

# TXR5521 RPM Transmitter

## Datasheet



### OVERVIEW

The Model TXR5521 is a 2-wire, 4-20mA transmitter operating on a nominal power of +24 Vdc. The unit operates with an eddy current proximity probe to sense a keyway or gear teeth on a rotating shaft and provides a 4-20 mA output proportional to shaft RPM. The transmitter is factory preset by complete model number. The full scale RPM can be set from 5 to 120,000 RPM and pulses/revolution set from 1 to 99. The minimum RPM resolution is a function of the number of pulses/revolution: the number of pulses per revolution times the maximum RPM desired must be less than or equal to 120,000.

### FEATURES

- 4-20 mA proportional to shaft RPM
- Sensing to 177°C with PP Series Probe
- Dynamic output for vibration phase reference used in analysis
- Full scale range from 5 to 120,000 RPM



**CAUTION:** Metrix RPM transmitters are designed for speed indication only. Use as part of a speed control and/or overspeed protection circuit represents a misuse of the product; it does not provide the necessary response time and other attributes required for such applications.

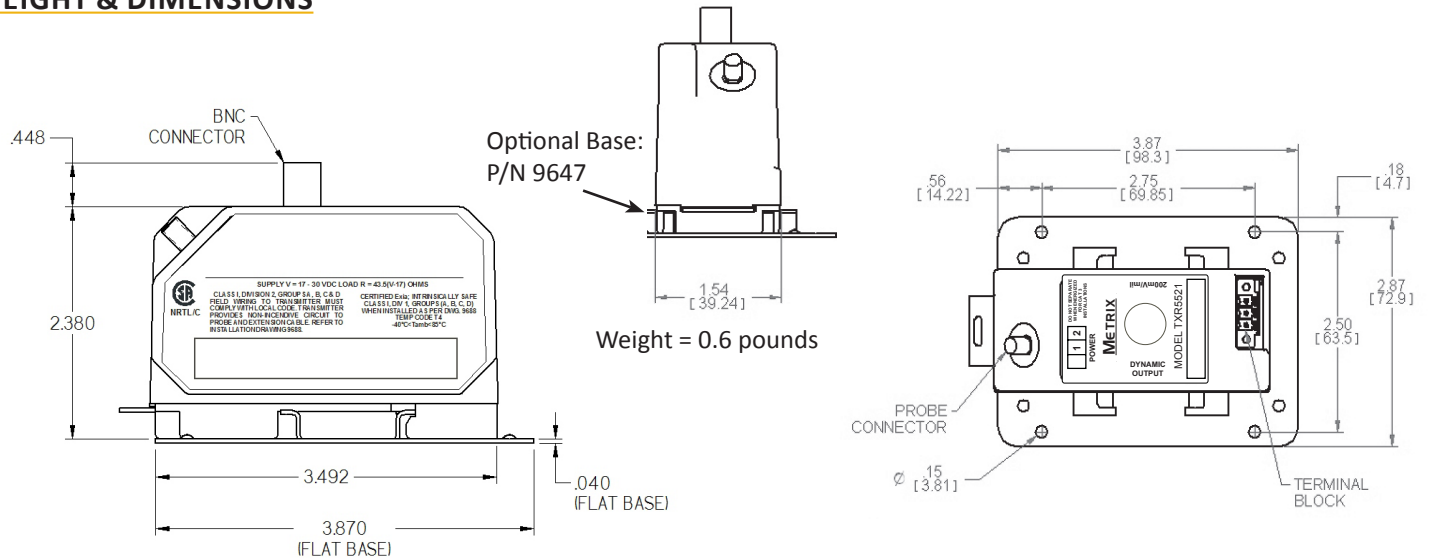
### SPECIFICATIONS

<b>Function</b>	Loop powered transmitter operates with a non-contact proximity probe/cable to convert shaft rotation in revolutions per minute (RPM) to a proportional 4-20 mA output signal.
<b>Proximity Probe/Cable</b>	Available for any standard probe/cable combination. Can be factory-calibrated for any probe and/or cable.
<b>Loop Supply Voltage (Vs)</b>	17 to 30 Vdc
<b>Probe Gap</b>	1.25 mm [50 mils]
<b>Pulses/Revolution</b>	1 to 99 pulses/revolution (120,000 pulses/minute max; pulse duration must also be at least 450 microseconds for proper triggering). See Ordering Information section for factory preset options.
<b>RPM Range (4-20 mA output)</b>	From 5 to 120,000 RPM. See Ordering Information for factory preset options.
