

**SERIES: VDRS-60 | DESCRIPTION: AC-DC DIN RAIL**
**FEATURES**

- 60 W continuous power
- DIN Rail power supplies
- universal input (88-264 Vac / 124-370 Vdc)
- single output from 12 to 48 V
- over voltage, over load, over temperature, and short circuit protections
- UL1310, UL 508, and TUV safety approvals
- long life electrolytic capacitors
- efficiency up to 88%



| <b>MODEL</b> | <b>output voltage</b><br>(Vdc) | <b>output current max</b><br>(A) | <b>output power max</b><br>(W) | <b>ripple and noise<sup>1</sup> max</b><br>(mVp-p) | <b>efficiency</b><br>(%) |
|--------------|--------------------------------|----------------------------------|--------------------------------|----------------------------------------------------|--------------------------|
| VDRS-60-12   | 12                             | 5                                | 60                             | 100                                                | 86                       |
| VDRS-60-15   | 15                             | 4                                | 60                             | 100                                                | 87                       |
| VDRS-60-24   | 24                             | 2.5                              | 60                             | 120                                                | 87                       |
| VDRS-60-48   | 48                             | 1.25                             | 60                             | 180                                                | 88                       |

Note:

1. at full load, 230 Vac input, measured at 20MHz bandwidth with a 47  $\mu$ F and 0.1  $\mu$ F parallel cap on the output
**PART NUMBER KEY**
**VDRS - 60 - XX**

Base Number

Output Voltage

**INPUT**

| parameter      | conditions/description | min | typ | max | units |
|----------------|------------------------|-----|-----|-----|-------|
| voltage        |                        | 88  |     | 264 | Vac   |
|                |                        | 124 |     | 370 | Vdc   |
| frequency      |                        | 47  |     | 63  | Hz    |
| current        | 115 Vac                |     |     | 1.3 | A     |
|                | 230 Vac                |     |     | 0.6 | A     |
| inrush current | 115 Vac, cold start    |     |     | 30  | A     |
|                | 230 Vac                |     |     | 60  | A     |

**OUTPUT**

| parameter               | conditions/description            | min | typ   | max | units |
|-------------------------|-----------------------------------|-----|-------|-----|-------|
| line regulation         |                                   |     |       | ±1  | %     |
| load regulation         |                                   |     |       | ±1  | %     |
| temperature coefficient | (0 ~ 50°C)                        |     | ±0.03 |     | %/°C  |
| hold-up time            | at 115 Vac, cold start            | 16  |       |     | ms    |
|                         | at 230 Vac, cold start            | 32  |       |     | ms    |
| adjustability           | adjustable with built-in trim pot |     |       | ±10 | %     |

**PROTECTIONS**

| parameter                | conditions/description                                                             | min | typ | max | units |
|--------------------------|------------------------------------------------------------------------------------|-----|-----|-----|-------|
| over voltage protection  | latch-off mode                                                                     | 115 |     | 150 | %     |
| over load protection     | constant current limiting, automatically recovers after fault condition is removed | 102 |     |     | %     |
| short circuit protection | output shut down and auto restart                                                  |     |     |     |       |

