



DT

Displacement Transducer/Transmitter

- Standard accuracy $\pm 0.1\%$ F.S.*
* 0-2 in. and 0-5 in. are $\pm 0.25\%$ F.S. Accuracy
0-10 in. and 0-15 in. and 0-25 in. $\pm 0.15\%$
- Infinite resolution
- Ranges to 500 in. (12700 mm)
- Voltage or 4-20 mA current output
- Extra long-life replaceable cable
- Precision hybrid potentiometer
- Anodized and powder coated aluminum construction

Options

- Low current "A" circuit
- "B" circuit (simulated Wheatstone bridge) can be field adjusted for mechanical zero offset and output voltage
- Terminal strip in place of connector
- Heavy duty cable on most models
- High cable tension
- 6-pin EuroFast® connector
- Plastic version of the metal 6 pin MS3102A connector
- Pre-wired mating connector

Operational Description

DT Displacement Transducers/Transmitters offer the latest in a cost effective, reliable design for measuring the displacement of moving objects. These highly accurate devices make displacement measurement as simple as attaching the transducer/transmitter to a fixed body and connecting the cable to the moving element. A constant torque spring controls cable tension while cable extension rotates a precision potentiometer. In the standard DT models, the output is approximately 95% of the input at full range. The "420" circuit provides a two-wire 4-20 mA signal for all full scale travels. Ranges from 0-2 in. through 0-500 in. are available in all models.

Applications

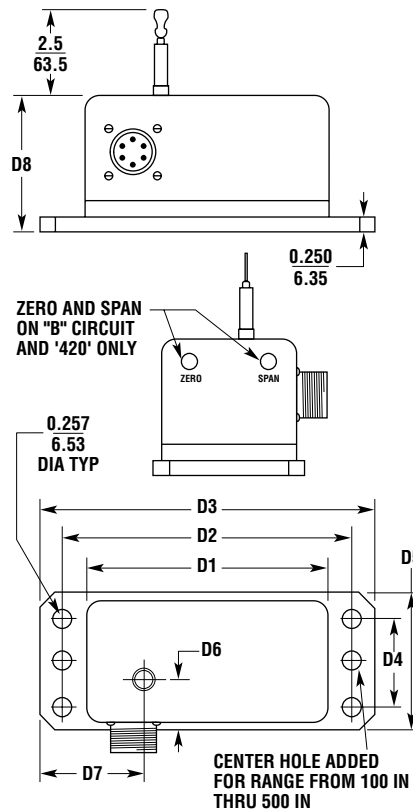
Position transducers/transmitters provide a continuous and infinite resolution output, proportional to cable extension. They are suitable for all applications that require precise monitoring of a traveling element, including auto suspension and crash tests, hydraulic presses, aircraft structural loading tests, valve positioning, fork lift positioning, robotics positioning, and bending/forming presses.

■ Specifications

Performance
Ranges: 0–2 in. through 0–500 in.
Accuracy (STD): $\pm 0.1\%$ F.S. 0–2 in. and 0–5 in. are $\pm 0.25\%$ F.S. Accuracy 0–10 in. and 0–15 in. and 0–25 in. $\pm 0.15\%$
Environmental
Temperature: 0 to 200°F (-17 to 93°C)
Humidity: 95% RH @ 75°F (24°C)
Vibration: 20 g, 20–2 kHz
Physical
Construction: Anodized and powder coated aluminum construction
Displacement Cable: 0.015 in. dia. SS standard with optional 0.018 in. dia. SS
Tension: See Specifications and Dimensions Table for approximate cable tension specification (optional high tension also available)

Specifications are subject to change without notice.

■ Dimensions — in./mm



■ Electrical Specifications

“A” Circuit Output

Excitation: AC or DC up to 25 V

Typical Excitation: 10 VDC

Input Impedance: 500 Ω nominal
(optional at 5K Ω)

Output Impedance: 0 to 500 Ω nominal
(optional at 5K Ω)

Output/Input: Approx. 95% of input

Resolution: Infinite

“B” Circuit Output

Excitation: AC or DC up to 25 V

Typical Excitation: 10 VDC

Input Impedance: 1.25K Ω

Output Impedance: 0 to 20 K Ω

Output/Input: Approx. 20% of input

Resolution: Infinite

4-20 mA Output

Excitation: 14 to 40 VDC max.

Input Current: 3 to 30 mA max.

