

VT9212 Vibration and Temperature Transmitter



Overview

VT9212 is vibration and temperature transmitter, the vibration amplitude of rotating machinery is measured by piezoelectric principle, the temperature mechanical case bearing is measured by PT100 temperature sensor. The characterized is combine compact, lightweight, easy install and simultaneous output to vibration and temperature signals transmitter. Especially apply in rotating machinery to shaft installation, saving space. It integrates vibration and temperature sensors, as well as signal processing circuits, into stainless steel housing, providing the ideal solution for the measurement of vibration and temperature of rotating machinery, 4-20mA output signals, which can transmit directly to programmable logic controllers (PLC), Distributed Control Systems (DCS), Monitoring instruments or any other 4-20mA inputs.

VT9212 is a dual-signal output case mounted transmitter, such as the choice of insertion temperature probe rod, must confirm exact insertion depth, to ensure the accuracy of temperature measurement.

Product feature

Simultaneous two-way 4-20mA output signal in proportion to vibration amplitude and temperature

Connect directly to PLC & DCS or any other control systems

Loop Power with vibration and temperature connection

Multiple mounting and connection

Digital circuit

Anti-electromagnetic and RF interference

Optional measurement of acceleration, velocity or displacement

Integrated anti-surge protection

High and Low Pass Filter option

HART Communication protocol

RSL Technology

Application

Centrifugal Separator	Blower	Generator	Fan
Compressor engine	Motor	Pump	Turbocharger
Air cooling tower	Turbine	Diesel engine	

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Technical specification

Vibration:

Range: Full Scale Range see order guide CCC,4-20mA signal proportional to velocity full scale

Accuracy: $\pm 1\%$ (Repeatability)

Linear: $\pm 0.5\%$

Operation Temperature: $-55^{\circ}\text{C}\sim+75^{\circ}\text{C}$

Frequency Response: 2-1500Hz($\pm 3\text{dB}$), option: 2-2000Hz

Sensitive Axis: Same as stud axis

Power Voltage (Vs):12-28VDC

Temperature:

Range: $-40^{\circ}\text{C}\sim 150^{\circ}\text{C}$ =4-20mA

Accuracy: $\pm 0.5\%$

Measurement: Single PT100 Thermal Resistance

Communication: HART Protocol, $^{\circ}\text{C}$ & $^{\circ}\text{F}$, Range can be change。

Electrical Connection: Optional

Enclosure Material: See order guide J

Humidity: $\leq 99\%$

Enclosure Rating: IP66

Hazardous Area: NEPSI, Ex ia IIC T4 Gb

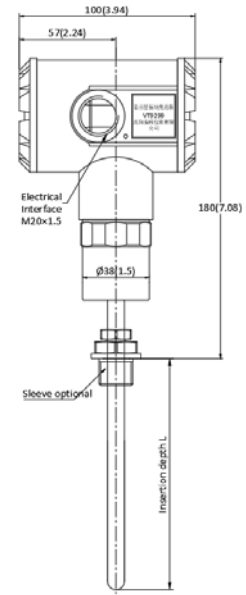
NEPSI, Ex d IIC T6 Gb

Maximum Resistance (R_L): $R_L = 50 \times (V_s - 12) \Omega$

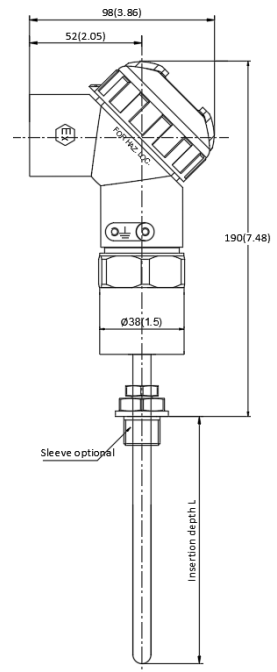
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Dimension

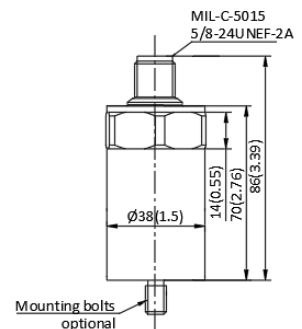
Surface mount



Display surface mount



Plug-in installation



Vibration & temperature transmitters can choose different installation methods and wiring types according to the user's on-site use. All surface installation forms can be inserted and installed.

Please contact VibroTech Instrument for specific dimensions.

