

# PT9600

## String Encoder

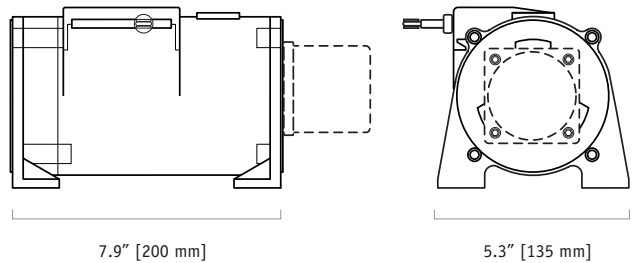
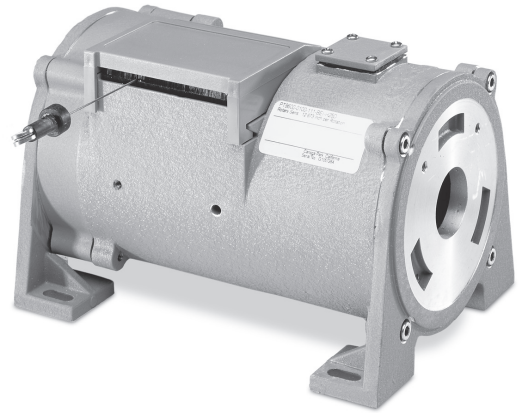
Converts ANY Rotary Encoder to a Linear Position Sensor  
 Linear Stroke Range up to 550 inches (14 m)  
 Mates Virtually ANY Customer Supplied Encoder  
 Factory Supplied Encoder Available

### GENERAL

Full Stroke Range Options (on this datasheet)	0-75 to 0-550 in.
Motion Conversion Ratio	12.6 inches per turn, see ordering information
Accuracy	the lessor of $\pm 0.02\%$ f.s. or $\pm 0.04\%$ measurement $\pm 1/2$ pulse
Accuracy, best	not less than 0.001 in. (0.03mm)
Repeatability	$\pm 0.02\%$ of measurement $\pm 1/2$ pulse
Measuring Cable Options	see ordering information
Module Material Options	powder-painted aluminum or stainless
Encoder Coupling	aluminum flexible coupling
Maximum Allowable Rotational Sensor Torque	1.0 in-lbs.
Maximum Retraction Acceleration	see ordering information
Maximum Velocity	see ordering information
Weight Aluminum (Stainless Steel) Enclosure	8 lbs. (16 lbs.) max.

### ENVIRONMENTAL

Operating Temperature	-40° to 200°F (-40° to 90°C)
-----------------------	------------------------------



Our unique string encoder module mates to virtually any encoder, giving you a cost-effective long-range linear position measurement solution that precisely fits your requirements.

This modular approach delivers the ultimate in flexibility. To order, simply select the measurement range, the cable tension and encoder mounting style—it's that easy! We even supply all the necessary encoder mounting tools and attaching hardware. If you can't find your encoder mounting style or you want us to provide the encoder, please give us a call.