<b>Test Output (AC &amp; DC)</b>	<ul style="list-style-type: none"> <li>• Access via terminals and BNC</li> <li>• Isolation: 10K <math>\Omega</math> from 4-20 mA loop</li> <li>• Sensitivity: 7.87 mV/micron (200 mV/mil)</li> </ul>
<b>Maximum Load Resistance (RL)</b>	$RL=50 \times (Vs - 17.0) \Omega$
<b>Temperature Limits</b>	-40° to 85°C
<b>Isolation</b>	500 Vrms, circuit to case
<b>Housing</b>	Polymer internally coated for RFI/EMI protection.
<b>Standard Target Material</b>	4140 steel shaft keyway or gear teeth. Custom calibration available for other materials, please consult factory.

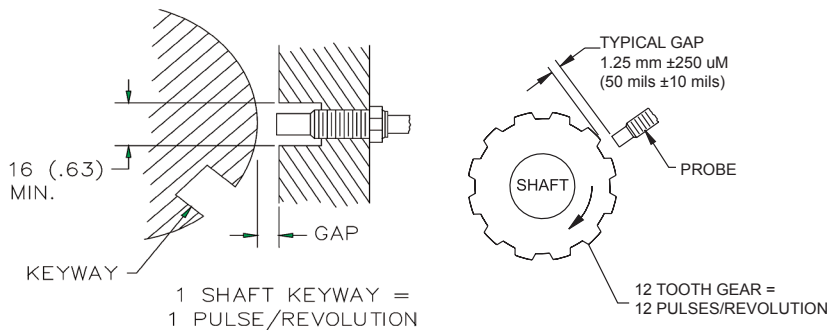
### APPROVALS

<b>CSA</b>	Intrinsically Safe Class I, Div 1, Groups A, B, C & D, T4 Non-Incendive Class I, Div 2, Groups A, B, C & D, T4
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## WEIGHT & DIMENSIONS



## TYPICAL APPLICATION DIAGRAMS (PROBE SHOWN ONLY)



## ORDERING INFORMATION

	Probe Series	System Length*	Tip Configuration	0	No. of Keyways	Full Scale RPM
TXR-5521	AA	B	C	D	EE	FFFFFF
	72 = 10000 or 7000 series	5 = 5 meters or 9 = 9 meters	0 = 5 or 8mm tip	0	01 = 1 keyway (minimum)  through 99 = 99 keyways (maximum) (see notes below)	Examples: 010000 = 10,000 RPM 000470 = 470 RPM 002030 = 2030 RPM (see notes below)
	33 = 3300 series	5 = 5 meters or 7 = 7 meters				
	39 = NSv 3309 series	1 = 15 feet or 2 = 20 feet	1 = 0.190 tip or 2 = 0.300 tip			
	30 = 3000 series					

\*Custom lengths available. Please contact factory

### NOTES:

- No. of Keyways x RPM  $\leq$  120,000
- Full scale ranges may be selected in 1 RPM increments. The minimum resolution is 0.1% of the selected increment. For example, a 59,952 RPM full scale will change in increments of 60 RPM.

EXAMPLE: TXR-5521-33-9-0-0-06-020000 (3300 probe series, 9 meter cable, 5 or 8 tip, 6 keyways and 20,000 RPM)

