

Yekan VT612 Vibration Transmitter

4-20mA Output Vibration Velocity Sensor

User Guide / Installation Manual

Rev. V1.1



Introduction

4-20 mA Vibration Monitoring Process Overview

4-20 mA technology can be used to measure overall vibration of rotating machines. Adding a vibration sensor/ transmitter to the machine provides a critical measure of the machine's health. It can be used to identify changes in balance, alignment, gears, bearings, and many other potential faults.

The purpose of the 4-20 mA analog current loop is to transmit the signal from an analog vibration sensor over a distance in the form of a 4-20 mA current signal. The current signal generated is proportional to the overall vibration of the equipment or machinery that is being monitored. This output current has a range of 4-20 mA, with 4 representing the minimum and 20 representing maximum amplitudes (within the range of 4-20 mA). The 4-20 mA signal output is proportional to the overall amplitude generated within a defined frequency band. Therefore, the signal does not include data from frequencies outside the frequency band but includes all vibration (critical and non-critical faults) within that band.

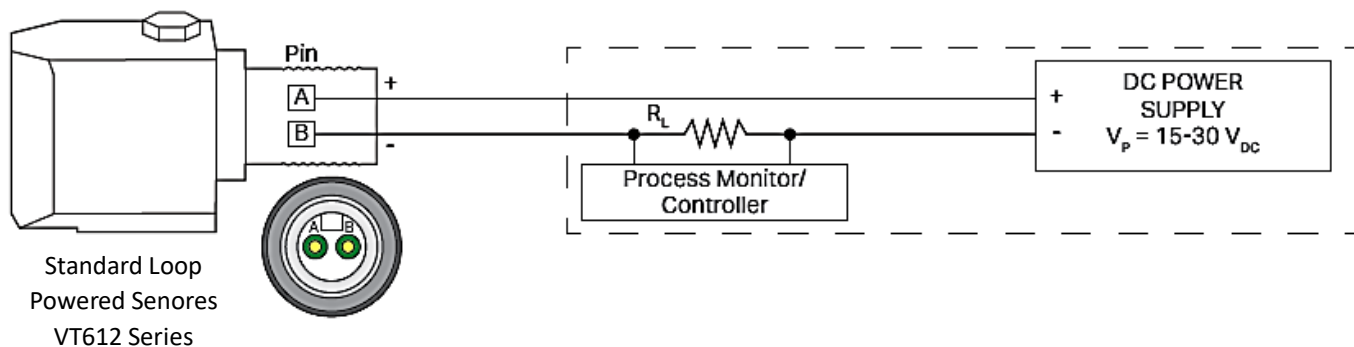
Product Specifications

Power Input	15-30 Vdc supply voltage required
Analog Output	Full-Scale Output of 4-20 mA
Measurement Type	RMS Velocity
Temperature Range	-40~+85°C

Pin Configuration and Wiring Diagram

Only two wires are required to send the current signal and also supply power to the sensor. A loop supply voltage is used to power the remote sensor. The remote sensor regulates the loop current such that the loop current represents the value of the parameter being measured by the sensor. A series resistor R_L at the loop power supply converts this current to a voltage that can be used by the process monitor/controller to record or distribute the parameter being measured.

4-20 mA Loop Power Sensor



Measurement

Full Scale Measurement Range	Actual Vibration IPS	Expected Output mA
0-0.4 IPS (0-10 mm/s)	0	4
	0.1 (2.5 mm/s)	8
	0.2 (5.0 mm/s)	12
	0.3 (7.5 mm/s)	16
	0.4 (10.0 mm/s)	20
0-0.5 IPS (0-12.7 mm/s)	0	4
	0.1	7.2
	0.2	10.4
	0.3	13.6
	0.4	16.8
	0.5	20
0-0.8 IPS (0-20 mm/s)	0	4
	0.2 (5.0 mm/s)	8
	0.4 (10.0 mm/s)	12
	0.6 (15.0 mm/s)	16
	0.8 (20.0 mm/s)	20
0-1 IPS (0-25.4 mm/s)	0	4
	0.1	5.6
	0.25	8
	0.5	12
	0.75	16
	1	20

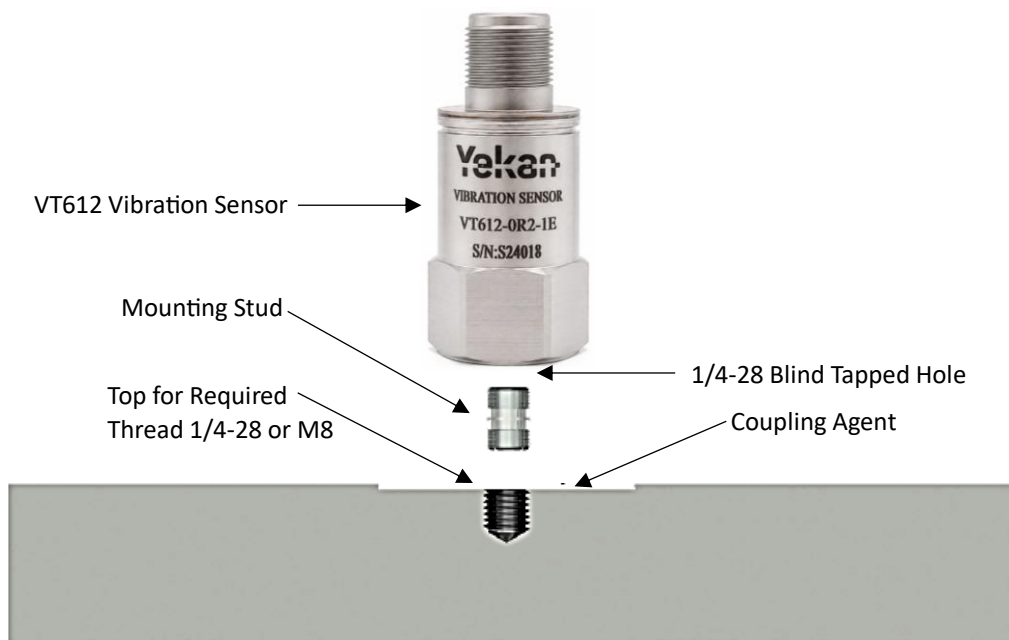
Installation

You can install the sensor in different ways: using magnets (For magnetic installation, Yekan provides FM and MM series magnets for both flat and curved surfaces.), glue (adhesive), or bolts (stud mounting).

For the best and most accurate results, we recommend bolt-on mounting (using a stud or bolt) instead of magnets or glue.

The mounting torque is important to the frequency response of the sensor for the following reasons:

- If the sensor is not tight enough, proper coupling between the base of the sensor and the mounting disk will not be achieved.
- If the sensor is over tightened, stud failure may occur.



NOTE: The mounting surface should be clean and free from any residue or paint.

Warranty

Please for more products and detailed information regarding our warranty policies, please visit our website at www.yekan-vibro.com.

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