



Type 4-137 VELOCITY VIBRATION TRANSDUCER Made in the United States of America

DESCRIPTION

The 4-137 is a seismic mass type velocity transducer designed for measuring radial vibrations at high temps up to +700°F (+371°C). A seismic mass magnet moves on special ceramic bearings. A coil is attached to the case, and movement between the magnet and coil produce the output signal when the case vibrates. This air damped system operates above its natural frequency. The voltage output is proportional to velocity.

SPECIFICATIONS

Sensitivity: @+77°F (+25°C), 100 Hz, 1 IPS (25.4 mm/s) RMS into 10,000 ohm resistive load

4-137-0006:	60 ±3 mV/ ips (Triangle Base, w/ integral 6 ft. (1.83m) cable)
4-137-0011:	145 ±3 mV/ ips (Square Base, w/ integral 20 ft. (6m) cable)
4-137-0015:	145 ±3 mV/ ips (Square Base, w/ integral 10 ft. (3m) cable)
4-137-0016:	145 ±3 mV/ ips (Square Base, w, integral 14 ft. (4.2m) cable)
4-137-0022:	105 ±3 mV/ ips (Square Base, w/ integral 3 ft. (.9m) cable)
4-137-0121:	145 ±3 mV/ ips (Square Base, w/ integral 30 ft. (9m) cable)

Sensitivity at Temperature: At an operational temperature of +900°F the sensitivity will be \pm -20% of the stated sensitivity.

Mounting Orientation:	Sensitive axis is in longitudinal direction
Frequency Range:	45 – 2000 Hz
Amplitude Range:	0.1 inch (2.5 mm) pk-pk maximum
Acceleration Range:	1 to 50 g peak vertical 1.5 to 50 g peak horizontal
Linearity:	\pm 5% from 1 to 50 g peak
Transverse Response:	2% maximum
Temperature Range:	-40°F to +700°F (-40°C to +371°C)
Thermal Coefficient of Sensitivity:	0.02%/°F from reference +77°F (0.011%/°C from reference +25°C)
Shock:	50 g
Damped Resonant Frequency:	20 Hz nominal
Excitation:	Self-generating
Coil Resistance:	450 \pm 25% ohms at reference temperature 77°F
Insulation Resistance:	1 meg-ohms minimum at +700°F (+371°C)
Polarity:	Pin 2 is positive when case is moved away from base.
Accessories Included:	Calibration Record

INSTALLATION

Mounting Rigidly attach the transducer to a clean machined flat surface of the equipment under test using the appropriate size screws and lock washers. Be sure to tighten the screws securely (20 – 25 in/lb).

Wiring For non-hazardous locations the transducer should be wired according to figure 1 (page 2).

For hazardous locations, the wiring method is dependant on the area classification.

Class 1, Division 2, Groups ABCD T6-T1

EEx nA II T6-T1 X:

Transducer may be installed without the use of a safety barrier. Wiring to the transducer must comply with the safety requirements of the hazardous area in which it is mounted. Reference figure 1 (page 2) for wiring configuration.

Class 1, Division 1, Groups ABCD T6-T1

II 1 G EEx ia IIB or IIC T6-T1:

Transducer may be connected through a safety barrier to the safe area receiver in accordance with figure 2 (page 3).

CAUTION: Never apply in excess of 45VDC across the terminals.

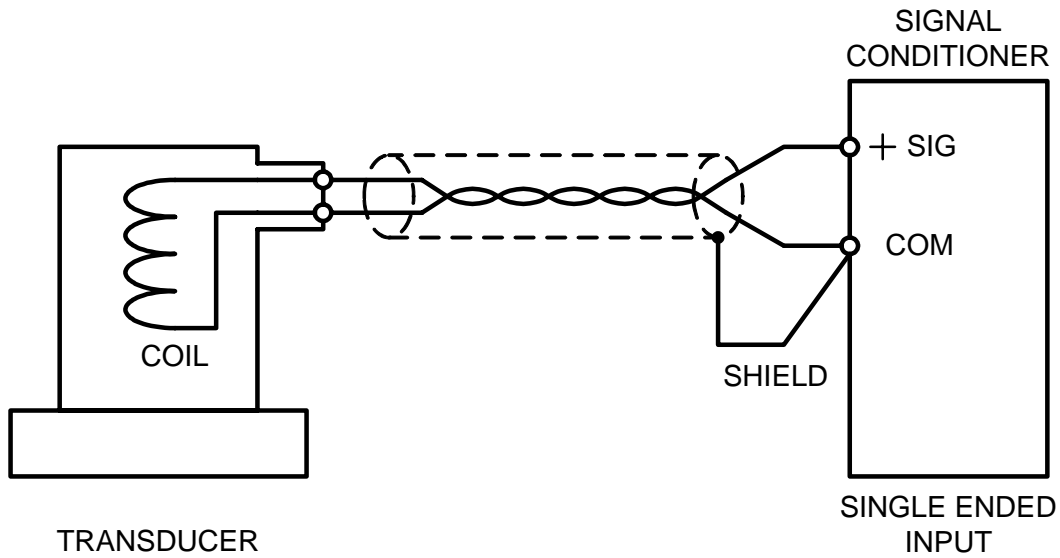
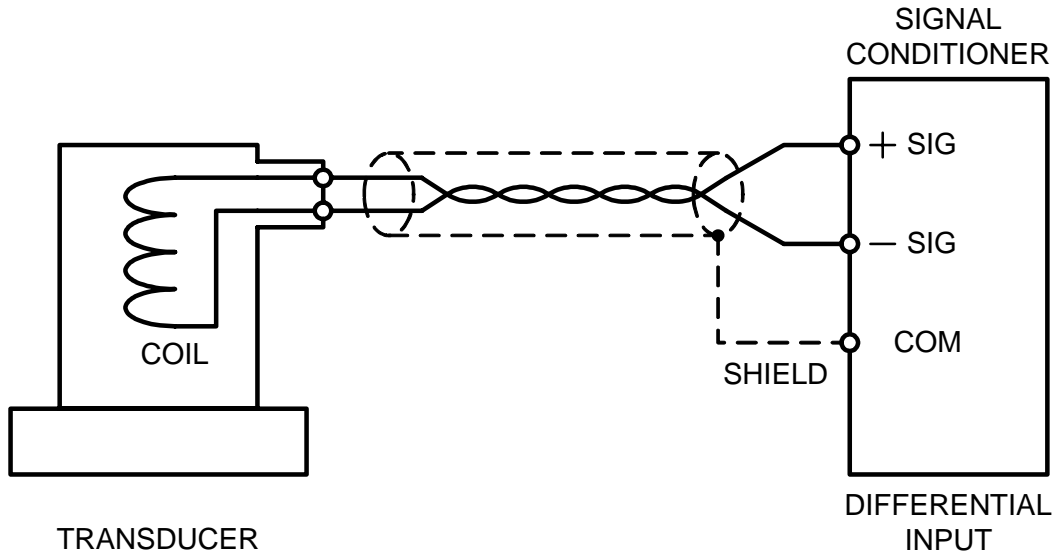


