Vibration Transmitters

Vibrasense®
Models 8590 & 8591

Shown with optional elbow fitting

Model 8590
2 Wire Vibration Transmitter

Includes LCD Indicator

Model 8591
2 Wire Vibration Transmitter with Indicator

Shown without elbow fitting

Model 8590
2 Wire Vibration Transmitter

FEATURES

- Loop-Powered
- 4-20 mA signal proportional to velocity
- Available with Flying Leads or Mil Style Connector
- Compatible with Microprocessor-based Monitors, Hawk-I, PLC's DSC, etc.
- Explosion-proof and Intrinscially safe
- Low Cross Axis Sensitivity
- Solid State Construction, No moving parts
- High & Low Pass Filters Available

APPLICATIONS

- Real-time On-line Monitoring of Machine Vibrations
- Engines, Compressors
- Pumps
- Fans, Blowers

Form 1332

Vibrasense Vibration Tranmitters Models 8590 & 8591

Combining vibration sensor and signal transmitter in a single package, these devices provide the ideal solution for sensing vibration and transmitting an industry standard 4-20 mA signal directly to AMOT's Hawk-I, process monitors, controllers, or control systems.

Employing no moving parts, the basic transmitter consists of a precision accelerometer, signal conditioner, and current drive circuit, using all solid state components. The transmitter is epoxy encapsulated in a 303 Stainless Steel housing.

The transmitters are installed by screwing the integral NPT mounting stud into a tapped hole in the machine casing.

Each transmitter is factory calibrated to the nameplate sensitivty. If desired, the zero and span controls can be adjusted in the field.

Two models are available:

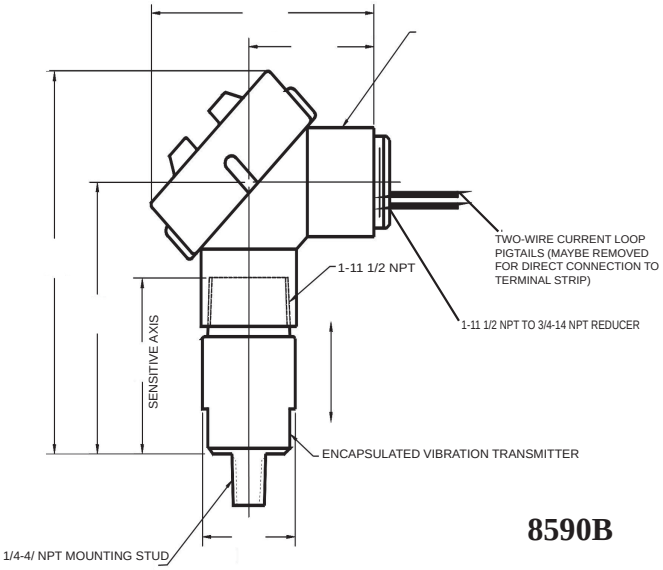
Model 8590 is an indicating version which senses peak or RMS vibration velocity in ranges from 0 to 5.0/in/sec. It can be supplied with a screw cover explosion proof elbow fitting for field wiring connections.

Model 8591 is an indicating version of Model 8590. It comes with an integral 2-1/2 digital LCD display for local vibration indication. The LCD indicator is packaged in a sealed module that can be positioned in 90° increments within the elbow fitting to allow proper viewing when the transmitter is installed.

