

# DPT250

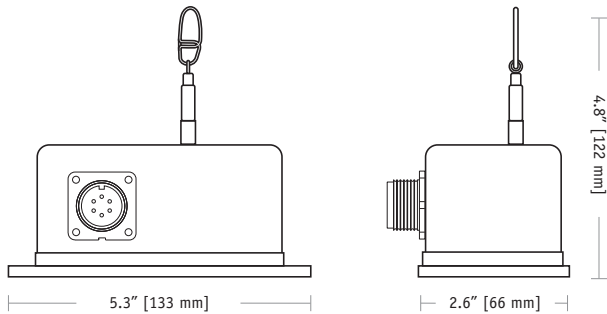
## Instrument Grade • Incremental Encoder

Short-Range String Encoder • High Resolution

25, 50-inch Stroke Range Options

Powder Painted & Anodized Aluminum Enclosure

Perfect Solution for Industrial & Testing Applications



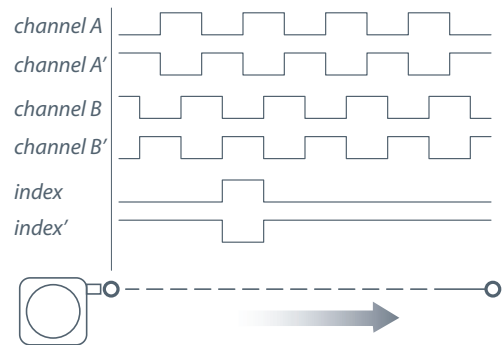
The DPT250 Cable-Extension Transducer offers a highly accurate incremental encoder output signal that can provide both position and velocity information. The output is a digital pulse stream that can provide resolution down to less than a thousandth's of an inch!

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 Output Signal Options



-- see ordering information for available channels

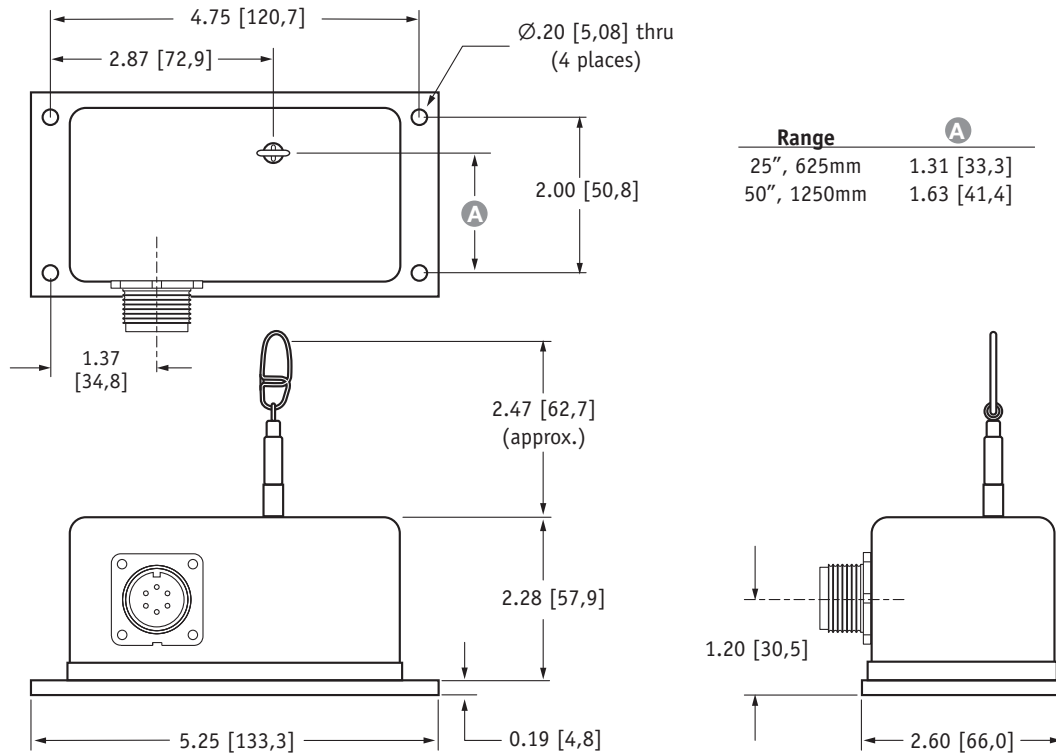
### Electrical

Input Voltage	see ordering information
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### 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

