Condition Monitoring Custom Products

CMCP576
Proximity Probe to TTL Converter

Features:

- Accepts Inputs from All Proximity Probe Systems
- Provides a 0-5VDC Pulse Output (TTL)
- Works with Raised or Recessed Targets
- Adjustable Triggering
- Local Trigger Indication
- 0-15kHz Frequency Range
- 0.01% Accuracy
- Din Rail Mountable
- 24VDC, 20mA Max

Description:

The CMCP576 Pulse Transmitter is a 24VDC powered device that converts the voltage output from an Proximity Probe into a 5 Vdc TTL signal to interface with monitoring systems or PLC's. The transmitter allows the user to adjust a single threshold to only trigger off a specific target by narrowing in on the specific voltage output of the proximity probe system. An internal jumper is provided to allow switching between recessed and raised targets such as a key or keyway.

Specifications:

Input Power:	22-26VDC (24Vdc Typical)
Current Consumption:	20mA Max (15mA Typical)
Input Signal:	Output Voltage from Proximity Probe System
Triggers Types:	Raised or Recessed Targets (Key or Keyways)
Minimum Pulse Width:	10 µsec @ 1 VDC
Frequency Range:	0-15kHz
Accuracy:	±0.01%
Deadband:	0.2V Nominal
Input Impedance:	> 10 kOhms.
Isolation:	Three Way Isolation (Input, Power and Output) 800VDC
Connection Type:	Screw Terminals, Accepts 16-22AWG Wire
Mounting:	32 mm (G style) or 35 mm (T style) DIN Rail.
Case Material:	Black Polyamide
LED Operation:	LED On = 5 Vdc TTL Output
	LED Off = 0 V Vdc Output
	LED will flash as the TTL output pulses.
	May seem steady at high speeds.
Dimensions/Weight:	1" x 3.11" x 3.95" (HxWxD); 1.6 Oz.
	25.4mm x 79mm x 100mm (HxWxD); 45.35 grams
Operating Temperature:	-20 to 80C,
Storage Temperature:	-55∘C to +125∘C (-67∘F to +257∘F).
Relative Humidity:	0-95% Non-Condensing
Threshold Drift:	< 200ppm / C

Calibration and Operating Instructions:

Calibration:

Rotate front panel mounted potentiometer screw until LED turns on or begins to flash with each pulse.

> Rotate clockwise to lower threshold on a raised target.
> Rotate counter-clockwise to raise threshold on a recessed target.
> Once LED turns on, rotate another 1/2 turn.
> Potentiometer is capable of 15 full turns.

Recessed Target (Keyway)

> Internal Jumper Position: Inside (KW Position - Middle and Right)
> With keyway in view of probe, turn potentiometer counter-clockwise until LED turns on.
> Verify LED turns off when keyway is not in view.

Raised Target (Key)

> Internal Jumper Position: Outside (K Position - Middle and Left)
> With key in view of probe, turn potentiometer clockwise until LED turns on.
> Verify LED turns off when key is not in view.
> LED will flash as target is sensed. LED may seem to stay on as speed increases.

Jumper Positioning:

Step 1: Open right hand side panel.
Step 2: Located the 3 way pin jumper marked K and KW on the outer posts.
Step 3: For a recessed target (keyway) place jumper on the post marked KW and the center post.
> For a raised target (key) place jumper on the post marked K and the center post.
Step 4: Replace side panel.

Verification:

Step 1: Using two digital multimeters or an oscilloscope, connect each input to the CMCP576 input
> and output terminals. Channel 1 should connect to XDCR +/- and Channel 2 to Out P+/P-.
Step 2: Place both channels in frequency mode.
Step 3: Verify the input frequency matches the output frequency.

Troubleshooting:

Unable to verify if target is raised or recessed.

After connecting CMCP576 use a voltmeter to measure the TTL output. If the voltage is below 5V reverse the K/ KW pin position. If the output is above 5VDC the correct position is selected.
Note: If the pulse indicator is weak the K/KW position is likely incorrect, reverse jumper position.