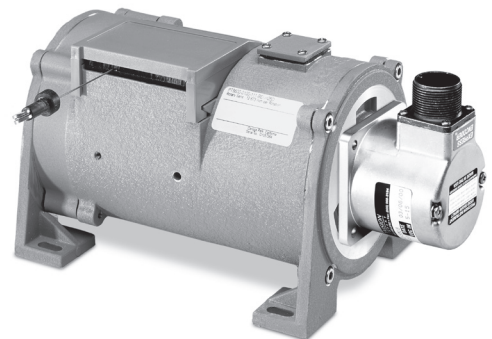
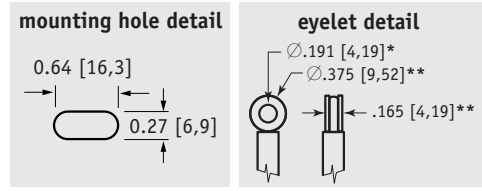
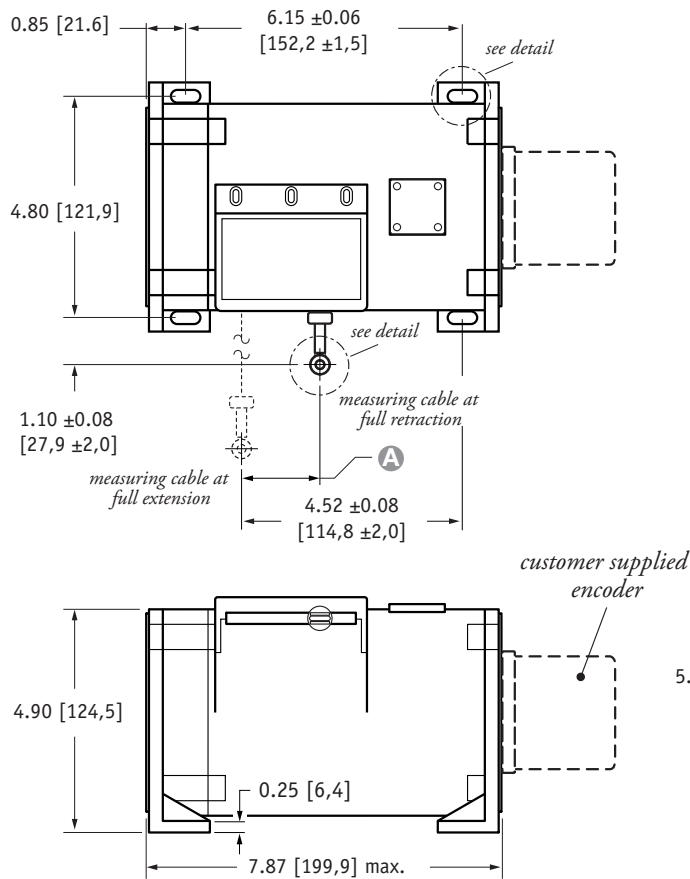
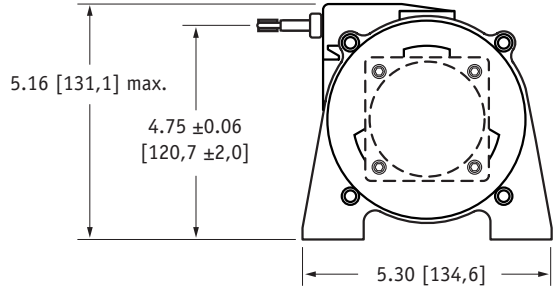


Fig. 1 – Outline Drawing (18 oz. cable tension only)



**A DIMENSION (INCHES)**

MEASURING CABLE				
RANGE	Ø.031 in.	Ø.034 in.	Ø.047 in.	Ø.062 in.
75	n/a	0.22	0.29	0.37
100	n/a	0.29	0.39	0.49
150	n/a	0.44	0.59	0.73
200	n/a	0.58	0.79	0.98
250	n/a	0.73	0.98	1.22
300	n/a	0.88	1.18	1.47
350	n/a	1.02	1.38	1.71
400	n/a	1.17	1.57	1.96
450	n/a	1.31	1.77	n/a
500	n/a	1.46	1.97	n/a
550	1.61	1.61	n/a	n/a



DIMENSIONS ARE IN INCHES [MM]  
tolerances are 0.03 IN. [0.5 MM] unless otherwise noted.

\* tolerance = +.005 -.001 [+13 -.03]  
\*\* tolerance = +.005 -.005 [+13 -.13]

Ordering Information:

Model Number:

**PT9600-** \_\_\_\_\_ **R** \_\_\_\_\_ **A** \_\_\_\_\_ **B** \_\_\_\_\_ **C** \_\_\_\_\_ **D** \_\_\_\_\_  
order code:

Sample Model Number:

**PT9600 - 0200 - 111 - F01**

- R** range: 200 inches
- A** enclosure / cable tension: aluminum / 18 oz.
- B** measuring cable: .034 nylon-coated stainless
- C** cable exit: front
- D** rotational sensor mounting style: F01 (2.5-in. sq. flange)

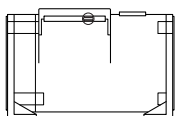
Full Stroke Range:

<b>R</b> order code:	0075	0100	0150	0200	0250	0300	0350	0400	0450*	0500*	0550*
full stroke range, min:	75 in.	100 in.	150 in.	200 in.	250 in.	300 in.	350 in.	400 in.	450 in.	500 in.	550 in.

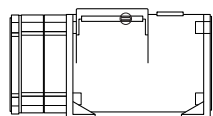
\* - 36 oz. cable tension strongly recommended

Enclosure / Measuring Cable Tension:

<b>A</b> order code:	1	3	2	4
tension (±30%):	18 oz.		36 oz.	
enclosure material:	powder-painted aluminum	303 stainless steel	powder-painted aluminum	303 stainless steel
max. acceleration:	1 g	.33 g	5 g	2 g
max. velocity:	60 inches/sec	20 inches/sec	200 inches/sec	80 inches/sec



standard housing  
see fig 1.



