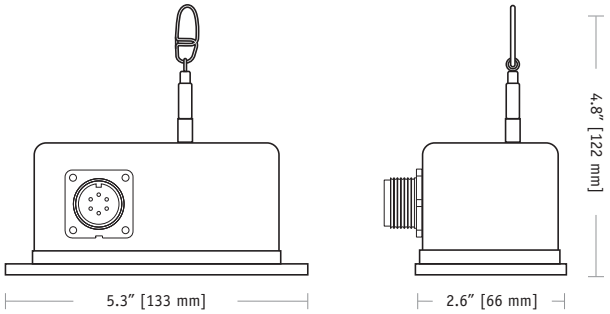
DPT250

Instrument Grade • Incremental Encoder

Short-Range String Encoder • High Resolution
25, 50-inch Stroke Range Options
Powder Painted & Anodized Aluminum Enclosure
Perfect Solution for Industrial & Testing Applications





The DPT250 Cable-Extension Transducer offers a highly accurate incremental encoder output signal that can provide both position and velocity information. The output is a digital pulse stream that can provide resolution down to less than a thousandth's of an inch!

Delivering high accuracy and fine resolution without the need for perfect parallel alignment, this compact device offers the additional benefits of ease of installation and ability to interface to any PLC or controller. These features make the DPT250 the perfect choice for many applications that range from hydraulic cylinder positioning to robotic arm motion feedback.

GENERAL

Full Stroke Ranges	0-25 to 0-50 inches [0-625 to 0-1250 mm]
Output Signal	incremental encoder (quadrature)
Sensor	optical encoder
Output Driver Options	TTL/CMOS, Open Collector, Line Driver
Accuracy	see ordering information
Repeatability	see ordering information
Resolution Options	25 to 1250 pulses per inch
Measuring Cable	0.019-in. dia. nylon-coated stainless steel
Enclosure Material	powder-painted and anodized aluminum
Weight	2 lbs. max.

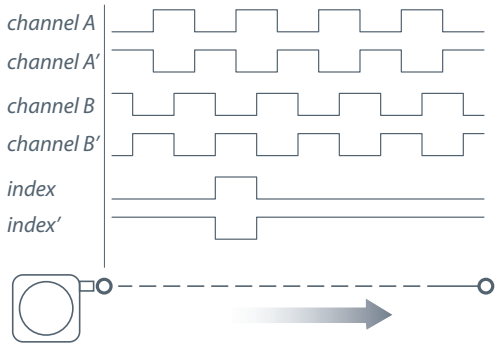
ELECTRICAL

Input Voltage	see ordering information

ENVIRONMENTAL

Operating Temperature	0°F to 160°F (-20°C to 70°C)
Humidity	98% RH, no condensation
Vibration	up to 10g to 2000 Hz
Enclosure	IP 55, NEMA 12