Figure 1: Transducer Wiring (non-hazardous locations)

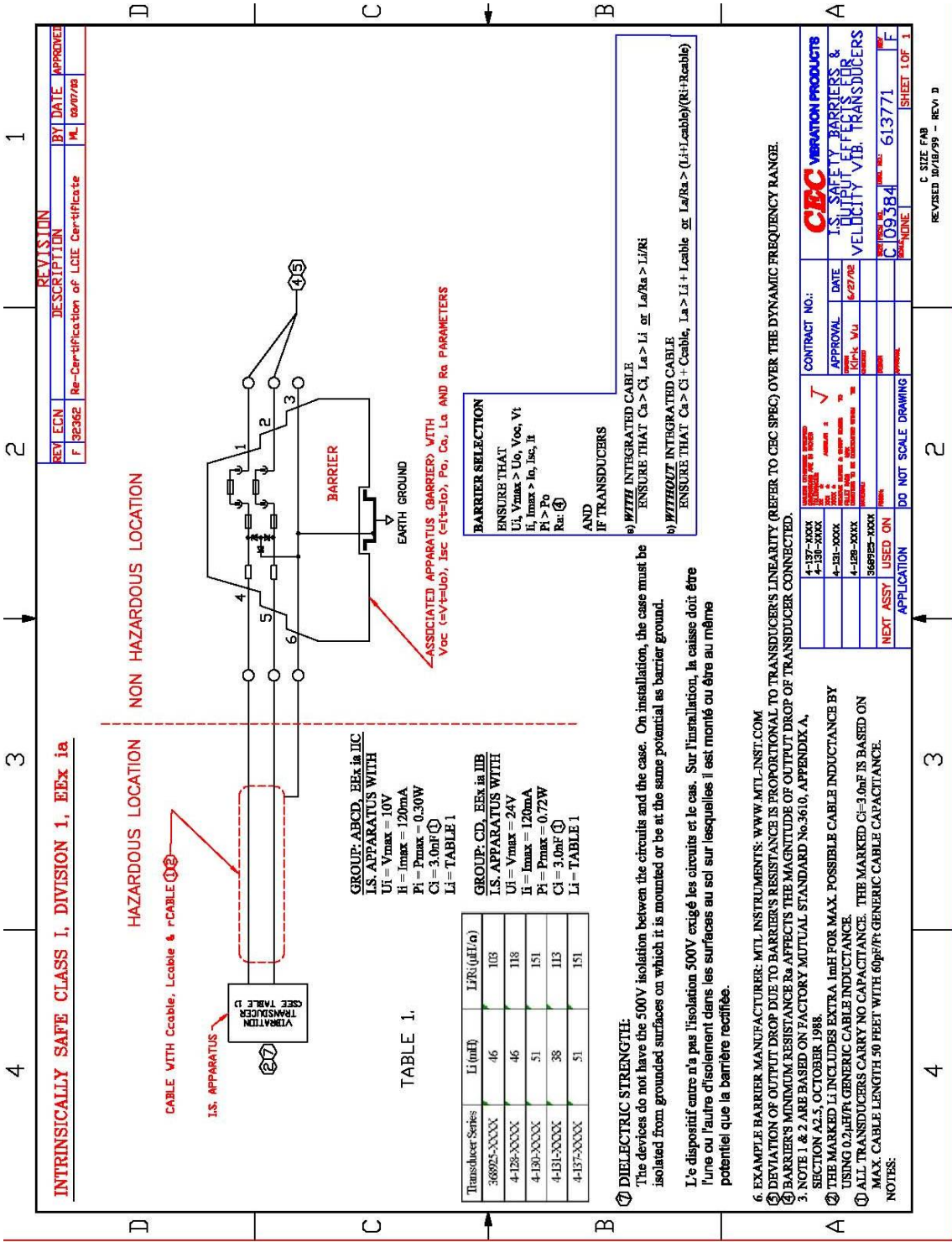


Figure 2: Transducer Wiring (hazardous locations)



CALIBRATION or REPAIR

For further information contact:
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