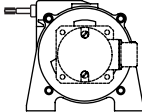
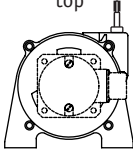
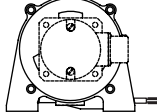
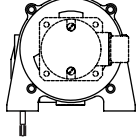
dual-spring housing  
see fig 2.

Ordering Information (cont.):

**Measuring Cable/ Conversion Ratio:**

		1	2	3	4
B order code:					
cable construction:		Ø.034-inch nylon-coated stainless steel rope	Ø.047-inch bare stainless steel rope	Ø.058-inch PVC jacketed vectra fiber rope	Ø.031-inch bare stainless steel rope
available ranges:		all ranges	all ranges up to 500 inches	all ranges up to 400 inches	550-inch range only
general use:		indoor	outdoor, debris, high temperature	high voltage or magnetic field	outdoor, debris, high temperature
conversion ratio	aluminum enclosure:	1 turn = 12.673 ± 0.010 in.	1 turn = 12.714 ± 0.010 in.	1 turn = 12.755 ± 0.010 in.	1 turn = 12.664 ± 0.010 in.
	stainless enclosure:	1 turn = 12.579 ± 0.016 in.	1 turn = 12.620 ± 0.016 in.	1 turn = 12.661 ± 0.016 in.	1 turn = 12.569 ± 0.016 in.

**Cable Exit:**

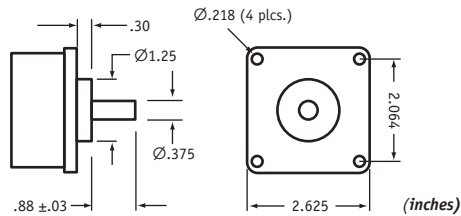
		1	2	3	4
G order code:					
		front	top	back	down
					

**Rotational Sensor Mounting Style:**

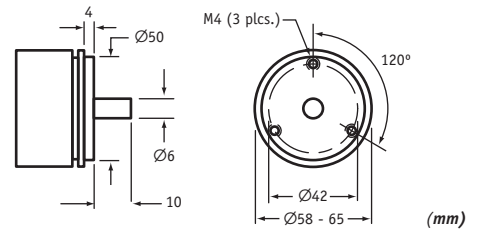
		F01	F02	S01	S02	S04
D order code:						
		2.5-in. Flange Mount 3/8-inch shaft	2-in. Flange Mount 3/8-inch shaft	Face-Mount 6 mm shaft M4 mounting screws	Face-Mount 10 mm shaft M4 mounting screws	Face-Mount 10 mm shaft M3 mounting screws

Note: If you don't see your encoder style, please contact factory. All encoder types supported.

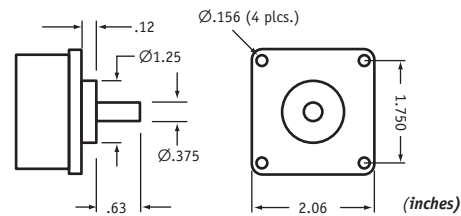
**F01 - 2½-inch Sq. Flange Mount (3/8-inch shaft)**



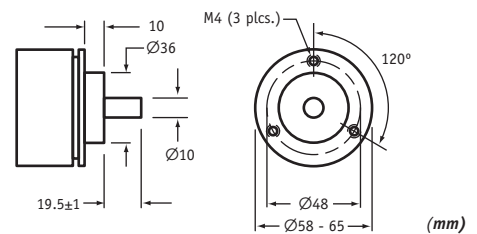
**S01 - Face-Mount (6mm shaft/M4 screws)**