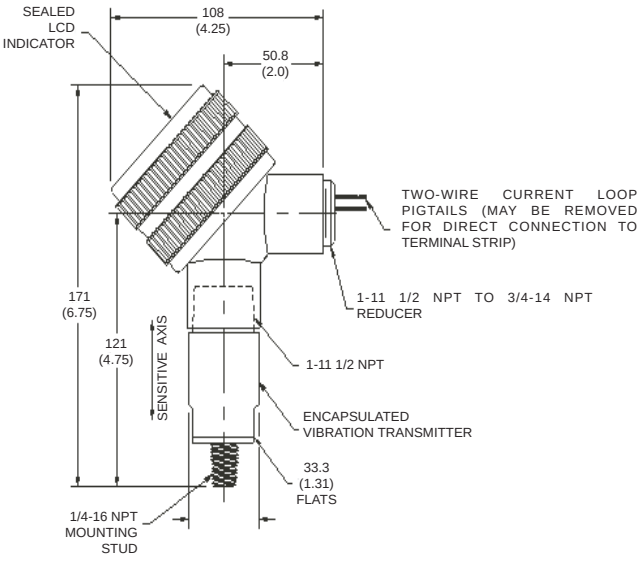
SPECIFICATIONS

Vibration Range: ..... See Table A
Output Current: ..... See Table D
Frequency Range: ..... 2 to 2000 Hz
.....(120 to 120,000 RPM)
Axis Orientation: ..... Any
Supply Voltage (Vs): ..... 10 to 30 VDC
.....Non-Plarity Sensitive
Enclosure Material: ..... 303 Stainless Steel
Maximum load resistance (RL): .....
..... RL=50X(Vsupply - 11) OHMS
Isolation: .....500 VRMS, circuit to case
Electrical conn: Flying Leads, AWG# 16, 24 in. long, Terminals (Accepts up to 16 AWG Wires) Mil Spec 2-Pin Connector.
Temperature Range: .....
Model 8590: .....-40°C to 100°C (-40 to 212°F)
Model 8591: .....-10°C to 70°C (14 to 158°F)
Environmental Rating: .....
Model 8590: ..... NEMA 4, IP 65,
..... IP 67 for 2-Pin Connector
Model 8591: ..... NEMA 4, IP 65
Hazardous area approvals: ..... See Table C

DIMENSIONS



8590B



8591B

Model Coding

A B C D E F

8590B - ☐ ☐ ☐ - ☐ ☐ ☐ - ☐ ☐ (Without LCD Read-Out)

A - Full Scale

1	2	1	1.0 ips (25 mm/s),pk
1	2	2	0.5 ips (12.7 mm/s),pk
1	2	3	2.0 ips (50 mm/s),pk
1	2	4	5.0 ips (125 mm/s),pk
1	3	2	3.0 ips (75 mm/s),pk
1	5	1	1.0 ips (25 mm/s),rms
1	5	2	0.5 ips (12.7 mm/s),rms
1	5	3	2.0 ips (50 mm/s),rms
1	5	4	5.0 ips (125 mm/s),rms
1	6	2	3.0 ips (75 mm/s), rms

B - Mounting

0	Integral 1/4" NPT
1	Integral 1/2" NPT
2	3/8-24 UNF x 1/2"
3	1/2-20 UNF X 1/2"
4	M 8 X 1-6
5	M 10 X 1.25-6

C - Hazardous Area Rating

1	Non-hazardous & CSA/NRTL/C (for all connections) Class I, Div 2, Grps A,B,C & D
2	Class I, Div 1, Grps B,C & D & Class II, Div 1, Grps E,F & G (available with flying leads ONLY)
3	CENELEC EEx ia IIC T4 Intrinsically Safe (only available with terminal block or 2-pin M-S connector configurations)

D- Connection

0	4-20 mA; Flying leads (C = 1 or 2)
4	4-20 mA; 2-pin M-S Connector (C = 1 or 3)

E - HP Filter

0	No Filter(2Hz)
1	5 Hz
2	10 Hz
3	20 Hz
4	50 Hz
5	100 Hz
6	200 Hz

F - LP Filter

0	No Filter (1500Hz)
1	500Hz
2	1000Hz
3	2000Hz

A B C D E F

8591B - ☐ ☐ ☐ - ☐ ☐ ☐ - ☐ ☐ (With LCD Read-Out)

(See above Tables)

A - Full Scale

0	2	1	1.0 ips, (25mm/s),pk
0	2	2	0.8 ips, (20mm/s),pk
0	2	3	4.0 ips, (100mm/s),pk
0	2	4	2.0 ips, (50mm/s),pk

