NEPEAN Power

Vibration Sensors Intrinsically Safe Ex ia

AVAILABLE FROM NEPEAN ELECTRONICS

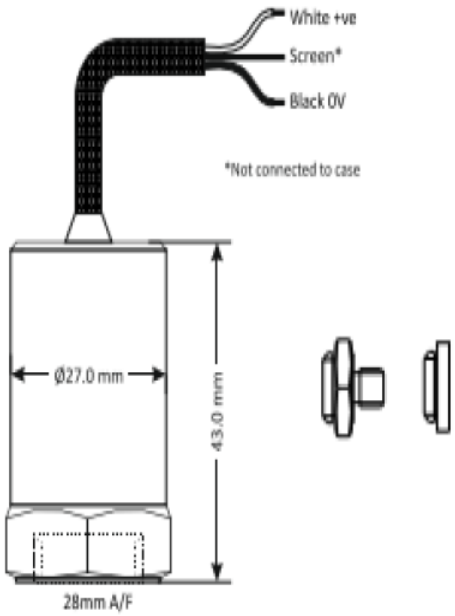
NEPEAN Power is a proven leader in the supply and manufacture of quality engineered solutions, products and technologies. Established in 1994, through the commitment of our dedicated team we have become a supplier of choice.

Applications

- Intrinsically safe data collector
- Oil and mining
- Fans, compressors, pumps etc
- Vibration monitoring
- Accelerometers
- Velocity monitoring

Technical

Output current	4-20mA DC proportional to rms velocity (mm/s)
Supply voltage	12-32V DC (4-20mA)
Frequency response	2Hz to 1kHz ±10%
Mounted base resonance	5kHz (nominal)
Isolation	Base isolated
Dynamic range	50g peak
Transverse sensitivity	Less than 5%
Operating temperature	-25 to 90°C
Temperature sensitivity	0.08%/°C
Case material	Stainless steel
Cable	Integral stainless steel overbraided ETFE
Standard cable length	5m
Maximum cable length	100m
Mounting torque	8Nm
Weight	150g (nominal)
Sealing	IP67



Certificate Details

Certificate No.	ANZEx 09.2002X Issue 0 IECEx BAS 08.0048X Issue 1 IECEx BAS 08.0013X Issue 8
Terminal Parameters	Ui = 28V, Ii = 93mA, Pi = 0.65W For Ci and Li see certificate
Barrier	MTL787S or P&FZ787

Stocked Items

X185-CQ-20	Intrinsically Safe Vibration Sensor (Mining) Quick Connect-0-20 Velocity
X08QF	M8 Male Quick Fit Adaptor
X06QF	M6 Male Quick Fit Adaptor
X185-CQ-20-KIT	Kit item: X185-CQ-20 + X08QF + MTL787S

Part Numbers

Part Number	Mounting	XX= Velocity Options (mm/s rms)
X185-IC-XX	¼" UNF Female	0-10 0-20 0-25 0-50 0-100
X185-QF-XX	Q/F Female	

For more information please contact:
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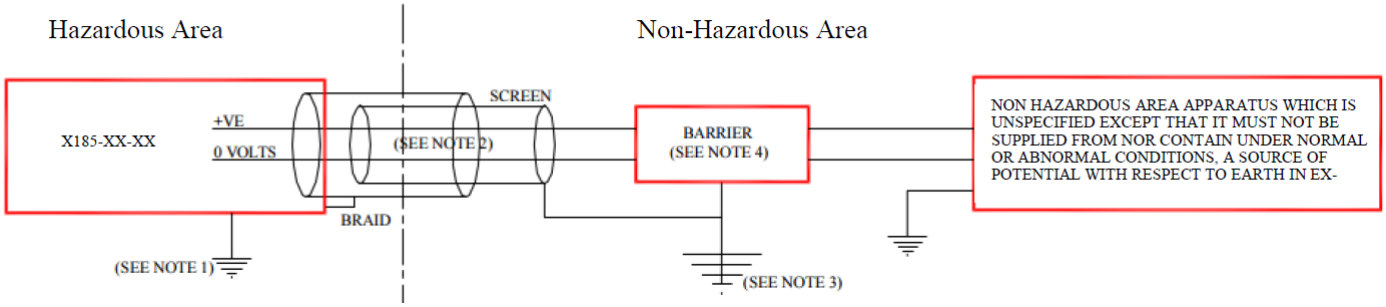
IS Vibration Sensors

Earthing Notes

In all NEPEAN Power Electronics 4-20mA transducers the case is isolated from the electronics and should, in most applications, be grounded to the machine. Ideally, the measuring system should share the same ground as X185CQ Velocity Trans-ducer with integral armoured cable Screen Black White +24V 0V Power Supply 4-20 mA transducer from the machine and connect it to ground at the measurement end using the cable screen wire.



Notes

1. The electrical circuit in the hazardous area must be capable of withstanding an AC test voltage of 500 volts RMS to earth or frame of apparatus for 1 minute.The cable braid must be capable of withstanding an AC test voltage of 500 volt RMS to the cable screen for 1 minute.
2. The capacitance and inductance, or inductance to resistance (L/R) ratio of the hazardous area cable must not exceed the values shown in Table 1.
3. The installation, including barrier earthing arrangements, must comply with the installation requirements of the country of use e.g. in the UK, EN 60079-14.
4. Any shunt Zener Diode safety barrier certified by an EEC approved body to [EEx ia] IIC having the following output parameters:

   U=28V dc, I=93mA dc, P=0.65W

   e.g. MTL787S, BAS01ATEX7202 or Pepperl & Fuchs Z787, BAS01ATEX7005.
5. The Braid must not be connected to earth in the Non Hazardous Area.
6. The system must be marked with a durable label. The label should appear on or adjacent to the principal item of electrical apparatus of the system or at the interface between the intrinsically safe and non intrinsically safe circuits.

Table 1: Cable Parameters for Additional Cable

Accelerometer with integral cable length ≤10m

Group	Capacitance µF	Inductance mH or L/R Ratio µH/ Ω	
IIC	0.058	4.2	55
IIB	0.625	17.37	207
IIA	2.125	35.29	436

Accelerometer with integral cable length ≥ 10m and ≤50m

Group	Capacitance µF	Inductance mH or L/R Ratio µH/ Ω	
IIC	0.052	4.18	55
IIB	0.619	17.35	207
IIA	2.119	35.27	436

Accelerometer with integral cable length ≥ 50m and ≤100m

Group	Capacitance µF	Inductance mH or L/R Ratio µH/ Ω	
IIC	0.045	4.16	55
IIB	0.612	17.32	207
IIA	2.112	35.24	436

Typical Connection Diagram