

TX5634 to TX5639 Data Sheet

Vibration Sensor

Compact vibration sensor with a conditioned output for machine monitoring

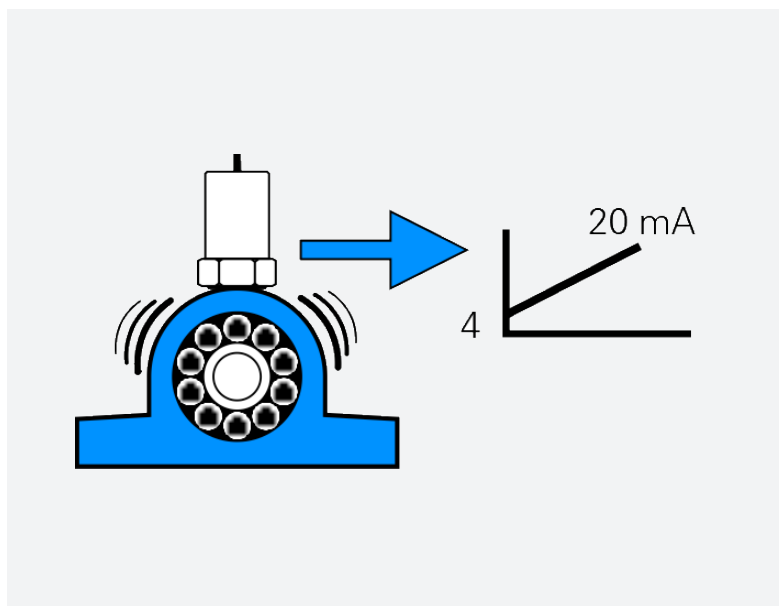
Environments: Machine condition monitoring • Structural resonance • Shaft imbalance • Machine running indication • Bearing deterioration

Features

- Compact and robust vibration sensors for use in heavy duty industrial applications
- Corrosion resistant stainless steel housing with a choice of convenient mounting options
- Standard 4 to 20 mA output signal that rationalises the vibration frequency spectrum in terms of velocity or acceleration
- Flexible braided cable or 4 pin M12 type connector
- Certified for use in Mining - Group I and Industrial Hazardous areas - Group II
- Single hole M8 x 12 mm or M10 x 10 mm mounting stud, or Quickfit bush mounting

Benefits

- Velocity vibration sensors are generally used in the low frequency domain on rotating machinery to detect out of balance and structural vibration
- Acceleration vibration sensors will respond effectively to high frequency vibration generated by bearing deterioration, gear failures and high speed rotating components
- Cost effective - low cost vibration condition monitoring for general plant duty, motors, pumps, gearboxes, compressors, rotating machinery, etc
- Not all vibration is bad. A vibration sensor can indicate that a machine is actually running as it should be and will highlight any drive failure





TX5634 to TX5639 Data Sheet

Functional Overview

The causes of vibration in rotating machinery are numerous

- Imbalance of system
- Misalignment of shafts
- Bent shafts
- Mechanical looseness
- Ineffective mounting structures
- Bearing deterioration
- Loose parts
- Build-up on fan blades
- Chipped blades/rotors
- Gear tooth wear/breakage
- Loss of lubrication

Failure to detect the deteriorating condition of running equipment may result in premature costly repair, or more seriously, in catastrophic equipment failure, resulting in production downtime and consequential safety related issues.

By utilising vibration monitoring, an early warning of impending failure permits preventative maintenance to be instigated.

Trolex **Velocity** and **Acceleration** sensors are designed for use with a wide range of monitoring and analysis equipment. They have been optimised to directly interface with Trolex monitoring and analysis equipment.



Technical Information

	TX5634 • TX5635 • TX5636	TX5637 • TX5638 • TX5639
Measurement mode:	Overall average vibration Acceleration	Overall average vibration Velocity
Output data:	dc output proportional to average high frequency vibration	dc output proportional to average low frequency vibration
Measuring range:	2, 5, 10, 20, 50 and 100 g RMS	20, 25, 50 and 100 mm/s RMS
Maximum vibration:	50 g (peak)	
Sensing principle:	Piezo-electric	
Frequency response:	10 Hz to 5 kHz	10 Hz to 1 kHz
Mounted resonance:	10 kHz	5 kHz
Housing material:	Stainless steel	
Operating temperature:	-40 to +60°C	
Protection classification:	IP67	
Mounting:	M8 x 12 mm or M10 x 10 mm mounting stud or Quickfit bush	
Electrical connections:	2 core screened and armoured cable (5 m) or 4 pin M12 type connector	

