

DRC-8900 Series

DIN Rail Mount Signal Conditioners



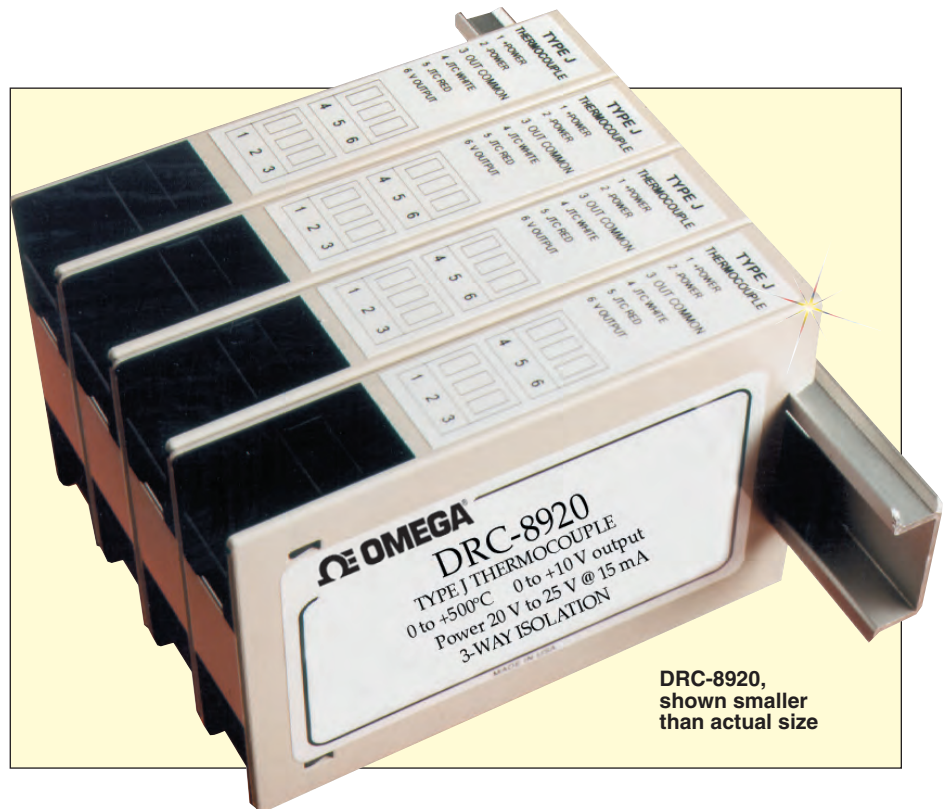
- ✓ Models Available for Thermocouples, RTD's, DC Voltage and Current Inputs
- ✓ Isolated and Linearized
- ✓ 24 Vdc Power
- ✓ 0 to 10 V or 4 to 20 mA Outputs
- ✓ Slim Housing Mounts on DIN Rail

The DRC-8900 Series DIN rail mount signal conditioners are ideal for a wide range of process monitoring applications. Models are available for a many different input types including thermocouples, RTDs, and process voltage or current. All models isolate and linearize. The thermocouple input models also have cold junction compensation. These signal conditioners have three way isolation—input to output, input to power and output to power. All models are powered by 24 Vdc and are housed in a plastic case with a built-in DIN rail mounting foot. Connections are made to easily accessible screw terminals.

Specifications

COMMON SPECIFICATIONS

Power: 22 to 26 Vdc (unregulated); 15 mA (models DRC-8920/21/40/41/42), 20 mA (models DRC-8901 through DRC-8908), 40 mA (models DRC-8911 through DRC-8918)



DRC-8920, shown smaller than actual size

Isolation: 700 Vdc (3-way; input to output, input to power, output to power)
Operating Ambient: 0 to 55°C (32 to 131°F)
Storage Temperature: -40 to 80°C (-40 to 176°F)

Dimensions: 110 H x 22.5 W x 75 mm D (4.33 x 0.895 x 2.95")

Weight: 142 g (5 oz)

THERMOCOUPLE INPUT MODELS

Temperature Range:
DRC-8920 (Type J): 0 to 500°C (32 to 932°F)
DRC-8921 (Type K): 0 to 1250°C (32 to 2282°F)

Output: 0 to 10 V into 5 K Ω minimum resistive load

Linearization: $\pm 2^\circ\text{C}$ (does not include thermocouple error)