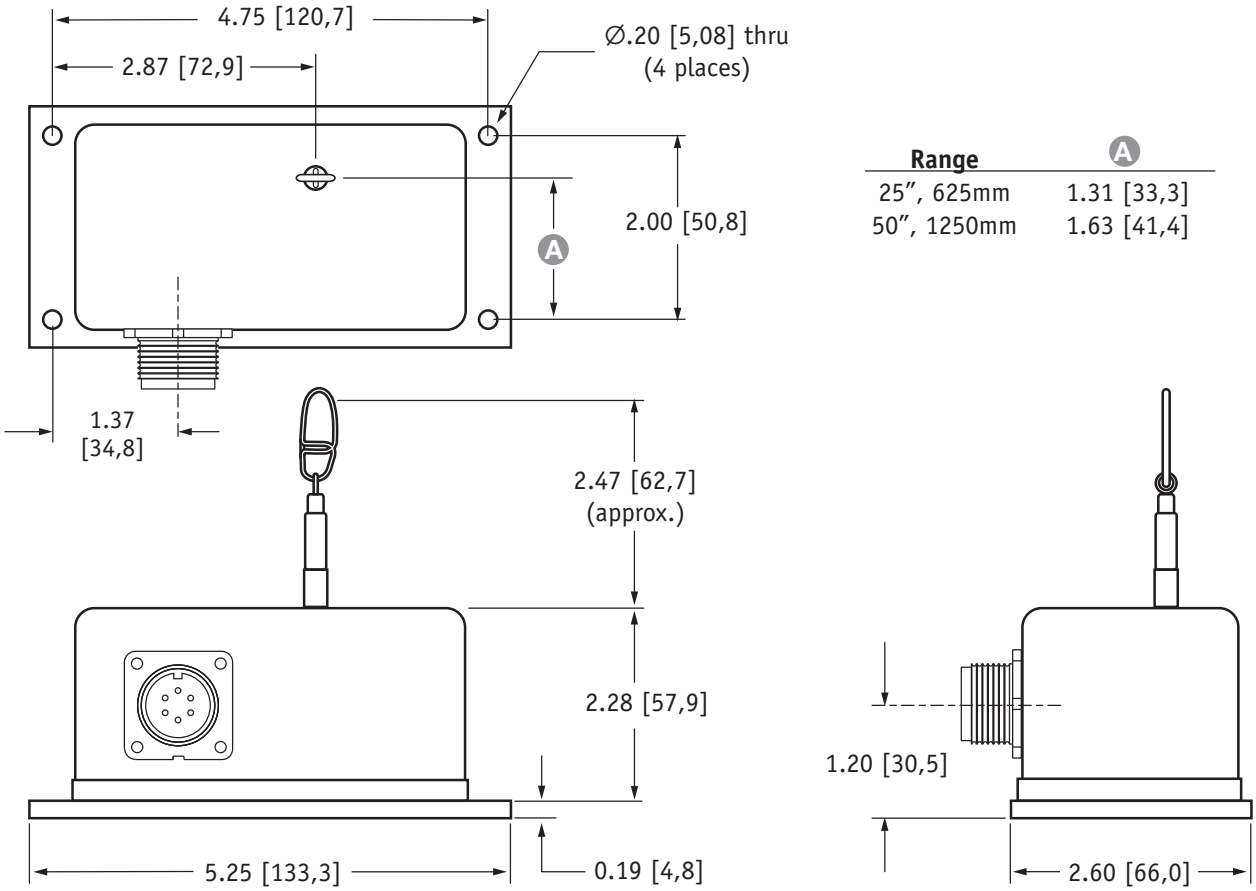
Electrical Output Signal Options



-- see ordering information for available channels

20630 Plummer Street • Chatsworth, CA 91311 • Meas-Spec.com
tel: 800.423.5483 • +1.818.701.2750 • fax: +1.818.701.2799

Outline Drawing:



Range	A
25", 625mm	1.31 [33,3]
50", 1250mm	1.63 [41,4]

ALL DIMENSIONS ARE IN INCHES [MM] • tolerances are ±0.02 in. [±0,5mm]

Ordering Information:

Model Number:

DPT250 - ____ **-** ____ **1 1 -** ____ ____ ____ **0**

order code: Ⓡ Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ

Sample Model Number:

DPT250 - 0025 - 111 - 1130

Ⓡ	range:	25 inches
Ⓐ	measuring cable tension:	standard - 12 oz.
Ⓓ	sensing circuit/channels:	TTL/CMOS, A,B
Ⓑ	resolution:	500 pulses per inch
Ⓕ	electrical connection:	6-pin plastic connector

Full Stroke Range:

Ⓡ *order code:*	0025	0050	0625	1250
full stroke range, min:	25 in.	50 in.	625 mm	1250 mm
accuracy:	±0.010 in. (max)	±.020 in. (max)	±0.25 mm (max)	±0.50 mm (max)
repeatability:	±0.005 in. (max)	±.010 in. (max)	±0.12 mm (max)	±0.25 mm (max)
cable tension* (±30%):	13 oz.	6 oz.	3,6 N	1,6 N
cable acceleration, max.:	11 g	4 g	11 g	4 g
resolution options:	50, 500, 1000, 1250 pulses per inch	25, 250, 500, 625 pulses per inch	2, 20, 40, 50 pulses per mm	1, 10, 20, 25 pulses per mm