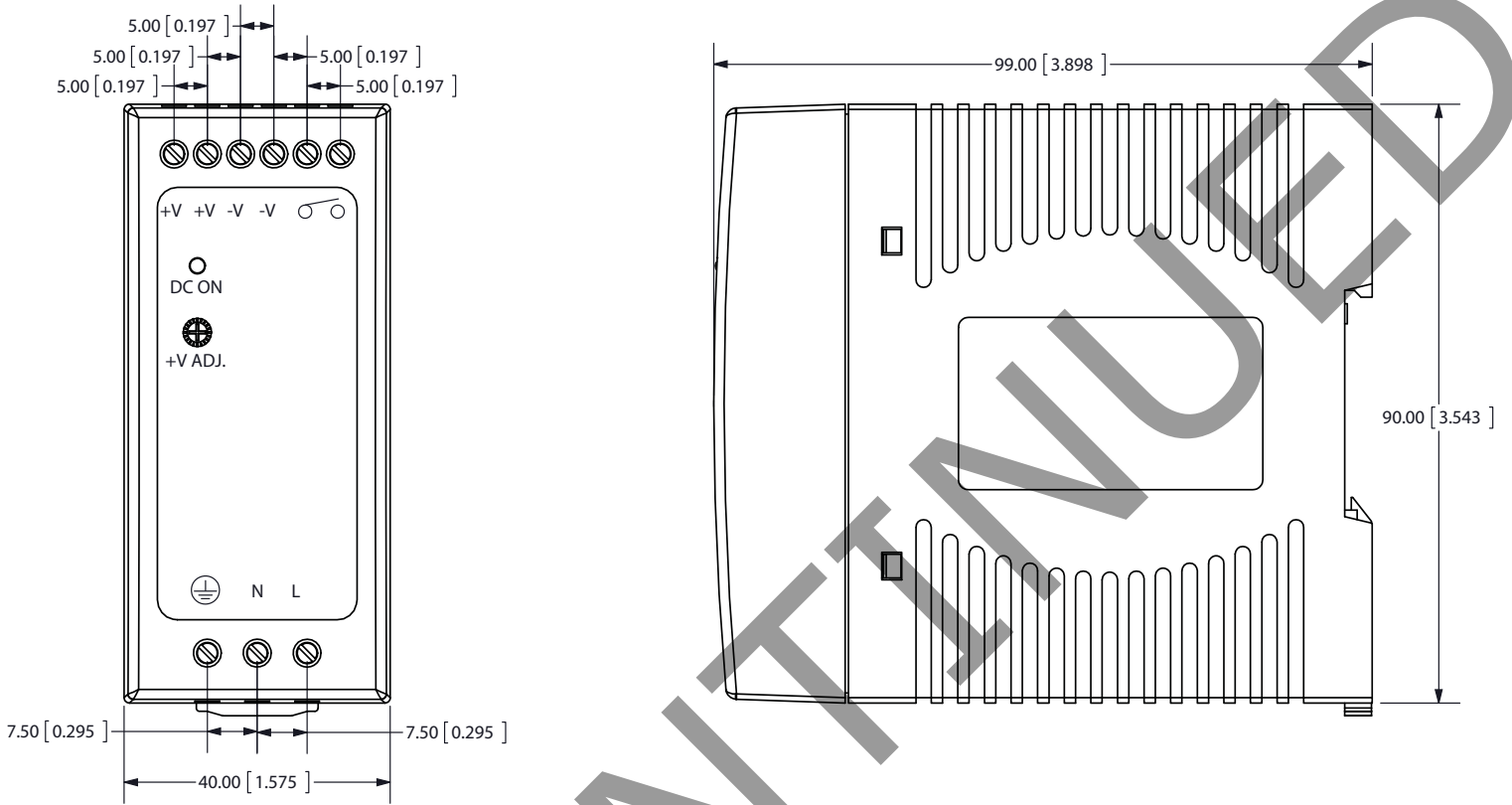
**SAFETY & COMPLIANCE**

| parameter            | conditions/description                                                                                                                                   | min | typ | max   | units |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-------|-------|
| isolation voltage    | input to output for 1 minute                                                                                                                             |     |     | 3,000 | Vac   |
|                      | input to case for 1 minute                                                                                                                               |     |     | 1,500 | Vac   |
| isolation resistance | input to output, input to case, output to case, 500 Vdc                                                                                                  | 100 |     |       | MΩ    |
| safety approvals     | UL 508, TUV EN60950-1, UL1310 NEC class 2 compliant                                                                                                      |     |     |       |       |
| EMI/EMC              | EN55022 : 2006(Class B), EN61204-3: 2000, EN61000-6-3: 2007, EN61000-3-2,3 :2006, EN55024, EN61204-3: 2000, EN61000-6-1: 2007 (EN61000-4-2,3,4,5,6,8,11) |     |     |       |       |
| leakage current      |                                                                                                                                                          |     |     | 1     | mA    |
| RoHS compliant       | yes                                                                                                                                                      |     |     |       |       |

**ENVIRONMENTAL**

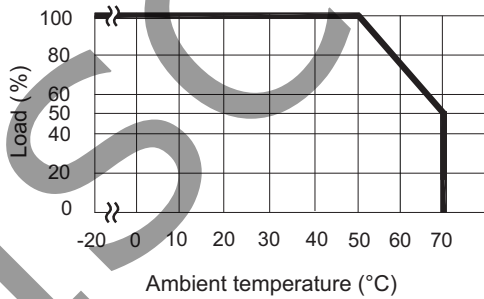
| parameter             | conditions/description                        | min | typ | max | units |
|-----------------------|-----------------------------------------------|-----|-----|-----|-------|
| operating temperature |                                               | -20 |     | 70  | °C    |
| storage temperature   |                                               | -40 |     | 85  | °C    |
| operating humidity    | non-condensing                                | 20  |     | 90  | %     |
| storage humidity      |                                               | 10  |     | 95  | %     |
| vibration             | (10 ~ 500 Hz, 1 hour per axis, 3 hours total) |     | 5   |     | Grms  |

## MECHANICAL DRAWING

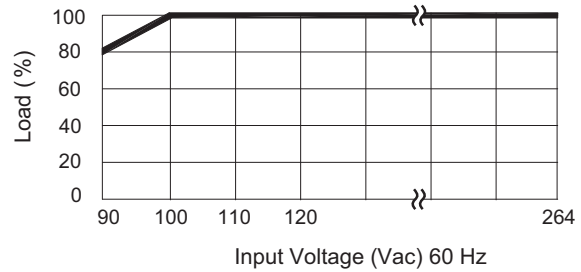


## DERATING CURVE

Output power vs. Ambient temperature



Output power vs. Input Voltage



## ACTIVE DC SIGNAL - RELAY CONTACT

|                       |                                                             |
|-----------------------|-------------------------------------------------------------|
| Contact Close         | When the output voltage reaches the adjusted output voltage |
| Contact Open          | When the output voltage drops below 90%                     |
| Contact Ratings (MAX) | 30 V / 1 A resistive load                                   |

## REVISION HISTORY

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| rev. | description                 | date       |
|------|-----------------------------|------------|
| 1.0  | initial release             | 06/03/2010 |
| 1.01 | new template applied        | 08/19/2011 |
| 1.02 | V-Infinity branding removed | 08/23/2012 |

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



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