Cold Junction Compensation: $\pm 1.5^\circ\text{C}$ at 25°C ambient, $\pm 0.05^\circ\text{C}/^\circ\text{C}$ from 2 to 55°C ambient
Temperature Coefficient: zero, $0.02^\circ\text{C}/^\circ\text{C}$; reading, $0.015^\circ\text{C}/^\circ\text{C}$
Response Time: 1.5 sec

VOLTAGE/CURRENT INPUT MODELS

INPUT
Input Resistance:
Voltage input: 1 M Ω
Current input: 50 Ω
Linearity: $\pm 0.02\%$ of fs
Accuracy: $\pm 0.1\%$ of fs
Maximum Input: Voltage input models, 130 VRMS; current input models, 65 mA (3.25 volts across 50 Ω input resistance)

OUTPUT

Response Time: 10 ms (10 to 90%)
Ripple and Noise: 0.05% of fs



DRC-8920, shown smaller than actual size

Load: 0 to 500 Ω
Open Circuit Voltage: 13 V
Temperature Coefficient: zero, ± 0.5 mV/ $^{\circ}\text{C}$ (0 to 10 V output models), ± 0.5 microamp/ $^{\circ}\text{C}$ (4 to 20 mA output models); full scale, ± 100 ppm/ $^{\circ}\text{C}$ typical
ISOLATION
Isolation: 700 Vdc (3-way)
Power to Input or Output: 15 pF
Input to Output: 750 pF
60 Hz CMRR: 85 db

RTD INPUT MODELS INPUT

Input Type: Pt RTD, alpha = 0.00385, 2 or 3 wire; DRC-8940, 100 Ω ; DRC-8941, 500 Ω ; DRC-8942, 1000 Ω
Temperature Range: -50 to 450 $^{\circ}\text{C}$ (-58 to 842 $^{\circ}\text{F}$)

OUTPUT

Output: 0 to 10 V into 5 K Ω minimum resistive load
Temperature Coefficient: Zero, 0.02 $^{\circ}\text{C}/^{\circ}\text{C}$ typical; reading, 0.015 $^{\circ}\text{C}/^{\circ}\text{C}$ typical
Linearization: $\pm 0.7^{\circ}\text{C}$ maximum (does not include RTD error)
3-Wire Compensation: 0.01 $^{\circ}\text{C}/\Omega$ – 3 wires equal R, up to 10 Ω , typical
Response Time: 1.5 sec



MOST POPULAR MODELS HIGHLIGHTED

To Order Visit omega.com/drc-8900 for Pricing and Details		
Model No.	Input Range	Output Range
Voltage/Current Input Models		
DRC-8901	0 to 50 mV	0 to 10 V
DRC-8902	0 to 100 mV	0 to 10 V
DRC-8903	0 to 5 V	0 to 10 V
DRC-8904	0 to 10 V	0 to 10 V
DRC-8905	0 to 100 V	0 to 10 V
DRC-8906	4 to 20 mA	0 to 10 V
DRC-8907	0 to 20 mA	0 to 10 V
DRC-8908	0 to 50 mA	0 to 10 V
DRC-8911	0 to 50 mV	4 to 20 mA
DRC-8912	0 to 100 mV	4 to 20 mA
DRC-8913	0 to 5 V	4 to 20 mA
DRC-8914	0 to 10 V	4 to 20 mA
DRC-8915	0 to 100 V	4 to 20 mA
DRC-8916	4 to 20 mA	4 to 20 mA
DRC-8917	0 to 20 mA	4 to 20 mA
DRC-8918	0 to 50 mA	4 to 20 mA
Thermocouple Input Models		
DRC-8920	Type J	0 to 10 V
DRC-8921	Type K	0 to 10 V
RTD Input Models		
DRC-8940	100 Ohm	0 to 10 V
DRC-8941	500 Ohm	0 to 10 V
DRC-8942	1000 Ohm	0 to 10 V

Accessories	
Model No.	Description
iDRN-PS-1000	DIN rail mount power supply, 95 to 240 Vac input, 24 Vdc output @ 1A
RAIL-35-1	35 mm (1.4") DIN rail, 1 m (3.3') length
RAIL-35-2	35 mm (1.4") DIN rail, 2 m (6.6') length

All models are supplied with complete operator's manual.

Ordering Example: DRC-8906 DIN rail mount signal conditioner, 4 to 20 mA input, 0 to 10 V output, iDRN-PS-1000 power supply, RAIL-35-2 mounting rail, and OMEGACARESM 1-year extended warranty for DRC-8906 (adds 1 year to standard 1-year warranty)