



AC - DC DIN RAIL MOUNTABLE  
10W CLASS 2 POWER SUPPLY  
INDUSTRIAL CONTROL EQUIPMENT

## FEATURES

- UL / cUL / TUV / CE
- UNIVERSAL INPUT 90~265VAC
- HIGH EFFICIENCY UP TO 76%
- SHORT CIRCUIT PROTECTION
- INTERNAL INPUT FILTER
- 2 YEARS WARRANTY

## MODEL LIST

| MODEL NO.                   | INPUT VOLTAGE | OUTPUT WATTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | EFF. (typ.) | EFF. (min.) |
|-----------------------------|---------------|----------------|----------------|----------------|-------------|-------------|
| <b>Single Output Models</b> |               |                |                |                |             |             |
| DRA10-05                    | 90~265 VAC    | 10 WATTS       | + 5 VDC        | 2000 mA        | 73%         | 71%         |
| DRA10-12                    | 90~265 VAC    | 10 WATTS       | + 12 VDC       | 840 mA         | 75%         | 73%         |
| DRA10-15                    | 90~265 VAC    | 10 WATTS       | + 15 VDC       | 670 mA         | 76%         | 74%         |
| DRA10-24                    | 90~265 VAC    | 10 WATTS       | + 24 VDC       | 420 mA         | 76%         | 74%         |

## SPECIFICATION

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

### GENERAL

| Characteristics      | Conditions                        | min.  | typ.    | max. | unit   |
|----------------------|-----------------------------------|-------|---------|------|--------|
| Switching frequency  | Vi nom, Io nom                    | 100   |         |      | KHz    |
| Isolation voltage    | Input / Output                    | 3,000 |         |      | VAC    |
| Isolation resistance | Input / Output, @ 500VDC          | 100   |         |      | MΩ     |
| Ambient temperature  | Operating at Vinom, Io 70%...100% | -10   |         | + 50 | °C     |
| Derating             | Vi nom, Io nom +5I to +71°C       |       |         | 2    | % / °C |
| Storage temperature  | Non operational                   | -25   |         | + 85 | °C     |
| M.T.B.F.             | According to MIL-HDBK-217F, GF40  |       | 210,000 |      | Hrs    |
| Relative humidity    | Vi nom, Io nom                    | 20    |         | 95   | % RH   |
| Dimension            | L90 x W22.5 x D115                |       |         |      | mm     |
| Cooling              | Free air convection               |       |         |      |        |
| Case material        | Plastic                           |       |         |      |        |

### INPUT SPECIFICATIONS

| Characteristics     | Conditions                   | min.        | typ. | max. | unit |
|---------------------|------------------------------|-------------|------|------|------|
| Rated input voltage | Io nom                       | 100         |      | 240  | VAC  |
| Input voltage range | Ta min ... Ta max,<br>Io nom | AC in       |      | 265  | VAC  |
|                     |                              | DC in       | 120  |      | 370  |
| Line frequency      | Vi nom, Io nom               | 47          |      | 63   | Hz   |
| Inrush current      | Io nom                       | Vi : 115VAC |      | 10   | A    |
|                     |                              | Vi : 230VAC |      | 18   | A    |



**SPECIFICATION**

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

**OUTPUT SPECIFICATIONS**

| Characteristics                           | Conditions                 |                  | min.                      | typ. | max.   | unit   |
|---|----------------------------|------------------|---------------------------|------|--------|--------|
| Output voltage accuracy                   | Vi nom, lo min ...lo nom   |                  |                           |      | ± 1    | %      |
| Minimum load                              | Vi nom                     |                  | 0                         |      |        | %      |
| Line regulation                           | lo nom, Vi min ...Vi max   |                  |                           |      | ± 1    | %      |
| Load regulation                           | Vi nom, lo min ...lo nom   |                  |                           |      | ± 2    | %      |
| Transient recovery time                   | 50% load, step changed     |                  |                           | 300  |        | µS     |
| Temperature coefficient                   | Vi nom, lo min             |                  |                           |      | ± 0.02 | % / °C |
| Ripple & noise                            | Vi nom, lo nom, BW = 20MHz |                  |                           |      | 50     | mV     |
| Hold up time                              | lo nom                     | Vi = 115VAC      | 25                        |      |        | ms     |
|   |                            | Vi = 230VAC      | 100                       |      |        | ms     |
| Voltage trim range                        | Vi nom, lo nom             | 5V ...15V models | - 10                      |      | + 15   | %      |
|   |                            | 24V model        | - 10                      |      | + 20   | %      |
| DC ON indicator threshold at start up     | Vi nom, lo nom             | 5V model         | 4.5                       |      |        | VDC    |
|   |                            | 12V model        | 10.8                      |      |        | VDC    |
|   |                            | 15V model        | 13.5                      |      |        | VDC    |
|   |                            | 24V model        | 21.6                      |      |        | VDC    |
| DC LOW indicator threshold after start up | Vi nom, lo nom             | 5V model         | 3.75                      |      | 4.5    | VDC    |
|   |                            | 12V model        | 9                         |      | 10.8   | VDC    |
|   |                            | 15V model        | 11.25                     |      | 13.5   | VDC    |
|   |                            | 24V model        | 18                        |      | 21.6   | VDC    |
| Efficiency                                | Vi nom, lo nom, Po / Pi    |                  | Up to 76%, See model list |      |        |        |

