

Vibration Transmitters

Big Protection in a Small Package



Prevent unplanned downtime in your plant by monitoring the health of your rotating and reciprocating machinery. Using the HI 5701VT Vibration Transmitter and your existing plant control system, whether PLC or DCS, you can trend vibration levels and take preventive action before equipment failure would typically occur.

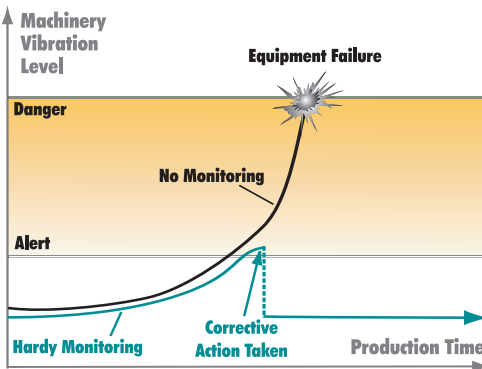
DESCRIPTION

The HI 5701 Vibration Transmitter is a Loop Powered Sensor that provides a 4-20mA signal directly proportional to the overall vibration level of the equipment. The HI 5701VT design uses True RMS (Root Mean Square) vibration measurement. The benefit of True RMS is that the highest level of measurement accuracy is guaranteed over a wide range of vibration forms. By integrating state-of-the-art electronics into a solid stainless steel design, the HI 5701VT provides accurate vibration output in the most rugged applications, including chemical duty and explosion proof areas. With a frequency range of 6-2,000Hz, the HI 5701VT Vibration Transmitter is extremely effective at picking up such machinery issues as unbalance, shaft misalignment, and mechanical looseness.

PLANT CONTROL SOLUTION

Using the 4-20mA output, the HI 5701VT Vibration Transmitter can provide a direct input into any PLC or DCS Plant Control System for trending, alarming and shutdown capabilities.

- Trend Vibration, the most critical health measurement, along with other equipment parameters to monitor and diagnose the condition of the equipment
- Trigger an alarm once excessive levels are reached to allow preventive action to take place and avoid unexpected shutdowns and catastrophic failures
- Initiate preventive action, such as a controlled shutdown of the machinery or a reduction in process flow, to prevent equipment failure and provide time for response



INTEGRATED SOLUTION

With the sensor and electronics integrated into one compact design, the Vibration Transmitter provides an easy-to-install solution with the minimum level of wiring requirements. No need for an accelerometer, a signal conditioner, and additional panel space. This design saves you time and money.

FLEXIBLE SOLUTION

The HI 5701VT also incorporates two extra wires and a connector for access to the dynamic vibration signal. By plugging into this dynamic output with a data collector, you can access the full vibration spectrum and perform a diagnostic analysis. Thus, the Vibration Transmitter provides both overall and spectrum analysis capabilities.

HI 5701 VT Series

Features and Benefits

- Loop Powered 4-20mA Output
- True RMS Measurement
- Dynamic Output
- No Calibration Necessary
- Easy to Install
- Rugged Design
- Reverse Wiring Protection
- Explosion Proof
- CE Certified

Applications

- Overall Vibration into a PLC or DCS
- Machine Shutdown
- Alerts/Alarms
- Trending Analysis

Rotating Machinery

- Pumps
- Gears
- Fans/Blowers
- Turbines
- Motors
- Chillers
- Mixers
- Mills

Reciprocating Machinery

- Packaging Machines
- Compressors
- Reciprocating Engines



IS TECH INTERNAL STANDARD TECHNOLOGY
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HARDY
INSTRUMENTS

HARDY INSTRUMENTS CONDITION MONITORING PRODUCTS

• **HI 5500 Series Vibration Signal Conditioners**
Modular and versatile approach to monitoring and protecting rotating machinery.



• **HI 5800 Vibration Switch**



Complete machine protection and a predictive maintenance solution via a 4-20mA output in an all-in-one compact package.

• **HI 3600 Machine Monitor**
For critical machinery such as



reciprocating compressors. Monitors vibration, impact, and rod drop for trending, alarm, and shutdown.

• **HI 800 Portable Shakers**
Used to verify the integrity and performance of sensors and vibration monitoring systems.



• **Sensors, Cables and Connectors**
Accelerometers, Velocity Sensors, and Eddy Current Displacement Probe Systems.

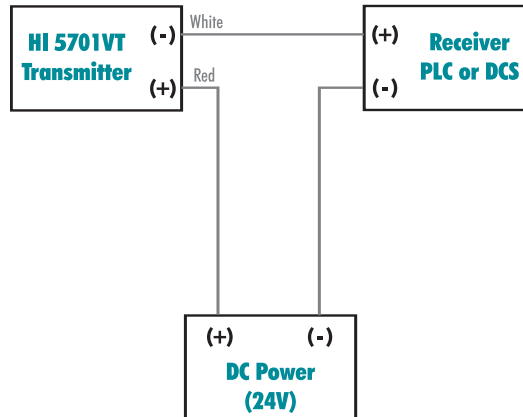


HARDY INSTRUMENTS

MODEL NUMBERS

Model #	Range
HI 5701-VT1	0-1 ips peak
HI 5701-VT2	0-2 ips peak
HI 5701-VT3	0-3 ips peak

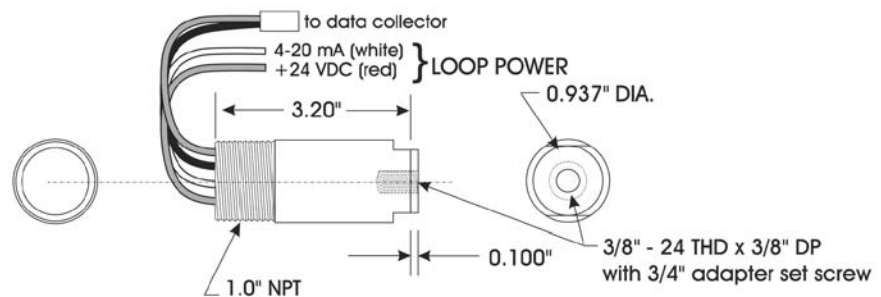
WIRING DIAGRAM



SPECIFICATIONS

- **Measurement Range**
See on left
- **Detection Method**
True RMS
- **Measurement Output**
Velocity, peak
- **Output (+/- 5% of span)**
4-20mA DC
- **Dynamic Output**
100mV/g
- **Frequency Response**
+/- 3dB
6 - 2,000Hz (360-120,000cpm)
- **Power Requirements**
14 to 36 VDC
- **Electrical Connections**
- 4-20mA output: 2 wires, AWG #20, 72 inches
- Dynamic output: 2 wires, 72 inches, Molex connector
- **Grounding**
Case isolated to 500V, internally shielded
- **Operational Temperature Range**
-40° to 85°C
- **Sealing**
Epoxy sealed
- **Weight**
375 grams
- **Case Material**
316 Stainless Steel
- **Mounting**
3/8-24 Tapped Hole
- **Certifications**
CE, CSA Hazardous Area (Class 1, Division 1, Group B, C, D)

DIMENSIONS



NOTES:

MATERIAL: 316 STAINLESS
INSTALLATION: Drill and tap 3/8" - 24 x 1/2" DP

To learn more about the HI 5701 Series,
visit our web site:

www.hardyinstruments.com

or call us at

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ISO 9001:2000
CERTIFIED

Since 1993

HI 5701VT Rev 1206



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