

# PT8CN

## CANbus • SAE J1939 Output Signal

### Industrial Grade String Pot

Absolute Linear Position to 60 inches (1524 mm)

Aluminum or Stainless Steel Enclosure Options

NEMA 6 / IP67

#### GENERAL

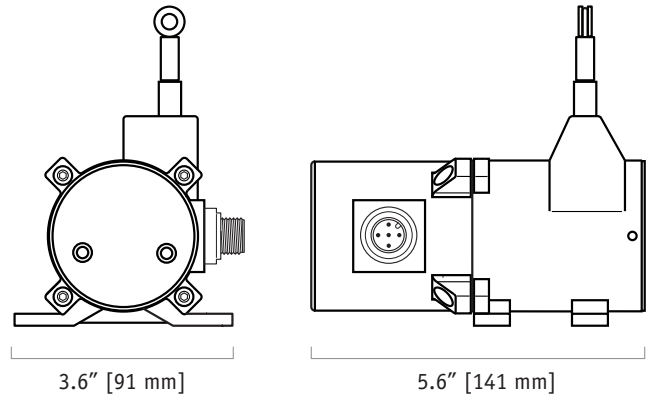
Full Stroke Ranges	0-2 to 0-60 inches
Electrical Interface	CANbus SAE J1939
Protocol	Proprietary B
Accuracy	see ordering information
Repeatability	± 0.02% full stroke
Resolution	± 0.003% full stroke
Measuring Cable Options	stainless steel or thermoplastic
Enclosure Material	powder-painted aluminum or stainless steel
Sensor	plastic-hybrid precision potentiometer
Potentiometer Cycle Life	see ordering information
Maximum Retraction Acceleration	see ordering information
Weight, Aluminum (Stainless Steel) Enclosure	3 lbs. (6 lbs.), max.

#### ELECTRICAL

Input Voltage	7 - 18 VDC
Input Current	60 mA max.
Baud Rate	125K, 250K, or 500K via DIP switches
Update Rate	10 ms. (20 ms. available, contact factory)

#### ENVIRONMENTAL

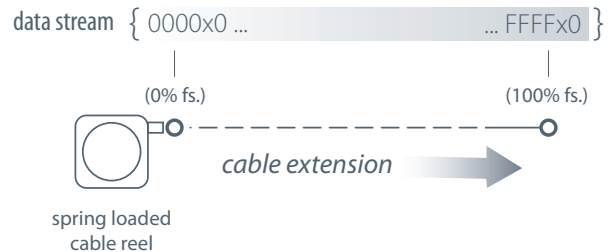
Environmental Suitability	NEMA 4X/6, IP 67
Operating Temperature	-40° to 185°F (-40° to 85°C)
Vibration	up to 10 g to 2000 Hz maximum



The PT8CN, using a high cycle plastic-hybrid potentiometer, communicates to your PLC via the CANbus SAE J1939 interface. Suitable for factory and harsh environment applications requiring linear position feedback in ranges up to 60".

As a member of our innovative family of NEMA 4 rated cable actuated sensors, the PT8CN installs in minutes by simply mounting its body to a fixed surface and attaching its cable to the movable object. Perfect parallel alignment not required.

#### Output Signal:





## Setting the Address (Node ID) and Baud Rate

### Address Setting (Node ID)

The Address Setting (Node ID) is set via 6 switches located on the 8-pole DIP switch found on the DeviceNET controller board located inside the transducer.

The DIP switch settings are binary starting with switch number **1** (= 2<sup>0</sup>) and ending with switch number **6** (= 2<sup>5</sup>).