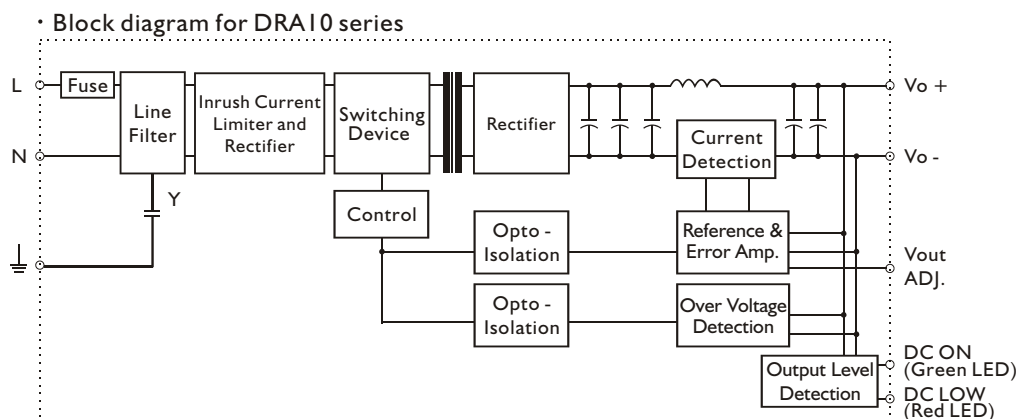
**CONTROL AND PROTECTION**

| Characteristics            | Conditions     | min.                  | typ. | max. | unit |
|----------------------------|----------------|-----------------------|------|------|------|
| Input fuse                 |                | T2A / 250VAC internal |      |      |      |
| Rated over load protection | Vi nom         | 110                   |      | 135  | %    |
| Over voltage protection    | Vi nom, lo nom | 125                   |      | 145  | %    |
| Output short circuit       | Vi nom, lo nom | Hiccup mode           |      |      |      |

**APPROVALS AND STANDARDS**

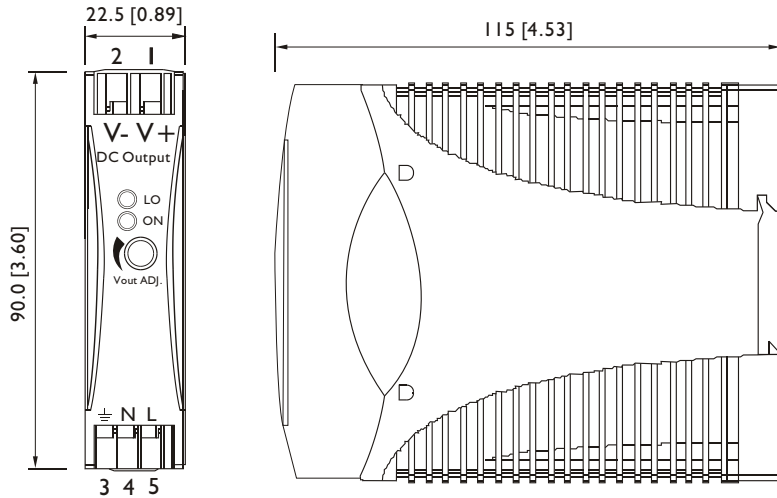
|          |   |
|----------|---|
| UL / cUL | UL508 / UL1310 Listed, Class 2 Power Supply |
| TUV      | EN60950                                     |
| CE       | EN50081-1 / EN55022 for EMI                 |
|          | EN50082-1 / EN55024 for EMS                 |
| FCC      | Class B                                     |

**CIRCUIT SCHEMATIC**



## MECHANISM & PIN CONFIGURATION

mm [inch]



### CONSTRUCTION

Easy snap-on mounting onto the DIN-Rail (TS35/7.5 or TS35/15), unit sits safely and firmly on the rail; no tools required even to remove

### INSTALLATION

Ventilation / Cooling  
Normal convection  
Above/below 25m/m free space  
For cooling recommended  
Connector size range  
Solid: 0.2-2.0mm<sup>2</sup> (AWG24-14)  
(use copper conductors only)

## PHYSICAL CHARACTERISTICS

|               |   |
|---------------|---|
| CASE SIZE     | 90 x 22.5 x 115 mm 3.6 x 0.89 x 4.53 inches |
| CASE MATERIAL | Plastic                                     |
| WEIGHT        | 120 g                                       |

## PIN ASSIGNMENT

| PIN NO. |       | Designation | Description  |
|---------|-------|-------------|--|
| 1       | OUT   | V +         | Positive output terminal                                     |
| 2       |       | V -         | Negative output terminal                                     |
| 3       | IN    | ⊥           | Ground this terminal to minimize high-frequency emissions    |
| 4       |       | N           | Input terminals (neutral conductor, no polarity at DC input) |
| 5       |       | L           | Input terminals (phase conductor, no polarity at DC input)   |
|         | OTHER | ON          | Operation indicator LED                                      |
|         |       | LO          | DC LOW indicator LED   |
|         |       | Vout ADJ.   | Trimmer- potentiometer for Vout adjustment                   |

## DERATING

