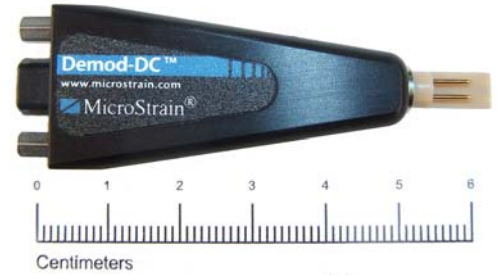


DEMOD-DC[®]

Signal Conditioning Connector for DVRTs[®]



Overview

Advanced microelectronics are packed within a miniature connector to provide complete conditioning of MicroStrain's DVRT[®] sensors.

The DEMOD-DC[®] makes inductive position sensors as easy to use as a potentiometer. With integral signal-conditioning electronics, the user connects power, ground and analog out, and the DEMOD-DC[®] outputs a voltage proportional to linear position.

The high-level analog-output voltage is digitally trimmed under microprocessor control during the manufacturing process. This insures that every DVRT's offset and gain values match one another. This allows DVRTs[®] to be used interchangeably in industrial automation & OEM applications.

DEMOD-DC[®] cards will operate from a wide range of DC excitation voltages. They feature an input supply line that is internally regulated and reverse input protected, as well as a buffered, high-frequency response analog-output voltage.

Features & Benefits

- miniature size enables signal conditioner to be located close to the transducer
- simple three wire connection provides easy plug and play implementation
- compatible with all DVRTs[®]
- configuration available for MicroStrain's wireless sensors
- low cost, rugged, compact design suitable for OEM applications
- digitally trimmed offset and gain
- frequency response up to 20 kHz
- configuration available for high inertial loads, up to 10,000 g
- operates on wide range of input voltages

Applications

Used with MicroStrain's DVRTs[®] for:

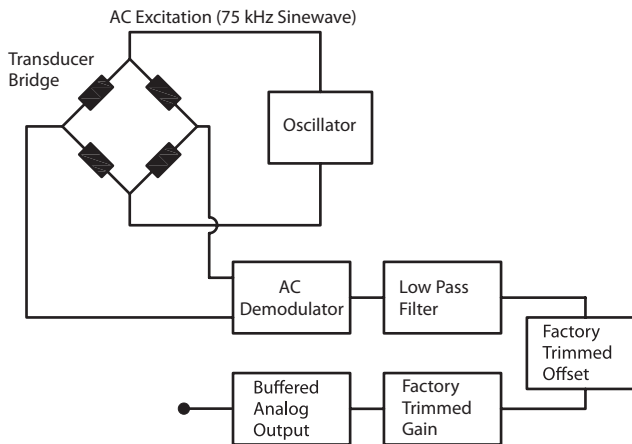
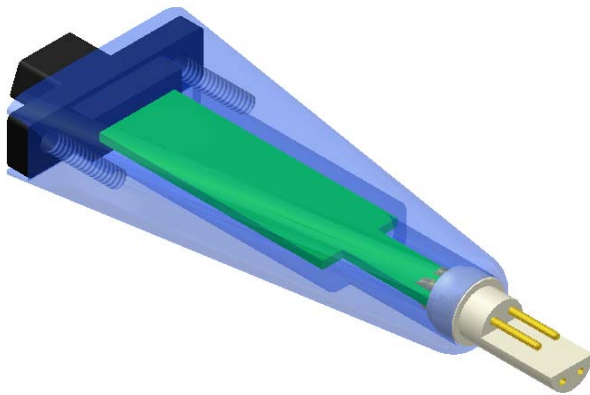
- miniature control elements for automotive and robotic systems
- process control for production line monitoring
- dimensional gauging for quality control applications
- measuring strain and deflection in materials science and civil structures
- linear/angular positioning of optical components
- miniature force, torque, acceleration sensors
- biomedical strain measurement in bone and soft tissue



How It Works

Operating from a DC power supply, the DEMOD-DC® filters incoming transients from the line voltage, and supplies a sine wave excitation to the transducer. This excitation is used to measure minute impedance changes of the sensing elements.

Precision demodulator components provide rectification and differential amplification. Digital trimming insures conformity from sensor to sensor. The analog output is filtered and buffered to provide clean, high level signals.



Specifications

Sensor Types	Inductive (DVRTs)
Excitation	Regulated Sinewave, 75 kHz standard 150 kHz optional
Demodulation	Asynchronous, DC output
Output	0 to 5 V typical, digitally trimmed
Gain	Factory Adjustable from 10 to 10,000
Low Pass Filter	2 Pole, 3 dB down @ 800 Hz standard Factory Adjustable 10 Hz – 20 kHz
Supply Voltage	+ 6.0 to + 16 volts DC
Supply Current	22 milliamps
Warm-up Time	30 seconds recommended
Operating Temp.	-40 to 85 °C
Enclosure Size	50 mm x 20 mm x 8 mm
Connections	Power, ground, analog output
Connector	micro-D (MIL-C-83513/5) mating connector included



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