



# DSCT

## Isolated DIN Rail Mount 2-Wire Transmitters



### Instrument Class® Performance

"Best of Breed" accuracy, linearity, stability and noise specifications. Outstanding protection and isolation performance for Input, Output and Power connections. Capable of operating on the widest of loop supply power and over the broadest operating temperature range!

### Description

Dataforth's new DSCT series of loop powered 2-wire transmitters consists of seven family groups with a total of 48 transmitter models that interface to a wide variety of voltage, current, temperature and position measuring devices. The DSCT is the latest introduction of **Instrument Class®** products available from Dataforth, which provide superior specifications such as  $\pm 0.03\%$  accuracy, five poles of filtering, 1500Vrms continuous isolation, low output noise, and much more.

The DSCT 2-wire transmitter conditions and sends analog signals from sensors located in the "field" to monitoring and control equipment, usually computers, located thousands of feet away in central control areas. The DSCT accepts a wide range of inputs, including millivolt, volt, milliamp, thermocouple, RTD, potentiometer, and slide wire. It operates on power from a 2-wire signal loop and modulates the supply current to represent the input signal within a 4 to 20-milliamp range.

Two-wire transmission loops are very economical methods for connecting sensors to distant control rooms. Since the DSCT operates from the signal loop current, no additional, expensive power and wiring are required. Only low cost, twisted pair wiring is needed.

### ► Features

- $\pm 0.03\%$  Accuracy
- $\pm 0.01\%$  Linearity
- 1500Vrms Transformer Isolation Continuous
- 5 Pole Filter, 85/80dB NMR at 60/50Hz
- 160dB CMR
- ANSI/IEEE C37.90.1 Transient Protection
- Wide Range Loop Supply Voltage, 10.8V to 60V
- Input and Output Protected to 240VAC Continuous
- Protected Against Reverse Connection of Loop Voltage
- $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$  Operating Temperature Range
- Mounts on DIN Rail EN 50022, 35x7.5 or 35x15
- CE Compliant
- Designed for Intrinsic Safe Applications
- CSA and FM Approvals Pending

**► DSCT Selection Guide**
**ANALOG VOLTAGE INPUT TRANSMITTERS Page 200**

MODEL	INPUT_RANGE	MODEL	INPUT_RANGE
DSCT30-01	±10mV	DSCT31-01	±1V
DSCT30-02	±50mV	DSCT31-02	±5V
DSCT30-03	±100mV	DSCT31-03	±10V
DSCT30-04	0 - 10mV	DSCT31-04	0 - 1V
DSCT30-05	0 - 50mV	DSCT31-05	0 - 5V
DSCT30-06	0 - 100mV	DSCT31-06	0 - 10V
		DSCT31-07	±20V
		DSCT31-08	0 - 20V

**ANALOG CURRENT INPUT TRANSMITTERS Page 202**

MODEL	INPUT_RANGE
DSCT32-01	4 to 20mA
DSCT32-02	0 to 20mA

**LINEARIZED 2- OR 3-WIRE RTD INPUT TRANSMITTERS Page 204**

MODEL	TYPE**	INPUT_RANGE
DSCT34-01	100ΩPt	-100°C to +100°C (-148°F to +212°F)
DSCT34-02	100ΩPt	0°C to +100°C (+32°F to +212°F)
DSCT34-03	100ΩPt	0°C to +200°C (+32°F to +392°F)
DSCT34-04	100ΩPt	0°C to +600°C (+32°F to +1112°F)
DSCT34-05	100ΩPt	0°C to +400°C (+32°F to +752°F)
DSCT34N-01	120ΩNi	0°C to +300°C (+32°F to +572°F)

**POTENTIOMETER INPUT TRANSMITTERS Page 206**

MODEL	INPUT_RANGE
DSCT36-01	0 to 100Ω
DSCT36-02	0 to 500Ω
DSCT36-03	0 to 1kΩ
DSCT36-04	0 to 10kΩ

**THERMOCOUPLE INPUT TRANSMITTERS Page 208**

MODEL	TYPE†	INPUT_RANGE
DSCT37J-01	J	-100°C to +760°C (-148°F to +1400°F)
DSCT37K-02	K	-100°C to +1350°C (-148°F to +2462°F)
DSCT37T-03	T	-100°C to +400°C (-148°F to +752°F)
DSCT37E-04	E	0°C to +900°C (+32°F to +1652°F)
DSCT37R-05	R	0°C to +1750°C (+32°F to +3182°F)
DSCT37S-06	S	0°C to +1750°C (+32°F to +3182°F)
DSCT37B-07	B	0°C to +1800°C (+32°F to +3272°F)
DSCT37N-08	N	-100°C to +1300°C (-148°F to +2372°F)

**LINEARIZED THERMOCOUPLE INPUT TRANSMITTERS Page 210**

MODEL	TYPE†	INPUT_RANGE
DSCT47J-01	J	0°C to +760°C (+32°F to +1400°F)
DSCT47J-02	J	-100°C to +300°C (-148°F to +572°F)
DSCT47J-03	J	0°C to +500°C (+32°F to +932°F)
DSCT47K-04	K	0°C to +1000°C (+32°F to +1832°F)
DSCT47K-05	K	0°C to +500°C (+32°F to +932°F)
DSCT47K-13	K	-100°C to +1350°C (-148°F to +2462°F)
DSCT47K-14	K	0°C to +1200°C (+32°F to +2192°F)
DSCT47T-06	T	-100°C to +400°C (-148°F to +752°F)
DSCT47T-07	T	0°C to +200°C (+32°F to +392°F)
DSCT47E-08	E	0°C to +1000°C (+32°F to +1832°F)
DSCT47R-09	R	+500°C to +1750°C (+932°F to +3182°F)
DSCT47S-10	S	+500°C to +1750°C (+932°F to +3182°F)
DSCT47B-11	B	+500°C to +1800°C (+932°F to +3272°F)
DSCT47N-15	N	-100°C to +1300°C (-148°F to +2372°F)

**ACCESSORIES Page 213**

MODEL	DESCRIPTION
SCMXRAIL1-XX	DIN EN50022-35x7.5 (slotted steel),length -XX meters
SCMXRAIL3-XX	DIN EN50022-35x15 (slotted steel),length -XX meters

**POWER SUPPLIES Page 158**

PWR-PS5RA	Power Supply, 24V, 0.3A, 100-240VAC Input
PWR-PS5RB	Power Supply, 24V, 0.6A, 100-240VAC Input

**†THERMOCOUPLE ALLOY COMBINATIONS**

Standards: DIN IEC 584, ANSI MC96-1-82, JIS C 1602-1981

TYPE	MATERIAL
J	Iron vs. Copper-Nickel
K	Nickel-Chromium vs. Nickel-Aluminum
T	Copper vs. Copper-Nickel
E	Nickel-Chromium vs. Copper-Nickel
R	Platinum-13% Rhodium vs. Platinum
S	Platinum-10% Rhodium vs. Platinum
B	Platinum-30% Rhodium vs. Platinum-6%Rhodium
N	Nickel-14.2% Chromium-1.4% Silicon vs. Nickel-4.4% Silicon-0.1% Magnesium

**\*\*RTD STANDARDS**

TYPE	ALPHA_COEFFICIENT	DIN	JIS
100Ω Pt	0.00385	DIN 43760	JIS C 1604-1989
120Ω Ni	0.00672		