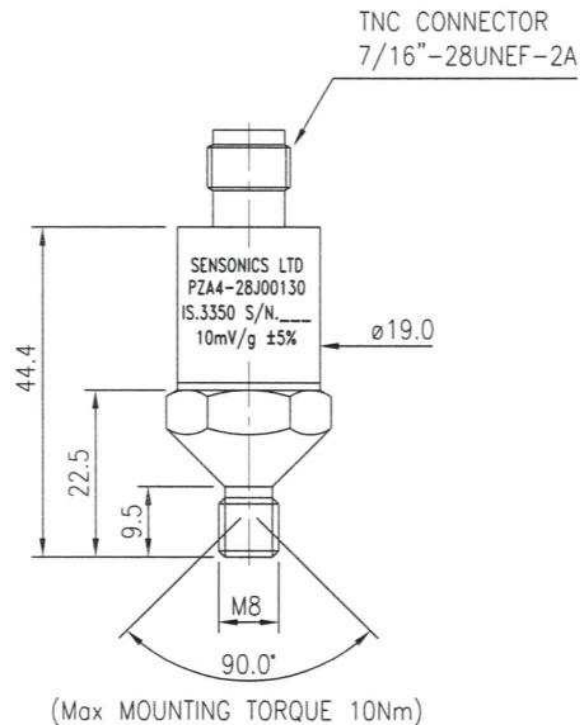


PZA 4 ACCELEROMETER



Shock Response Accelerometer



- ROLLER BEARING FAULT DETECTION
- RESONANT FREQUENCY 33kHz
- STAINLESS STEEL HERMETICALLY SEALED CASE
- OPERATION TO 125 °C
- SENSITIVITY OF 10 uA/g
- FULLY SCREENED

The PZA4 shock response accelerometer is designed for the condition monitoring of machine bearings containing roller elements. The accelerometer utilises the natural resonance response of a piezo-electric circuit to oscillate at a defined frequency in response to a mechanical shock wave. As well as roller bearings the device has applications for the detection of mechanical looseness in machinery and other non-cyclic vibration events.

The accelerometer should be used in conjunction with the appropriate signal processing unit which should perform the appropriate demodulation of the shock waveform to determine a qualitative number directly relating to bearing condition. Sensonics can offer such solutions through both the Aegis and SpyderNet range of monitoring products, refer to the appropriate brochure.

PZA4 SHOCK RESPONSE ACCELEROMETER

SPECIFICATION

Operating Voltage/current	18 to 28 volts D. C. constant current source of 2 to 10mA
Output signal.....	10µA/g 10mV/g superimposed on 12Vdc +/- 20%
Dynamic Range.....	Up to 70g peak (at 24Vdc input)
Frequency Range	2.5Hz to 11KHz (better than 3dB) (standard)
	0.8Hz to 11KHz (better than 3dB)
Transverse sensitivity	Less than 5%
Amplitude linearity	+/- 1% or better
Temperature sensitivity	Less than 5% up to 140°C
	1% per 25°C over range -30°C to +140°C
Residual electrical noise	Less than 0.2mg (2.5Hz to 11KHz) or 0.5mg (0.8Hz to 11KHz)
Signal transmission	Two-wire system, electrically isolated from body up to 500Vac
	Three wire & connector variants, contact Sensonics for details
Weight.....	115 gms (nominal)

Environmental

Acceleration limit: Vibration	200g pk at 120Hz for 10 mins
Shock	500g half sine without connector
Temperature: Operation	-30°C to +140°C (Intrinsic version -30°C to +100°C)
Survival.....	-55°C to +170°C
	NB. Certain types of connector or cables may limit the temperature performance of the transducer, see IS. Sheet for details.
Protection (BS.EN60529).....	Sealed to IP.66 / IP.67

ORDERING INFORMATION

PZA4 -

A
2

B

C

D

E

F

A Electrical Configuration

2

 - 2 wire ICP device

D Output & Frequency band (3dB point)

1

 10µA/g (10mV/g) ± 5% (2.5Hz – 11KHz)

B Connection Method

6

C

 Integral Cable (140°C) Unarmoured

6

D

 Integral Cable (140°C) Armoured

7

A

 Integral Cable/Waterproof Gland (80°C) Unarmoured (IP68 Option)

E Mounting Thread (Male)

1

 - ¼ UNF

2

 - M6

3

 - M8

C Cable length (Specify in whole metres)

0

2

 e.g. = 2 metres (max 25 metres)

F Hazardous Area Approval

0

 - Non Intrinsic

DS1133



Sensonics Ltd
 Northbridge Road
 Berkhamsted
 Herts, HP4 1EF
 United Kingdom
 Tel: +44 (0)1442 876833
 Fax: +44 (0)1442 876477
www.sensonics.co.uk