**note: increased cable tension options available (see below)*

Measuring Cable Tension:

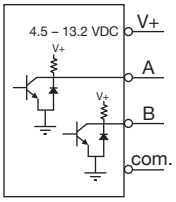
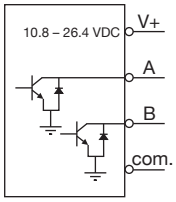
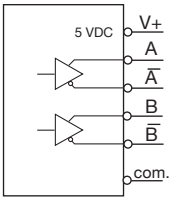
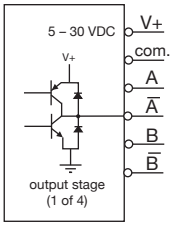
Ⓐ *order code:*

	1	H
	standard tension*	high tension*
25 inch range:	13 oz.	65 oz.
50 inch range:	6 oz.	33 oz.
625 mm range:	3,6 N	18,1 N
1250 mm range:	1,6 N	9,2 N

**–note: spring tension tolerance: ±30%*

Sensing Circuit / Channels:

Ⓓ *order code:*

	1	2	4	6
description:	TTL / CMOS	open collector	line driver	universal line driver
	Input voltage (V+): 4.5...13.2 Vdc Sink current: 20 mA max. Input current: 80 mA max.	Input voltage (V+): 10.8...26.4 Vdc Sink current: 20 mA max. Input current: 80 mA max.	Input voltage (V+): 5 Vdc Sink current: 20 mA max. Input current: 150 mA max.	Input voltage (V+): 5...30 VDC Source/Sink: 20 mA max. Input current: 50 mA max, no load
				

Resolution:

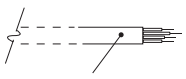
Ⓔ *order code:*

	1	2	3	4
25 in. range:	500 ppi	1000 ppi	1250 ppi	50 ppi
50 in. range:	250 ppi	500 ppi	625 ppi	25 ppi
625 mm range:	20 ppmm	40 ppmm	50 ppmm	2 ppmm
1250 mm range:	10 ppmm	20 ppmm	25 ppmm	1 ppmm

Electrical Connection:

Ⓕ *order code:*

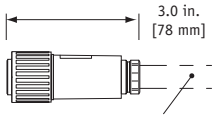
1 — 15-inch, shielded instrumentation cable



15-inch, multiconductor cable

color	TTL/CMOS Open Collector	5 V Line Driver Universal Line Driver
red	input voltage	input voltage
black	common	common
green	channel A	channel A
white	channel B	channel B
blue	-	channel A'
brown	-	channel B'
yellow	-	index
orange	-	index'

3 — 6-pin plastic connector with mating plug



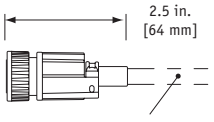


contact view

.30 – .39 in. [8 – 10 mm] cable dia.
16 AWG max conductor size
connector: MS3102E-14S-6P
mating plug: MS3106E-14S-6S

pin	TTL/CMOS Open Collector	5 V Line Driver Universal Line Driver
A	input voltage	input voltage
B	common	common
C	channel A	channel A
D	channel B	channel B
E	-	channel A'
F	-	channel B'

4 — 18-pin plastic connector with mating plug





contact view

.26 – .30 in. [6,6 – 7,6 mm] cable dia.
20 – 24 AWG conductor size
connector: Conxall 14282-18PG-300-K
mating plug: Conxall 13282-18SG-326-K

pin	TTL/CMOS Open Collector	5 V Line Driver Universal Line Driver
1	input voltage	input voltage
2	common	common
3	channel B	channel B
6	channel A	channel A
7	-	index
11	-	channel B'
12	-	channel A'
15	-	index'

version: 7.0 last updated: August 28, 2015