**F02 - 2-inch Sq. Flange Mount (3/8-inch shaft)**



**S02 - Face-Mount (10mm shaft/M4 screws)**



**S04 - Face-Mount (10mm shaft/M3 screws)**

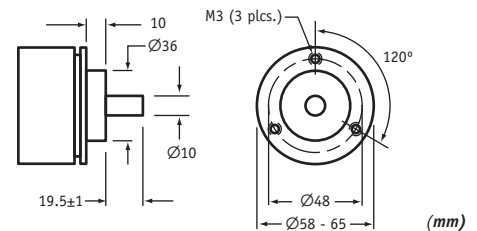
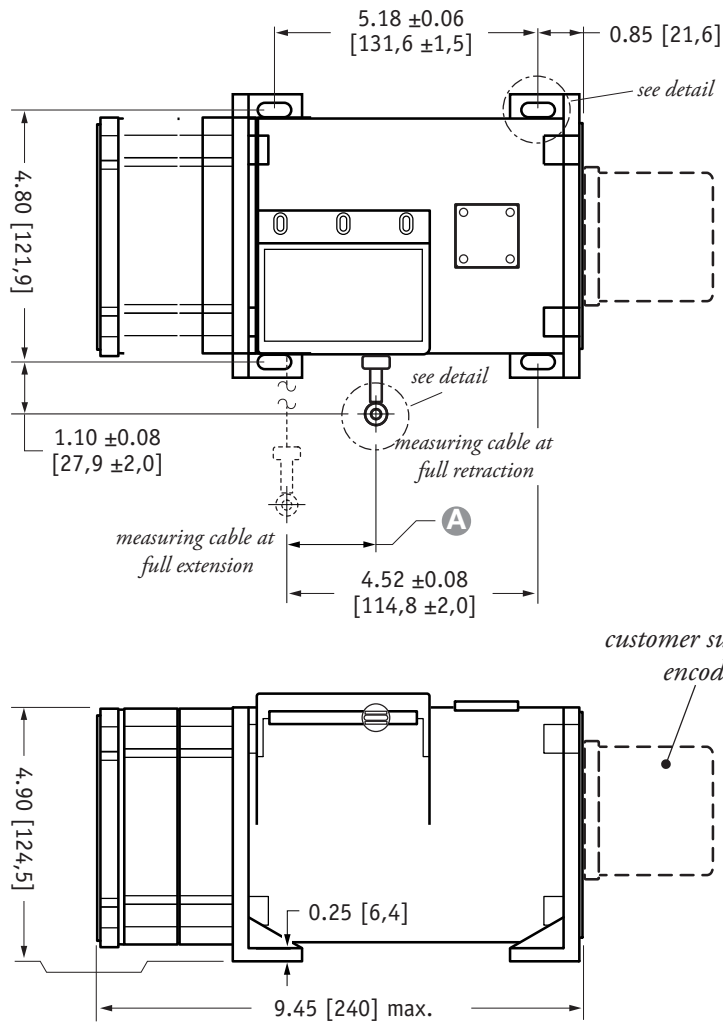
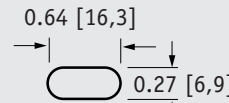


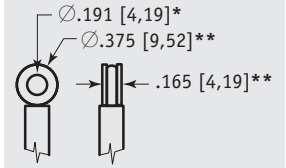
Fig. 2 – Outline Drawing (36 oz. cable tension only)



**mounting hole detail**

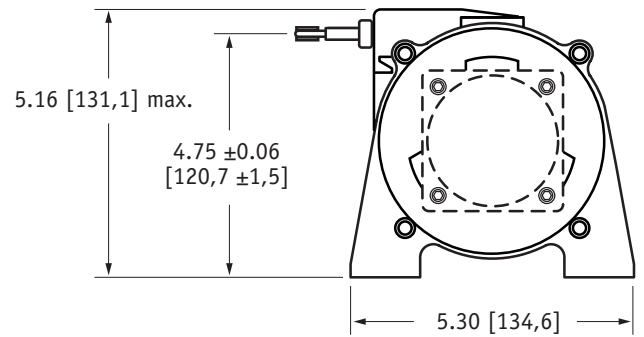


**eyelet detail**



**A DIMENSION (INCHES)**

RANGE	MEASURING CABLE			
	Ø.031 in.	Ø.034 in.	Ø.047 in.	Ø.062 in.
75	n/a	0.22	0.29	0.37
100	n/a	0.29	0.39	0.49
150	n/a	0.44	0.59	0.73
200	n/a	0.58	0.79	0.98
250	n/a	0.73	0.98	1.22
300	n/a	0.88	1.18	1.47
350	n/a	1.02	1.38	1.71
400	n/a	1.17	1.57	1.96
450	n/a	1.31	1.77	n/a
500	n/a	1.46	1.97	n/a
550	1.61	1.61	n/a	n/a



DIMENSIONS ARE IN INCHES [MM]  
tolerances are 0.03 IN. [0.5 MM] unless otherwise noted.

\* tolerance = +.005 -.001 [+.13 -.03]  
\*\* tolerance = +.005 -.005 [+.13 -.13]

**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2408 邮编：518000

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

电子邮箱：sales@bill-well.com