Output: 4-20 mA ± 0.16 mA at set points

Output/Input: 2 wire loop powered

Resolution: Infinite

Protection: Reversed polarity

■ Specifications and Dimensions Table

Model	Range (in.)	“A” Circuit (mV/V/in.)	“B” Circuit (mV/V/in.)	4-20 mA Circuit (mA/in.)	Cable Tension (oz.)	Dimensions (in.)							
						D1	D2	D3	D4	D5	D6	D7	D8
DT-2	0-2	500.0	$\pm 0-100.0$	8.50 to 8.00	34	4.00	4.75	5.25	2.00	2.63	1.01	2.62	2.25
DT-5	0-5	200.0	$\pm 0-40.0$	3.40 to 3.20	24	4.00	4.75	5.25	2.00	2.63	0.52	2.62	2.25
DT-10	0-10	100.0	$\pm 0-20.0$	1.70 to 1.60	34	4.00	4.75	5.25	2.00	2.63	1.01	2.62	2.25
DT-15	0-15	66.7	$\pm 0-13.3$	1.13 to 1.07	24	4.00	4.75	5.25	2.00	2.63	0.86	2.62	2.25
DT-20	0-20	50.0	$\pm 0-10.0$	0.85 to 0.80	34	4.00	4.75	5.25	2.00	2.63	1.01	2.62	2.25
DT-25	0-25	40.0	$\pm 0-8.0$	0.68 to 0.64	24	4.00	4.75	5.25	2.00	2.63	0.52	2.62	2.25
DT-30	0-30	33.3	$\pm 0-6.7$	0.57 to 0.58	24	4.00	4.75	5.25	2.00	2.63	0.86	2.62	2.25
DT-40	0-40	25.0	$\pm 0-5.0$	0.43 to 0.40	24	4.00	4.75	5.25	2.00	2.63	0.68	2.62	2.25
DT-50	0-50	20.0	$\pm 0-4.0$	0.34 to 0.32	24	4.00	4.75	5.25	2.00	2.63	0.52	2.62	2.25
DT-60	0-60	16.7	$\pm 0-3.3$	0.28 to 0.27	24	4.00	4.75	5.50	2.00	3.75	0.93	2.62	3.25
DT-75	0-75	13.3	$\pm 0-2.7$	0.23 to 0.21	24	4.00	4.75	5.50	2.00	3.75	0.68	2.62	3.25
DT-80	0-80	12.5	$\pm 0-2.5$	0.21 to 0.20	24	4.00	4.75	5.50	2.00	3.75	0.60	2.62	3.25
DT-100	0-100	10.0	$\pm 0-1.9$	0.19 to 0.16	26	6.50	7.25	8.00	4.00	5.62	1.68	3.46	4.00
DT-150	0-150	6.7	$\pm 0-1.3$	0.13 to 0.11	26	6.50	7.25	8.00	4.00	5.62	1.68	3.46	4.00
DT-200	0-200	5.0	$\pm 0-0.97$	0.10 to 0.08	24	6.50	7.25	8.00	4.00	5.62	1.68	3.46	4.00
DT-250	0-250	4.0	$\pm 0-0.77$	0.08 to 0.06	24	6.50	7.25	8.00	4.00	5.62	1.68	3.46	4.00
DT-300	0-300	3.3	$\pm 0-0.64$	0.06 to 0.05	24	6.50	7.25	8.00	4.00	5.62	1.68	3.46	4.00
DT-350	0-350	2.9	$\pm 0-0.55$	0.05 to 0.04	24	6.50	7.25	8.00	4.00	5.62	1.68	3.46	4.00
DT-500	0-500	2.0	$\pm 0-0.39$	0.04 to 0.03	24	6.50	7.25	8.00	4.00	5.62	1.68	3.46	4.00

■ Option Tables

Electrical Circuit Table

LA	"A" circuit with standard 500 Ω pot
LC	"A" circuit with optional 5K Ω pot
LB	"B" circuit
L1	4-20 mA circuit

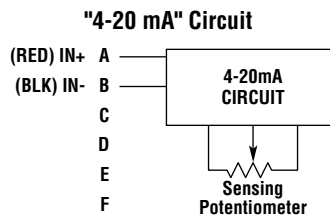
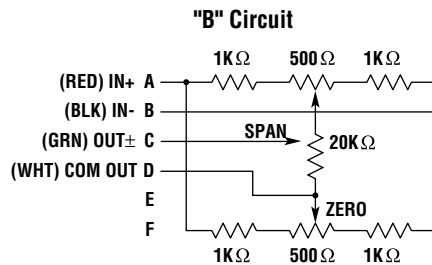
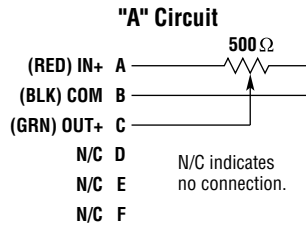
Electrical Connection Table

E4	Connector Option: 4 pin FS 4.40-0.5/18.25 or equivalent (EuroFast® type) (optional); Mating Connector (Included): 4 pin B8141-0 (straight) or equivalent (EuroFast® type) or B8241-0 (right angle) or equivalent (E4A)
E10	Connector Option: Standard 6 pin MS3102A-14S-6P (Bendix type-metal); Mating Connector (Included): 6 pin MS3106A-14S-6S (Bendix type-metal)
E11	Connector Option: Optional 6 pin CSX3102A-14S-6P (Bendix type-plastic); Mating Connector (Included): 6 pin CSX3106A-14S-6S (Bendix type-plastic)
E12	Terminal strip

Electrical Cable Length Table

Cable Length	Output Signal	Output Signal		
		"A" Circuit	"B" Circuit	4-20 mA
W0 0 ft. (0 m)		✓	✓	✓
W1 2 ft. (0.6 m)		✓	✓	✓
W2 5 ft. (1.5 m)		✓	✓	✓
W3 10 ft. (3 m)		✓	✓	✓
W4 25 ft. (7.6 m)		✓	✓	✓
W5 50 ft. (15.2 m)		✓	✓	✓

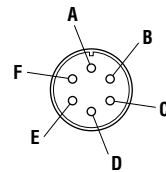
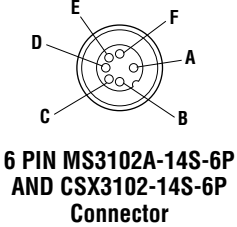
■ Wiring



Electrical Cable Specifications

AWG: 26
Stranding: 7/34
Type: MIL-W-16878E
Shield: 36 AWG TPC Braid
Jacket: PVC

6-Pin EuroFast® Connector



■ Ordering Information

DT - Range	
Electrical Circuit	
LA-L1	See Electrical Circuit Table
Displacement Cable Tension	
T0	Standard tension
T1	High tension
Displacement Cable Type	
D15	0.015 in. dia. SS cable
D18	0.018 in. dia. SS cable
Electrical Connection	
E4-E12	See Electrical Connection Table
Electrical Cable Length	
W0-W5	See Electrical Cable Length Table