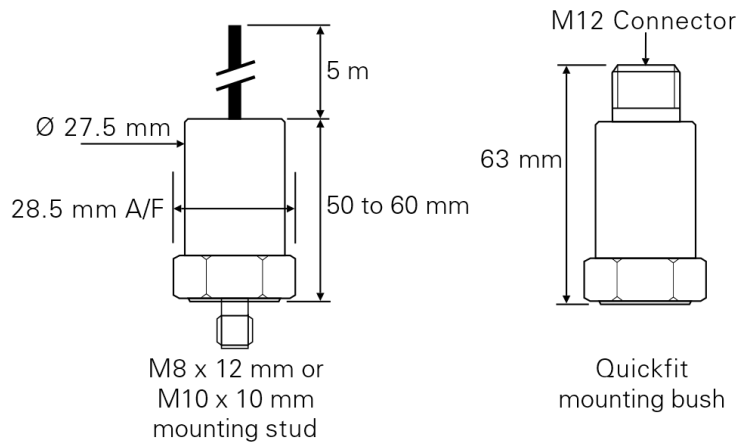


TX5634 to TX5639 Data Sheet

Electrical Information

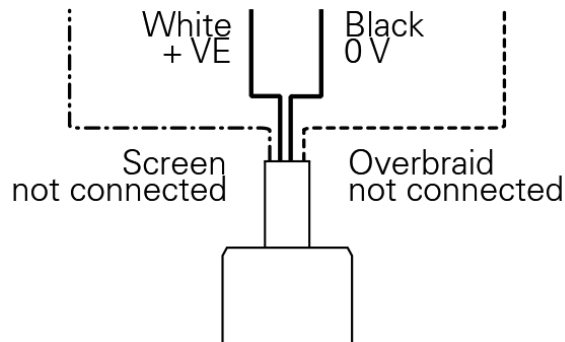
	Industrial Hazardous Areas Ex ia - Group II	General Purpose	Underground Mining Ex ia - Group I
Output signal:	4 to 20 mA	4 to 20 mA	4 to 20 mA
Supply voltage:	10 to 32 V dc	10 to 32 V dc	12 V dc
Terminal parameters:	U _i - 28 V I _i - 115 mA P _i - 0.65 W		U _i - 16.5 V
Supply current:		2 wire line powered	
Maximum load impedance:	600 ohms	600 ohms	250 ohms

Dimensions

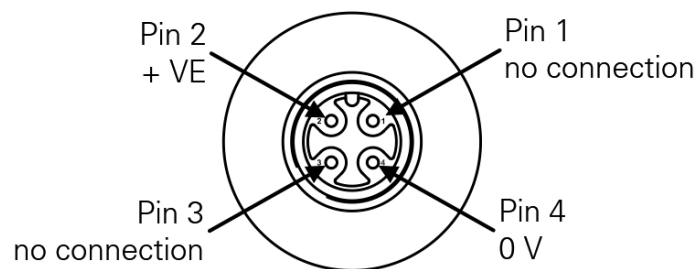


Electrical Connections

Cable Output Option



4 Pin M12 Type Connector Option





TX5634 to TX5639 Data Sheet

Order Reference

Vibration Sensor with 4 to 20 mA Output - Acceleration Mode

Industrial Hazardous Areas Ex ia - Group II	General Purpose	Underground Mining Ex ia - Group I
TX5634	TX5635	TX5636

When ordering, please specify the sensing range required:	0 to 2 g
	0 to 5 g
	0 to 10 g
	0 to 20 g
	0 to 50 g
	0 to 100 g

Vibration Sensor with 4 to 20 mA Output - Velocity Mode

Industrial Hazardous Areas Ex ia - Group II	General Purpose	Underground Mining Ex ia - Group I
TX5637	TX5638	TX5639

When ordering, please specify the sensing range required:	0 to 20 mm/s
	0 to 25 mm/s
	0 to 50 mm/s
	0 to 100 mm/s

Options

When ordering please specify the Electrical Connection **and** Mounting options you require

Electrical Connection Options

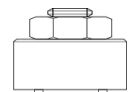
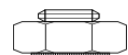
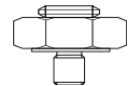
When ordering, please specify: **.11** for **Cable output option** version eg TX5634.11 or **.12** for **M12 electrical connector** version eg TX5635.12

Mounting Options

When ordering, please specify: **.21** for **M8 mounting stud**, eg TX5637.12.21 or **.22** for **Quickfit mounting bush** eg TX5638.11.22 or **.23** for **M10 mounting stud**, eg TX5638.12.23

Accessories

TX5630.11	Quickfit M8 mounting bush
TX5630.14	Quickfit M10 mounting bush
TX5630.12	Quickfit adhesive mounting bush
TX5630.13	Quickfit magnetic mounting bush



Please contact the Trolex Sales Team for further information and advice:
+44 (0)161 483 1435
sales@trolex.com



TX5634 to TX5639 Data Sheet

Certifications



Europe ATEX

Ex Certificate number:

Ex Certification codes:

Baseefa 08ATEX0090X

I M1 Ex ia I Ma (-40°C ≤ Ta ≤ +60°C)

II 1GD Ex ia IIC T6 Ga (-40°C ≤ Ta ≤ +60°C)

II 1GD Ex ia IIIC IP65 T80°C Da (-40°C ≤ Ta ≤ +60°C)



International IECEx

Ex Certificate number:

Ex Certification codes:

IECEX BAS 08.0035X

Ex ia I Ma (-40°C ≤ Ta ≤ +60°C)

Ex ia IIC T6 Ga (-40°C ≤ Ta ≤ +60°C)

Ex ia IIIC IP65 T80°C Da (-40°C ≤ Ta ≤ +60°C)



Russia GOST-R

Ex Certificate number:

Ex Certification codes:

POCC GB.ГБ05.B03982

PO Ex ia I X (Group I products only approved)



South Africa MASC:

Ex Certificate number:

Ex Certification codes:

MASC MS/12-831

Ex ia I Ma (-40°C ≤ Ta ≤ +60°C)

Ex ia IIC T6 Ga (-40°C ≤ Ta ≤ +60°C)

Ex ia IIIC IP65 T80°C Da (-40°C ≤ Ta ≤ +60°C)

Copyright and Trademarks

© 2015 Trolex® Limited.

Trolex is a registered trademark of Trolex Limited. The use of all trademarks in this document is acknowledged.

Document history: Issue 07 16th December 2014 Seventh publication of this document
Issue 08 8th April 2015 Eighth publication of this document

Trolex Limited

Newby Road, Hazel Grove, Stockport, Cheshire SK7 5DY, United Kingdom
+44 (0)161 483 1435 sales@trolex.com www.trolex.com