DIP-1 (2 <sup>0</sup> )	DIP-2 (2 <sup>1</sup> )	DIP-3 (2 <sup>2</sup> )	DIP-4 (2 <sup>3</sup> )	DIP-5 (2 <sup>4</sup> )	DIP-6 (2 <sup>5</sup> )	address (decimal)
0	0	0	0	0	0	0
1	0	0	0	0	0	1
0	1	0	0	0	0	2
...	...	...	...	...	...	...
1	1	1	1	1	1	63

### Baud Rate

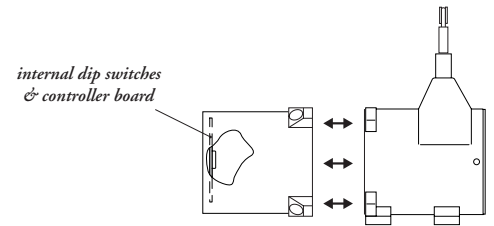
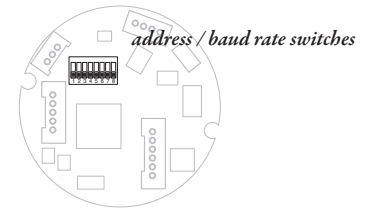
The transmission baud rate may be either factory preset at the time of order or set manually at the time of installation.

The baud rate can be set using switches **7 & 8** on the 8-pole DIP switch found on the DeviceNET controller board located inside the transducer.

DIP-7	DIP-8	baud rate
0	0	125k
1	0	250k
0	1	500k
1	1	125k

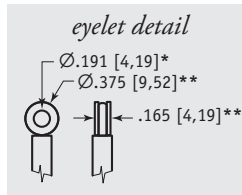
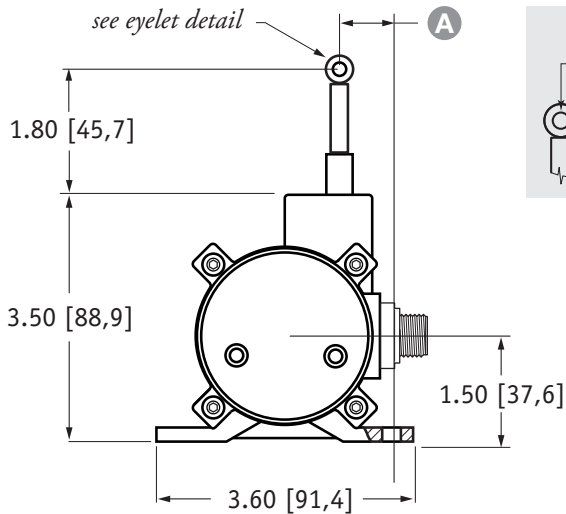