Unit: mm(in)

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Order Guide VT9212AB-CCC-DEF-GH-I-JK

A: Communication

- T Loop Output 4-20mA
 H Loop Output 4-20mA with HART

B: Single Display

- Blank---No Display
 L-----Temperature Display
 S-----Vibration Display

CCC: Full Scale Range

Velocity Peak

- 121 25.4mm/s(1.0ips),pk
 122 12.7mm/s(0.5ips),pk
 123 50mm/s(2.0ips),pk
 124 125mm/s(5.0ips),pk
 125 10mm/s(0.4ips),pk
 126 20mm/s(0.8ips),pk
 127 16mm/s(0.65ips),pk
 128 75mm/s(3.0ips),pk
 129 32mm/s(1.28ips),pk

Velocity Rms

- 151 25.4mm/s(1.0ips),rms
 152 12.7mm/s(0.5ips),rms
 153 50mm/s(2.0ips),rms
 154 125mm/s(5.0ips),rms
 155 10mm/s(0.4ips),rms
 156 20mm/s(0.8ips),rms
 157 16mm/s(0.65ips),rms
 158 75mm/s(3.0ips),rms
 159 32mm/s(1.28ips),rms

Acceleration Peak

- 201 1g, pk
 202 2g, pk
 203 5g, pk
 204 10g, pk
 205 16g, pk
 206 32g, pk

Acceleration rms

- 231 1g, rms
 232 2g, rms
 233 5g, rms
 234 10g, rms
 235 16g, rms
 236 32g, rms

Displacement

- 301 100μm, pk-pk
 302 150μm, pk-pk
 303 200μm, pk-pk
 304 125μm, pk-pk
 305 250μm, pk-pk
 306 500μm, pk-pk
 307 1000μm, pk-pk

D: Mounting Stud

- 0 Surface mount, Integral 1/2" NPT
 1 Surface mount, Integral 1/4" NPT
 2 Surface mount, 3/8"-24UNF×1/2"
 3 Surface mount, M8×1-12
 4 Surface mount, M10×1.25-12
 5 Surface mount, M8×1.25-12
 6 Surface mount, M10×1-12
 7 Surface mount, M10×1.5-12
 8 Plug-in installation, 1/2" NPT Sleeve
 9 Plug-in installation, M20×1.5 Sleeve
 X Customize(Contact Factory)

E: Explosion-proof Grade

- 1 None
 2 NEPSI, Ex ia IIC T4
 3 NEPSI, Ex d IIC T6 (F#2)

F: Connection

- 0 Single electrical interface with fixed terminals (B Blank)
 1 Double electrical interface with fixed terminals (B Blank)
 2 4-MIL aviation plug connector, 3m cable (B Blank)
 3 Dual cavity display, single electrical interface M20×1.5 (B=L or S)
 4 Single cavity display, single electrical interface (B=L or S)
 5 Single cavity display, single electrical interface (B=L or S)

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G: Hi-Pass Filter

- 0 (2Hz) Standard
- 1 5Hz
- 2 10Hz
- 3 20Hz
- 4 50Hz
- 5 100Hz
- 6 200Hz

H: Lo-Pass Filter

- 0 (1500Hz) Standard
- 1 500Hz
- 2 1000Hz
- 3 2000Hz

III: Probe Rod Length

- 000 No(D=0-7)
- 100 100mm(D=8,9)
-
- 225 225mm
-
- 500 500mm

J: Shell Material

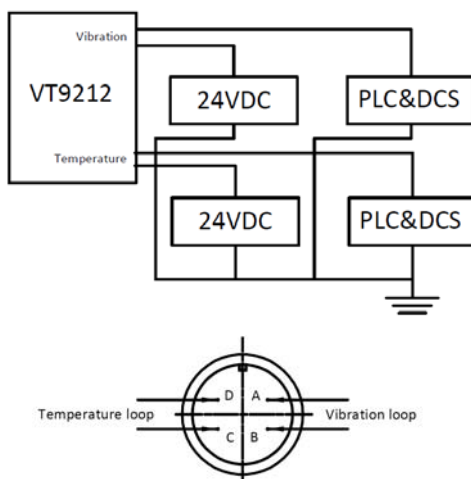
- 0 Lower shell: 304SS; Upper shell: alloy aluminum(F≠2)
- 1 Lower shell: 316L; Upper shell: alloy aluminum(F≠2)
- 2 Integral 316L(F=0,2,4)
- 3 Integral 304SS(F=2)

K: Electrical Interface

- 0 No(F=2)
- 1 1/2" NPT(F≠2,3)
- 2 3/4" NPT(F≠1,2,3,5)
- 3 M20×1.5(F≠2)

Wiring Diagram

Safety zone and Flame-proof area



Intrinsically safe and explosion-proof area