Fig. 1, Top Exit:



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** -      -      -      -      **0**

order code:      R      A      B      C      D      E      F      G

Sample Model Number:

**DPT250 - 0025 - 111 - 1130**

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

Full Stroke Range:

<b>R</b> order code:	<b>0025</b>	<b>0050</b>	<b>0625</b>	<b>1250</b>
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 gs
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 for re-orders only (see below)

Measuring Cable Tension:

<b>A</b> order code:	<b>1</b>	<b>H</b>	<b>2**</b>	<b>3**</b>
	standard tension	high tension*		
25 inch range:	13 oz.	65 oz.	44 oz.	73 oz.
50 inch range:	6 oz.	33 oz.	22 oz.	36 oz.
625 mm range:	3,6 N	18,1 N	12 N	20 N
1250 mm range:	1,6 N	9,2 N	6 N	10 N
measuring cable:	.019-in. dia. nylon-coated stainless steel		.024-in. dia. stainless steel	

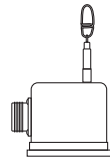
\*-note: spring tension tolerance: ±20%

\*\*-note: outline dimensions for these options not controlled on this datasheet.

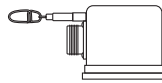
## Measuring Cable Exit:

① order code:

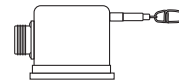
**1**  
top exit (see fig. 1)



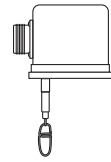
**2**  
front exit\*



**3**  
rear exit\*



**4**  
bottom exit\*



\*—note: dimensions for optional cable exits not controlled on this datasheet, please contact factory

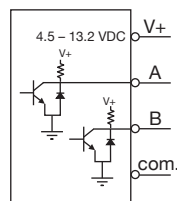
## Sensing Circuit / Channels:

① order code:

description:

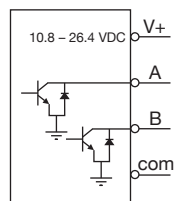
**1**  
TTL / CMOS

Input voltage (V+): 4.5...13.2 Vdc  
Sink current: 20 mA max.  
Input current: 80 mA max.



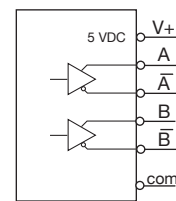
**2**  
open collector

Input voltage (V+): 10.8...26.4 Vdc  
Sink current: 20 mA max.  
Input current: 80 mA max.



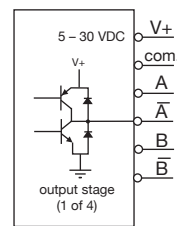
**4**  
line driver

Input voltage (V+): 5 Vdc  
Sink current: 20 mA max.  
Input current: 150 mA max.



**6**  
universal line driver

Input voltage (V+): 5...30 VDC  
Source/Sink: 20 mA max.  
Input current: 50 mA max, no load



## Resolution:

① order code:

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
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 ppm	40 ppm	50 ppm	2 ppm
1250 mm range:	10 ppm	20 ppm	25 ppm	1 ppm

## Electrical Connection:

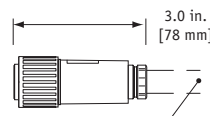
① order code:

**1**  
15-inch, shielded instrumentation cable



15-inch, multiconductor cable

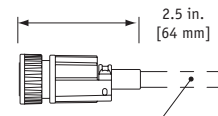
**3**  
6-pin plastic connector with mating plug



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

contact view

**4**  
18-pin plastic connector with mating plug



.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

contact view

	TTL/CMOS	5 V Line Driver
color	Open Collector	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'

pin	TTL/CMOS	5 V 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'

pin	TTL/CMOS	5 V 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'

## 联系方式



深圳市亿为测控电子有限公司  
Shenzhen Bill-Well Measurement & Control Electronics Co., Ltd.

广东省深圳市南山区创业路怡海广场东座2407 邮编：518000

电话：+86 755 2641 9890 传真：+86 755 2641 9680

电子邮箱：sales@bill-well.com