NEW

RTD Input DIN Rail Signal Conditioners

DRSL-RTD

1 YEAR WARRANTY

DRSL-RTD-ISO DIN rail signal conditioner and DRSL-PWR-RAIL power rail (sold separately) shown actual size.

- **DRSL-RTD Non-Isolated and DRSL-RTD-ISO Isolated Models**
- **2, 3 or 4-Wire Pt100 RTD Input**
- **Pre-Calibrated Temperature Ranges Selectable via Dip-Switches**
- **Slimline Housing— Only 6 mm (0.24") Wide**
- **High Accuracy**
- **Fast Response Time <30 ms/300 ms (Selectable)**
- **Excellent EMC Performance and 50/60 Hz Noise Suppression**

The DRSL-RTD Series RTD input DIN rail signal conditioners provide a competitive choice in terms of both price and technology for interfacing RTD inputs to SCADA systems or PLC equipment. The DRSL-RTD and DRSL-RTD-ISO can be used for signal conversion of 2, 3 or 4-wire Pt100 RTD inputs into unipolar analog signals. The DRSL-RTD-ISO isolated model offers 3-way isolation between input, output and supply and provides surge suppression and protects control systems from transients and noise. Low power consumption facilitates DIN rail mounting without the need for any air gap. Easy configuration of more than 1000 factory calibrated measurement ranges is done via DIP-switches. The unit operates over a wide temperature range from -25 to 70°C (-13 to 158°F).

SPECIFICATIONS

INPUT

Input Type: 2, 3, or 4-wire Pt100 RTD

Temperature Range: -200 to 850°C (-328 to 1562°F)

Sensor Current, RTD: <150 µA

Sensor Cable Specifications: 50 Ω per wire or 50 nF

Effect of Sensor Cable Resistance (3 or 4-wire RTD): <0.002 Ω/Ω

Broken Sensor Detection: >800 Ω

Shorted Sensor Detection: <18 Ω

OUTPUT

Current Output

Programmable Signal Ranges: 0 to 20 mA and 4 to 20 mA

Range Limits (NAMUR NE43 Out of Range): Below 3.8 mA or above 20.5 mA for 4 to 20 mA output; 0 mA or above 20.5 mA for 0 to 20 mA output

Sensor Error Detection (Dip Switch Selectable for Enable or None): Below 3.5 mA or above 23 mA for 4 to 20 mA output; 0 mA or above 23 mA for 0 to 20 mA output

Incorrect DIP-Switch Setting Identification: Below 3.5 mA or above 23 mA for 4 to 20 mA output; 0 mA or above 23 mA for 0 to 20 mA output

Output Error Level: DIP switch selectable for upscale or downscale

Load: 21 mA/600Ω /12.6V max

Load Stability: ≤0.01% of span/100Ω

Voltage Output

Programmable Signal Ranges: 0 to 10 V, 2 to 10 V, 0 to 5 V and 1 to 5 V

Range Limits (Out of Range): Range ±2.5%

Sensor Error Detection (Dip Switch Selectable for Enable or None): 0V or selected range + 10%

Incorrect DIP-Switch Setting Identification: 0V

Output Error Level: DIP switch selectable for upscale or downscale

Load: >10 kΩ min

GENERAL

Supply Voltage

DRSL-RTD: 16.8 to 31.2 Vdc via connectors

DRSL-RTD-ISO: 16.8 to 31.2 Vdc via power rail or connectors

Power Consumption: 0.7 W max

Internal Consumption: 0.65 W max

Isolation (DRSL-RTD-ISO Only): Input/output/supply

Isolation Voltage, Test (DRSL-RTD-ISO Only): 2.5 kVac (reinforced)

Isolation Voltage, Working (DRSL-RTD-ISO Only): 300 Vac

Status LED: Green LED indicates operational status of the unit and input sensor

Normal Operation: Flashes for 15 ms at 13 Hz rate

Sensor Error: Flashes for 15 ms at 1 Hz rate

Incorrect DIP Switch Setting: flashes for 500 ms at 1 Hz rate

Hardware Failure: LED off

Signal/Noise Ratio: >60 dB

Response Time (0 to 90%, 100 to 10%): <30 ms/300 ms (selectable, provides either fast response or signal dampening as needed)

