

**SERIES:** VDRS-40 | **DESCRIPTION:** AC-DC DIN RAIL

**FEATURES**

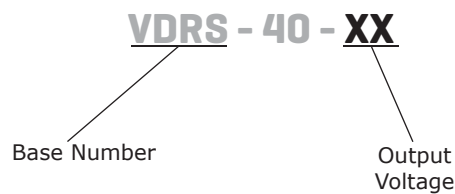
- up to 41 W continuous power
- DIN Rail power supplies
- universal input (88-264 Vac / 124-370 Vdc)
- single output from 12 to 48 V
- over voltage, over load, over temperature, and short circuit protections
- UL1310, UL 508, and TUV safety approvals
- long life electrolytic capacitors
- efficiency up to 85%



| MODEL      | output voltage | output current max | output power max | ripple and noise <sup>1</sup> max | efficiency |
|------------|----------------|--------------------|------------------|-----------------------------------|------------|
|            | (Vdc)          | (A)                | (W)              | (mVp-p)                           | (%)        |
| VDRS-40-12 | 12             | 3.4                | 40.8             | 100                               | 84         |
| VDRS-40-15 | 15             | 2.7                | 40.5             | 100                               | 84         |
| VDRS-40-24 | 24             | 1.7                | 40.8             | 120                               | 84         |
| VDRS-40-48 | 48             | 0.85               | 40.8             | 180                               | 85         |

Note:  
1. at full load, 230 Vac input, measured at 20MHz bandwidth with a 47 µF and 0.1 µF parallel cap on the output

**PART NUMBER KEY**



## INPUT

| parameter      | conditions/description | min | typ | max | units |
|----------------|------------------------|-----|-----|-----|-------|
| voltage        |                        | 88  |     | 264 | Vac   |
|                |                        | 124 |     | 370 | Vdc   |
| frequency      |                        | 47  |     | 63  | Hz    |
| current        | 115 Vac                |     |     | 0.8 | A     |
|                | 230 Vac                |     |     | 0.4 | 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  |     |     |     |       |

