY CURVES



## CURRENT LIMITED CURVE

PDR-75-24 Typical Over Current Protection Curve  
(Output Voltage vs. Time)



## REVISION HISTORY

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| rev. | description     | date       |
|------|-----------------|------------|
| 1.0  | initial release | 06/17/2019 |

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



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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
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