Accuracy

DRSL-RTD: Better than 0.2°C or ±0.1% of selected input range

DRSL-RTD-ISO: Better than 0.1°C or ±0.05% of selected input range

Temperature Coefficient: ≤±0.02°C/°C

EMC Immunity Influence: <±0.5% of span

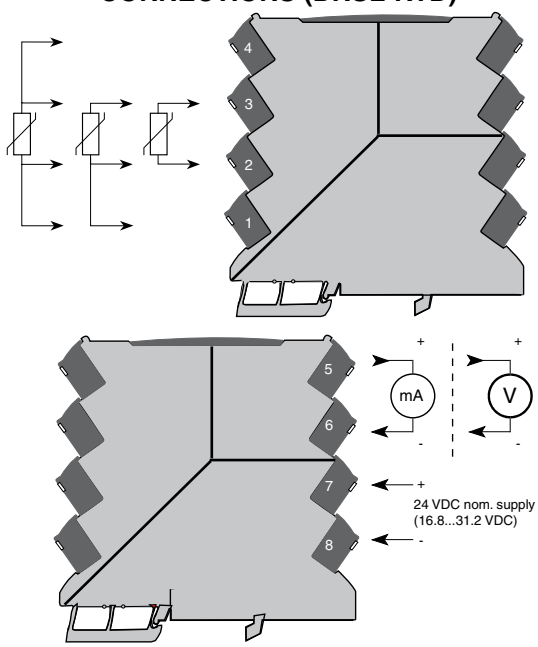
Extended EMC Immunity
NAMUR NE 21, A Criterion, Burst: <±1% of span (span = selected input range)

ENVIRONMENTAL
Operating Temperature: -25 to 70°C (-13 to 158°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Calibration Temperature: 20 to 28°C (68 to 82°F)
Relative Humidity: 0 to 95% RH non-condensing
Protection Degree: IP20
Installation Area: Pollution degree 2 and measurement/overvoltage category II

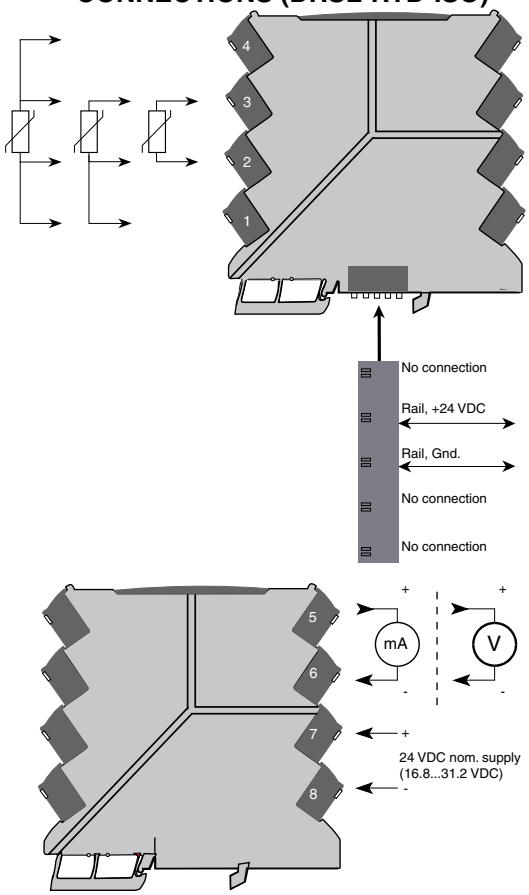
MECHANICAL
Dimensions: 113 H x 6.1 W x 115 mm D (4.4 x 0.24 x 4.5")
Weight: 70 g (0.15 lb) approx

DIN Rail Type: DIN EN 60715 - 35 mm
Wire Size: 0.13 x 2.5 mm²/ AWG 26 to 12 stranded wire
Screw Terminal Torque: 0.5 Nm

CONNECTIONS (DRSL-RTD)



CONNECTIONS (DRSL-RTD-ISO)



OMEGACARE℠ Extended Warranty Program

OMEGACARE℠ extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE℠ covers parts, labor and equivalent loaners.

To Order

Model No.	Description
DRSL-RTD	Non-isolated RTD input DIN rail signal conditioner
DRSL-RTD-ISO	Isolated RTD input DIN rail signal conditioner

Accessories

Model No.	Description
DRSL-PWR-RAIL	Power rail (with cover and two end covers, one right hand and one left hand), 1 m (3.3') length for use with DRSL-RTD-ISO only
DRSL-PCU	Power connector unit, 24 Vdc/2.5 A output to power rail for use with DRSL-RTD-ISO only
DRSL-MOD-STOP	Module stop (screwed onto power rail to support and hold mounted devices)

***Ordering Example: DRSL-RTD-ISO** isolated RTD input DIN rail signal conditioner, **DRSL-PWR-RAIL** power rail, **DRSL-PCU** power connector unit, **DRSL-MOD-STOP** module stop and **OCW-1,** OMEGACARE℠ extends standard 1-year warranty to a total of 2 years.*