

SI-430 Stress Energy Transmitter

Loop Powered 4-20mA, integral cable



Stress Energy Measurement

Stress Energy measurement is a proven on-line means of monitoring critical machinery using high frequency stress detection.

It prevents machine damage by early detection of high stress energy levels that characteristic of pending machine failure

Typical Applications

- Complex Rolling Element Bearing issues
- Dry Seal-less Pumps
- Solids in the Product
- Pump Cavitation
- As well as monitoring Gearboxes, Rolls, Dryers, Presses, Spindles, Machine Tooling, Process Equipment, and more

Technical Performance

Measurement Range	0 – 10 SEL (stress energy level units)
Frequency Response	4.0 kHz to 50 kHz
Grounding	Case Isolated
Axis Orientation	Any
Transverse Sensitivity	Less than 5%

Electrical

Output Current	4 – 20 mA DC proportional to 1-10 SEL (stress energy)
Supply Voltage	15 – 30 Volts DC (for 4-20ma loops)
Settling Time	2 seconds
Output Impedance	Loop resistance 600 ohms maximum @ 24 Volts DC
Integral Cable	1 M x 0.5 mm 2-cond. shielded cable via 1" NPT fitting

Environmental


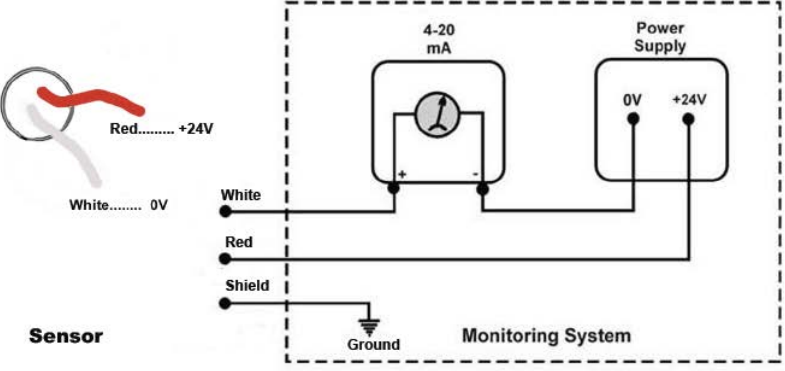
Transmitter Operating Temperature Range	-40 to +85 Deg C
Sealing.....	IP 68
Maximum Shock	5000 g
Electromagnetic Sensitivity	CE

Mechanical

Case Material	Stainless Steel
Mounting Thread / Torque	3/8-24 UNF (M8 Optional) / 8 Nm
Physical	40 mm x 100 mm; 410 grams (nominal)

SI-430 Stress Energy Transmitter

Dimensions 40mm x 100mm

Sensor

Red..... +24V

White..... 0V

White

Red

Shield

Ground

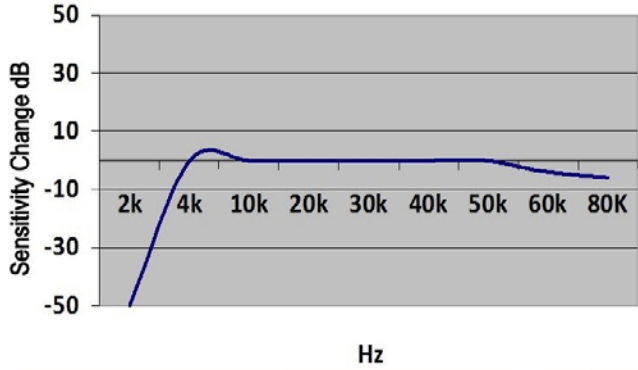
4-20 mA

Power Supply

0V +24V

Monitoring System

Frequency Response



Sensitivity Change dB

50

30

10

-10

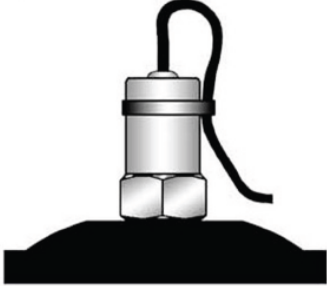
-30

-50

2k 4k 10k 20k 30k 40k 50k 60k 80k

Hz

Mounting of sensor to achieve good repeatable readings.
Vibration sensor should be firmly fixed to a flat surface (spot face surface may be needed to be produced and cable anchored to sensor body.)



How to order

SI - 4 3 0 0 1 0 0 2 0 2

Product Series
430 ... Stress Energy Transmitter

010 ... 0 - 10 SEL

Cable
02 ... 2 cond. cw ss braided shield

Mounting
01 ... 3/8"-24unf Female
02 ... 3/8"-24 unf Male
08 ... M8 x 1.25mm Male

Spectrum Instruments Ltd offers a complete line of vibration sensors and accessories; please contact us to discuss your requirements.



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