### CANBus Controller Board

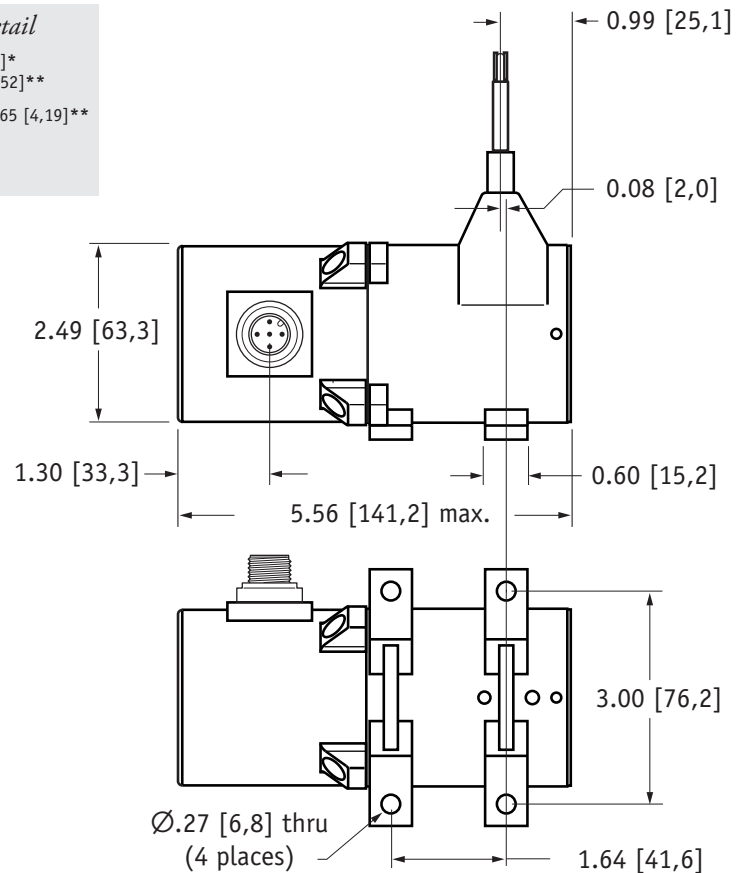


to gain access to the controller board, remove four Allen-Head Screws and remove rear cover.

### Outline Drawing:



RANGE	A
2", 10"	1.16 [29,5]
5", 25", 50"	0.66 [16,8]
15"	0.99 [25,7]
20", 40"	0.85 [21,6]
30", 60"	0.52 [13,3]



DIMENSIONS ARE IN INCHES [MM]  
tolerances are  $\pm 0.02$  in. [ $\pm 0,5$  mm] unless otherwise noted

note: \*tolerance =  $+0.005 -0.001$  [ $+0,13 -0,03$ ]    \*\*tolerance =  $+0.005 -0.005$  [ $+0,13 -0,13$ ]

Ordering Information:

Model Number:

**PT8CN** -                                                  

order code:      **R**      **A**      **B**      **G**      **D**      **J**      **F**      **G**      **H**

Sample Model Number:

**PT8CN - 50ALN34T1CG - J50032SC5**

<b>R</b> range:	<b>50</b>	(50 inches)
<b>A</b> enclosure:	<b>AL</b>	(aluminum)
<b>B</b> measuring cable:	<b>N34</b>	(.034 nylon-coated stainless)
<b>G</b> measuring cable tension:	<b>T1</b>	(standard)
<b>D</b> cable guide:	<b>CG</b>	(standard)
<b>J</b> interface:	<b>J</b>	(CANbus SAE J1939)
<b>F</b> baud rate:	<b>500</b>	(500k bits/sec.)
<b>G</b> node ID:	<b>32</b>	(32 decimal)
<b>H</b> electrical connection:	<b>SC5</b>	(5-meter cordset with straight plug)

Full Stroke Range:

<b>R</b> order code:	<b>2</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>40</b>	<b>50</b>	<b>60</b>
full stroke range, min:	2 in.	5 in.	10 in.	15 in.	20 in.	25 in.	30 in.	40 in.	50	60
accuracy (% of f.s.):	1.00%	1.00%	0.15%	0.15%	0.15%	0.15%	0.15%	0.10%	0.10%	0.10%
potentiometer cycle life*:	2.5 x 10 <sup>6</sup>	2.5 x 10 <sup>6</sup>	5 x 10 <sup>5</sup>	5 x 10 <sup>5</sup>	5 x 10 <sup>5</sup>	5 x 10 <sup>5</sup>	5 x 10 <sup>5</sup>	2.5 x 10 <sup>5</sup>	2.5 x 10 <sup>5</sup>	2.5 x 10 <sup>5</sup>

\*-1 cycle is defined as the travel of the measuring cable from full retraction to full extension and back to full retraction

Enclosure Material:

<b>A</b> order code:	<b>AL</b>	<b>SS</b>	<b>316</b>
	powder-painted aluminum	303 stainless steel	316 stainless steel

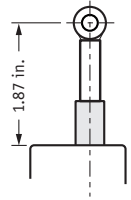
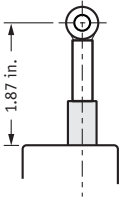
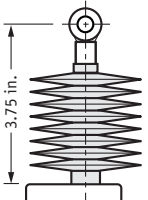
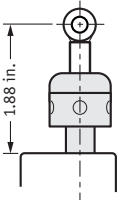
Measuring Cable:

