



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

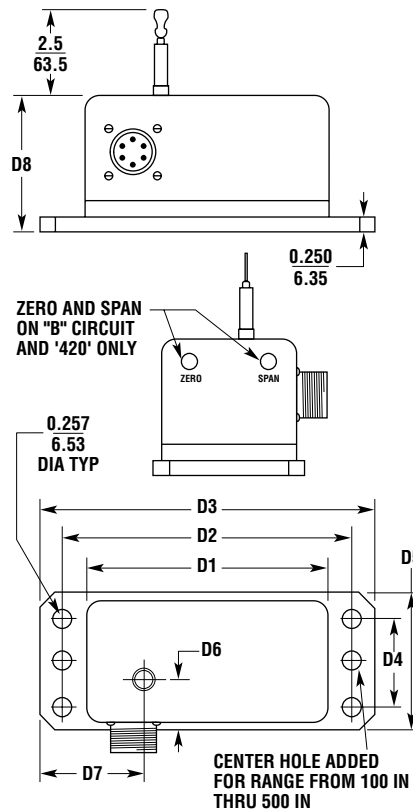
Position transducers/transmitters provide a continuous and infinite resolution output, proportional to cable extension. They are suitable for all applications that require precise monitoring of a traveling element, including auto suspension and crash tests, hydraulic presses, aircraft structural loading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

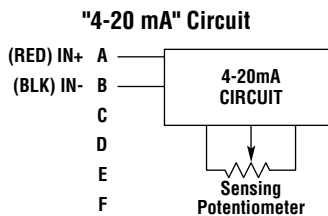
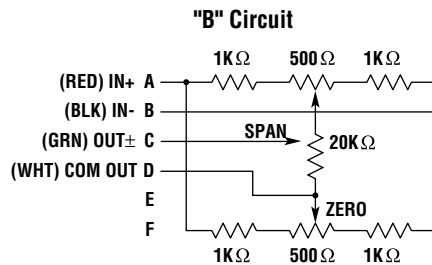
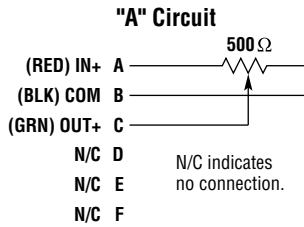
Electrical Connection Table

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)	✓	✓	✓

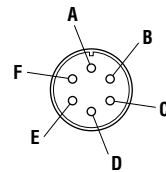
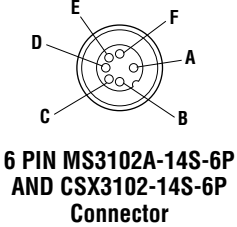
■ Wiring



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				