



# 1-828

## Radial Displacement Transmitter



### Applications

- Turbine / Generator Sets
- Fans or Blowers
- Motors
- Gear Boxes
- Bearing Caps

### Features

- 4-20 mA output proportional to mils Peak-to-Peak displacement
- Compatible with major probe types
- DIN Rail mountable
- Probe failure detect modes
- BNC buffered output and Gap voltage

### Description

The 1-828 series radial displacement transmitters continue the successful line of vibration transmitters designed and manufactured by CEC. These single channel signal conditioners interface with proximity transducers like the 3300, 3300XL and 7200 series or probe types with similar specifications.

Each unit provides a calibrated 4-20 mA output that is proportional to the radial peak to peak displacement vibration sensed by the transducer and extension system. The probe Gap and buffered dynamic signal are easily accessed via the front panel BNC.

Probe failure conditions are quickly identified via the multicolored status LED and the 4-20 mA output. This unique feature allows for instant feedback of the probe system condition during installation or machine operation.

Monitoring Systems



# 1-828 Radial Displacement Transmitter

## Performance Specifications

<b>Frequency Response:</b>	5 Hz - 4kHz (-3 dB)
<b>Input:</b>	Ref. 3300, 3300XL, 7200 series or equivalent
<b>Outputs:</b>	
<b>Current</b>	4-20 mA proportional to 5 mils or 10 mils peak to peak displacement ranges (see table 1)
<b>Buffered Signal (GAP V)</b>	Buffered sensor signal, short circuit protected, BNC connector
<b>Operating Linear Range:</b>	0 to 16 VDC corresponding to a gap of 10 to 90 mils.
<b>Isolation:</b>	500 VDC case to circuit
<b>Power Supply:</b>	18 - 32 VDC @ 250 mA
<b>Maximum Load Resistance:</b>	1K ohms
<b>Range:</b>	5 to 10 mils (see table 1)
<b>Sensitivity:</b>	
<b>Scale</b>	-200 mV/mil
<b>Accuracy</b>	±5% at 77°F
<b>Temperature Coefficient</b>	±3.5% per 100°F temperature
<b>Linearity</b>	increase from 77°F ±1 mil of best fit straight line
<b>Target Material:</b>	4140 stainless steel or Incoloy 901 (see Table 1)
<b>Probe Failure Detect:</b>	
<b>Probe to close to target</b>	Output goes below 2.5 mA if the gap is less than 10 mils
<b>Probe not connected or too far from target</b>	Output goes to 20.5 mA if gap is greater than 90 mils
<b>Operating Temperature:</b>	-40°F to +150°F
<b>Relative Humidity:</b>	To 95% non-condensing
<b>Shielding:</b>	Yes, see case material
<b>Dimensions:</b>	See Figure 1
<b>Weight:</b>	8 ounces
<b>Mounting:</b>	35 mm DIN rail
<b>Case Material:</b>	PVC with interior zinc overspray
<b>Terminals:</b>	Tension Loaded Contacts
<b>BNC Connector:</b>	Cover Provided

## Hazardous Approvals



**North America**  
CSA C/US Class I, Division 2, Groups A, B, C and D  
Temp Code T3C; Amb. Temp -40°C to 65°C



**European**  
ATEX II 3 G Ex nA II T3

## Ordering Information

When ordering, use table 1 to develop part number. In keeping with CEC's policy of continuing product improvement, specifications may be changed without notice.

**Table 1**

CEC P/N 1 - 8 2 8 - A A A - B B - C D			
<b>A</b>	<b>INPUT TYPE (5mm or 8mm Tip)</b>		
		Probe Type	Target Material
			System Length
	A05 =	3300	Incoloy
	A09 =	3300	Incoloy
	A14 =	3300	Incoloy
	B05 =	3300	4140 S.S.
	B09 =	3300	4140 S.S.
	B14 =	3300	4140 S.S.
	C05 =	7200	Incoloy
	C09 =	7200	Incoloy
	D05 =	7200	4140 S.S.
	D09 =	7200	4140 S.S.
	D14 =	7200	4140 S.S.
<b>B</b>	<b>4-20 mA OUTPUT RANGE (Full Scale)</b>		
	05 =	0 - 5 mils	
	10 =	0 - 10 mils	
<b>C</b>	<b>HIGH PASS FILTER</b>		
	0 =	None	
	1 =	5 Hz	
	2 =	10 Hz	
	3 =	15 Hz	
	4 =	20 Hz	
	5 =	30 Hz	
<b>D</b>	<b>LOW PASS FILTER</b>		
	0 =	None	
	1 =	500 Hz	
	2 =	1 kHz	
	3 =	2 kHz	
	4 =	4 kHz	

**Example:** P/N 1 - 8 2 8 - B 0 9 - 1 0 - 2 2

The example unit's input is from a 3300 type proximity probe with a total system length of 9 meters and a target material of 4140 S.S. The output is 4-20 mA scaled from 0 to 10 mils, peak to peak. The filtering includes a combination of a 10 Hz high pass and 1,000 Hz low pass filters.

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**Figure 1**