<b>B</b> order code:	<b>N34</b>	<b>S47</b>	<b>S31</b>	<b>V62</b>
cable construction:	∅.034-inch nylon-coated stainless steel rope	∅.047-inch bare stainless steel rope	∅.031-inch bare stainless steel rope	∅.058-inch PVC jacketed vectra fiber rope
available ranges:	all ranges	5, 15, 20, 25, 30-inch only	40, 50, 60-inch only	thru 30 inches only
general use:	indoor	outdoor, debris, high temperature	outdoor, debris, high temperature	high voltage or magnetic field

Measuring Cable Tension:

<b>G</b> order code:	<b>T1</b>	<b>T2</b>	<b>T3</b>
	standard tension	medium tension	high tension
full stroke range cable tension specifications	2, 10-inch:	39 oz.	116 oz.
	15-inch:	26 oz.	77 oz.
	20, 40-inch:	20 oz.	60 oz.
	5, 25, 50-inch:	16 oz.	47 oz.
	30, 60-inch:	13 oz.	40 oz.
	tension tolerance: ± 50%		
	maximum acceleration	maximum acceleration	maximum acceleration
aluminum enclosure:	15 g	25 g	40 g
stainless steel enclosure:	6 g	12 g	18 g

Cable Guide:

<b>H</b> order code:	<b>CG</b>	<b>SS</b>	<b>CB*</b>	<b>BR</b>
	standard cable guide	stainless steel cable guide	polyurethane cable guide	integral cable brush
				

\*note: all ranges up to 25 inches only

Ordering Information (cont.):

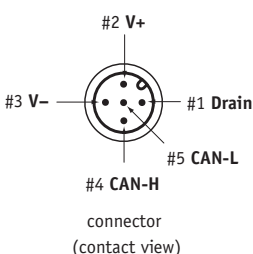
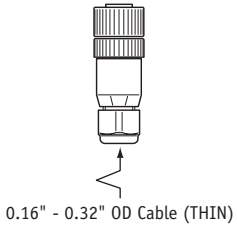
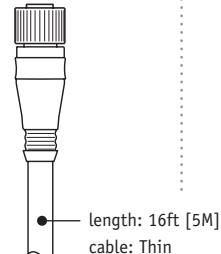
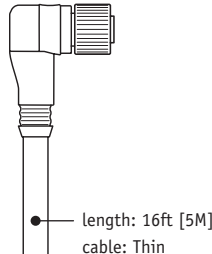
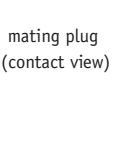
**Baud Rate:**

<b>order code:</b>	<b>125</b>	<b>250</b>	<b>500</b>
	125 kbaud	250 kbaud	500 kbaud

**Node ID:**

<b>order code:</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>...</b>	<b>62</b>	<b>63</b>
	select address (0 - 63 Decimal)					

**Electrical Connection:**

<b>order code:</b>	<b>blank</b>	<b>MC5</b>	<b>SC5</b>	<b>NC5</b>																		
	5-pin micro-connector <i>(no mating plug supplied)</i>	5-pin micro-connector w/ mating plug	5-pin micro-connector and 5 meter length cordset w/straight mating plug	5-pin micro-connector and 5 meter length cordset w/90° mating plug																		
	 <p>connector (contact view)</p>	 <p>0.16" - 0.32" OD Cable (THIN)</p>	 <p>length: 16ft [5M] cable: Thin</p>	 <p>length: 16ft [5M] cable: Thin</p>																		
		 <p>mating plug (contact view)</p>	<table border="1"> <thead> <tr> <th>pin</th> <th>signal</th> <th>wire color</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>drain</td> <td>brown</td> </tr> <tr> <td>2</td> <td>V+</td> <td>white</td> </tr> <tr> <td>3</td> <td>V-</td> <td>blue</td> </tr> <tr> <td>4</td> <td>Can-H</td> <td>black</td> </tr> <tr> <td>5</td> <td>Can-L</td> <td>grey</td> </tr> </tbody> </table>	pin	signal	wire color	1	drain	brown	2	V+	white	3	V-	blue	4	Can-H	black	5	Can-L	grey	
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