No Output

Verify CMCP576 has 24VDC power. Verify threshold setting has been adjusted. If the threshold is turned all the way up the TTL output will stop working. Rotate threshold screw until the front panel indicator flashes.
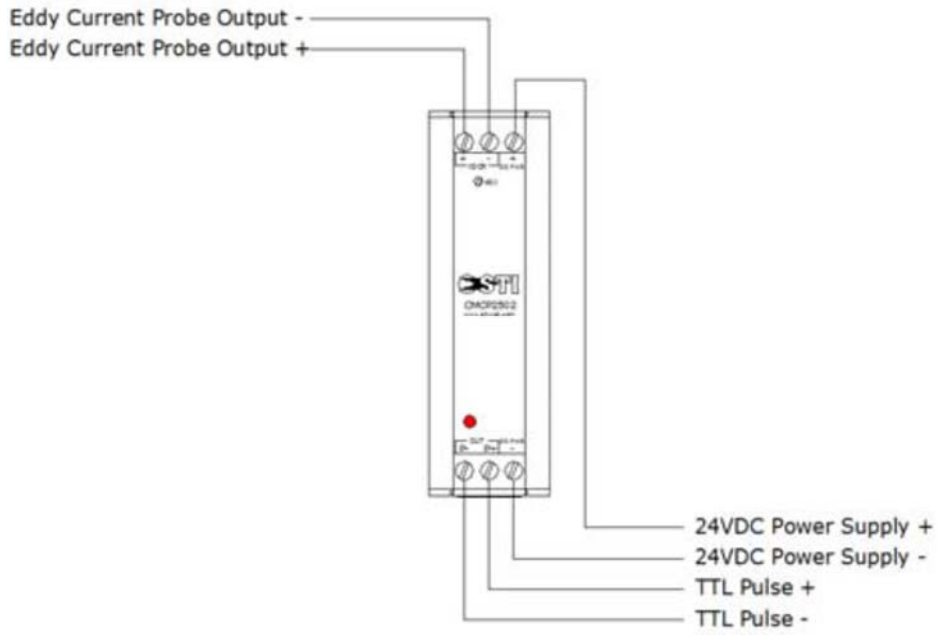
Indicator Stays On, Does not Flash

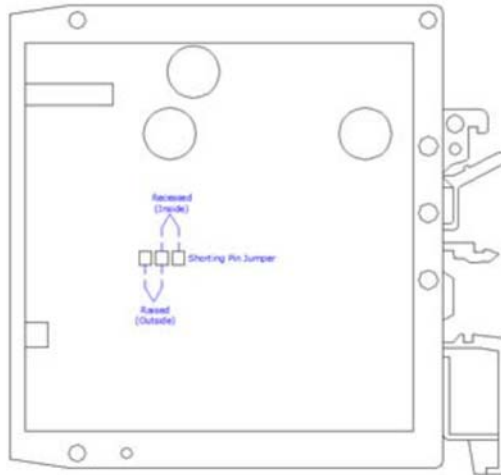The indicator flashes with each TTL pulse. At high speeds the indicator may constantly stay on.

Speed Does Not Match Running Speed

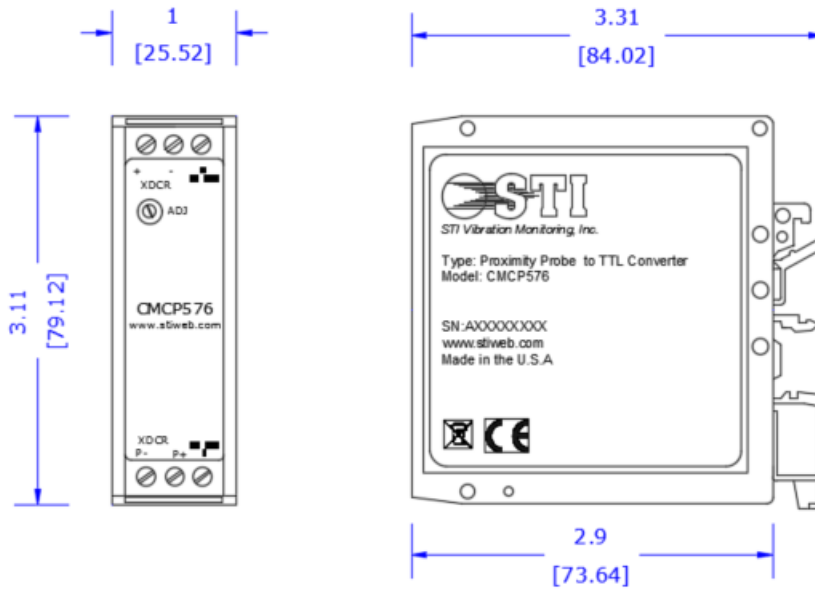Verify threshold setting. See verification steps above to verify input and output pulse frequency.

Connections:

Eddy Current Probe Output −
Eddy Current Probe Output +

24VDC Power Supply +
24VDC Power Supply −
TTL Pulse +
TTL Pulse −

Jumper Settings for Recessed or Raised Target:

Recessed
(Inside)

Shorting Pin Jumper

Raised
(Outside)

Dimensions:

Ordering Information:

CMCP576   Proximity Probe to TTL Converter

STI Vibration Monitoring Inc.