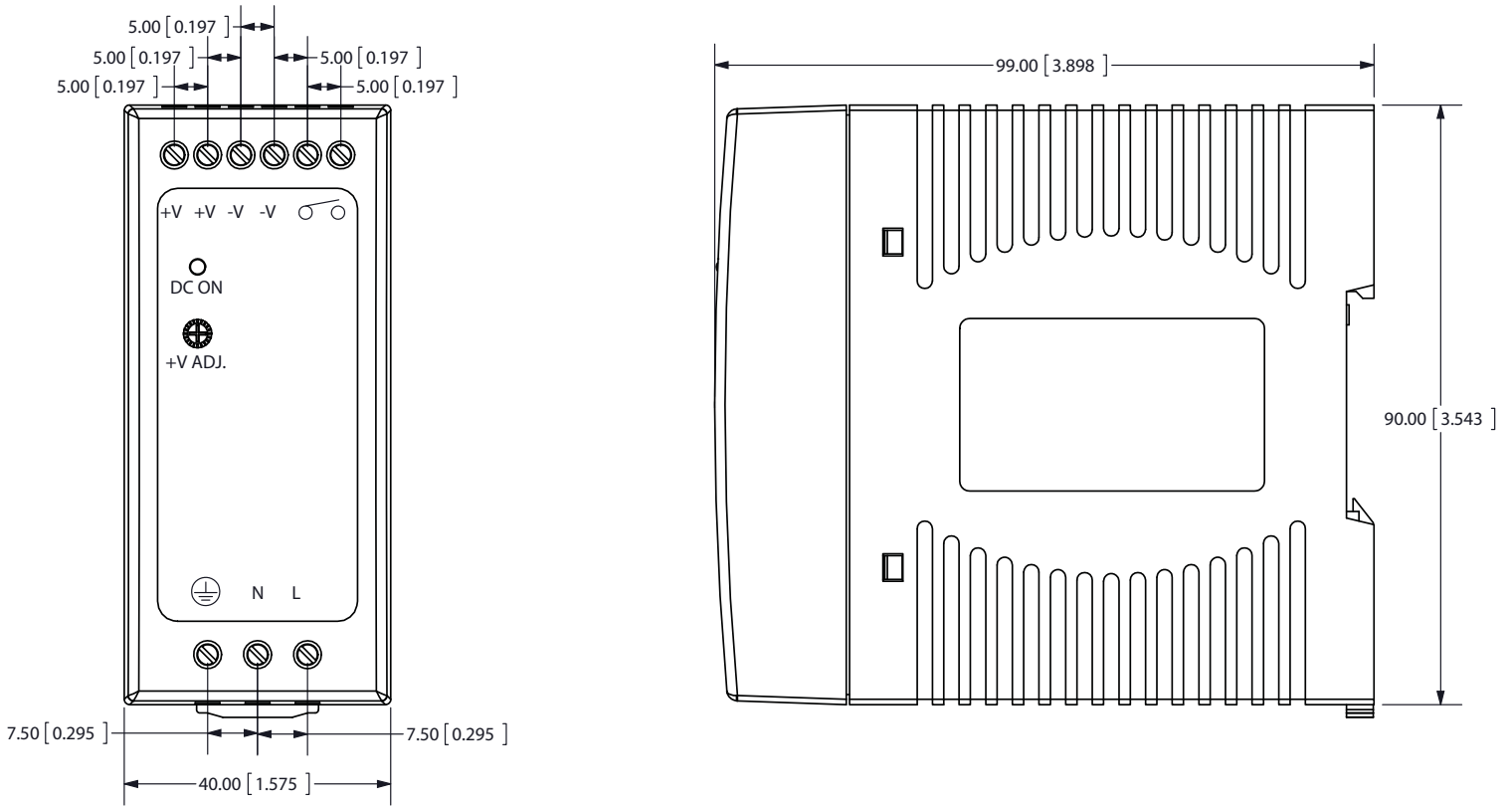
## SAFETY & COMPLIANCE

| 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

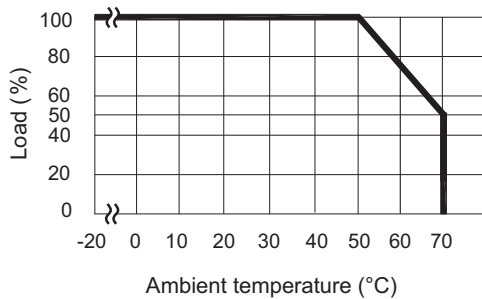
| parameter             | conditions/description                        | min | typ | max | units |
|-----------------------|---|-----|-----|-----|-------|
| operating temperature |   | -20 |     | 70  | °C    |
| storage temperature   |   | -40 |     | 85  | °C    |
| operating humidity    | non-condensing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

## MECHANICAL DRAWING

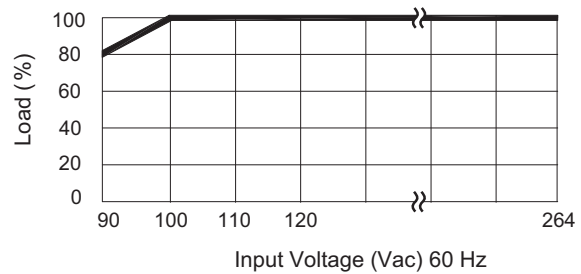


## DERATING CURVE

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

---

| rev. | description                 | date       |
|------|-----------------------------|------------|
| 1.0  | initial release             | 06/03/2010 |
| 1.01 | new template applied        | 08/18/2011 |
| 1.02 | V-Infinity branding removed | 08/23/2012 |

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



**CUI INC**<sup>®</sup>

**Headquarters**  
20050 SW 112th Ave.  
Tualatin, OR 97062  
**800.275.4899**

Fax 503.612.2383  
**cui.com**  
techsupport@cui.com

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

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.