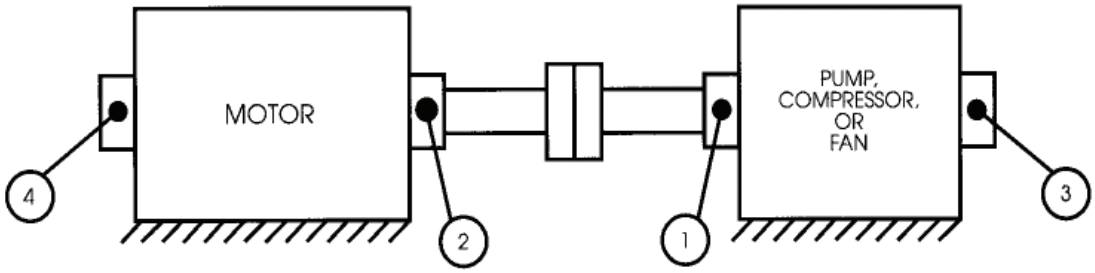
C - Hazardous Area Rating

1	Non-hazardous & CSA/NRTL/C (for all connections) Class 1, Div 2, Grps A,B,C & D
2	Class I, Div 1, Grps B,C & D & Class II, Div 1, Grps E,F & G (available with fly leads ONLY)

D- Connection

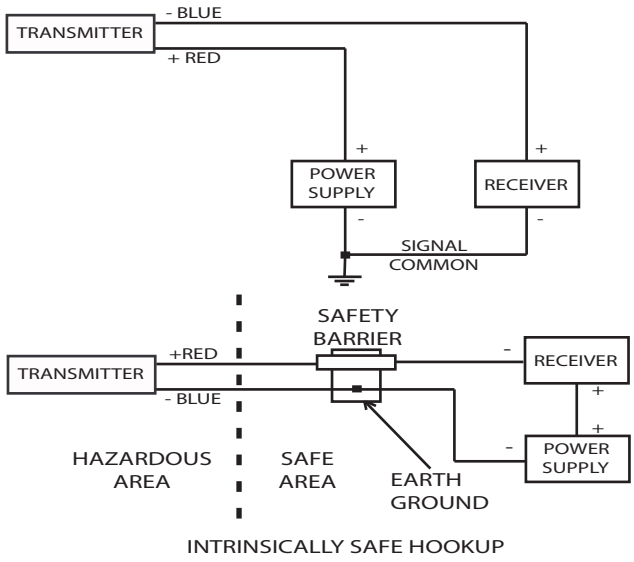
0	4-20 mA; Flying leads (C = 1 or 2)

Typical Applications & Mounting Arrangement



1-4 locations of mounting for detection of shaft/bearing vibration.

Wiring Diagrams



INTRINSICALLY SAFE HOOKUP

Accessories

AMOT P/N - 60347 Conduit Elbow & Reducer
Provides access and physical protection for field wiring. Suitable for Class I, Div. 1 (Grps C & D) and Class II, Div (grps E, F & G), hazardous areas. 1" to 3/4" NPT reducer for customer connection included. NEMA 4, IP 65. Material: copper free aluminum.

AMOT P/N - 10090 Bushing
Bushing for 1/2" NPT mount when screwed onto standard 1/4" NPT base.
Material: Stainless Steel

AMOT P/N - 10091 Splashproof Cable Assembly
Two (2) pin socket connector with integrap, molded splash proof boot with 6.4 mm (0.28") diameter polyurethane jacketed cable with twisted shielded pair wires. xxx.x=Cable length in meters.

AMOT P/N - Cable Assembly
Two (2) pin socket connector with cable strain relief with 6.4 mm (0.25") diameter polyurethane jacketed cable with twisted shieldedpair. xxx.x = cable length in meters.

Note: All 8978 connector/cable assemblies rated to 121°C (250°F) max.

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