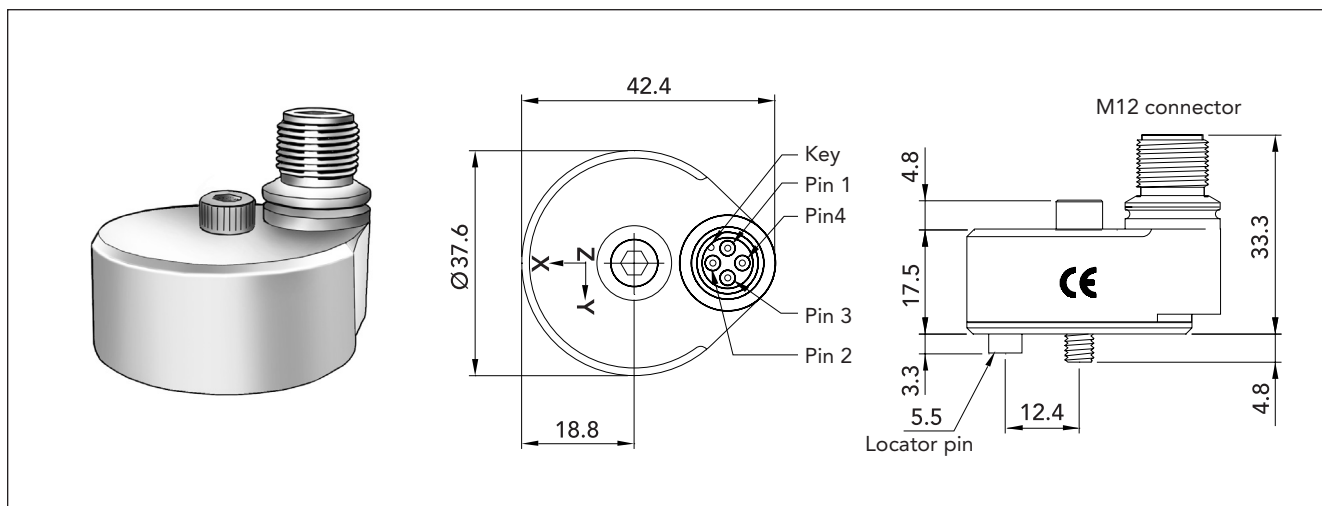


# Triaxial Vibration Transducer 90546



SPM 90546 is a low noise triaxial vibration transducer in rugged design with broad frequency response. It features a versatile M12 connector and an external case in a thick shell for high resistance to impact. Designed for both route-based and permanent-mount applications, this triaxial accelerometer hosts three general purpose, 100 mV/g vibration sensors with  $\pm 10\%$  sensitivity tolerance. It has EMI/RFI and ESD protection.

## Technical specifications

### Dynamic

Sensitivity, $\pm 10\%$ , 25° C	100 mV/g
Acceleration range	60 g peak
Amplitude nonlinearity	1%
Frequency response:	
Z Axis $\pm 3$ dB	2-10 000 Hz
X and Y axis $\pm 3$ dB	2-7000 Hz
Transverse sensitivity, max	7% of axial

### Electrical

Power requirement:	
Voltage source	18-30 VDC
Current regulating diode	2-5 mA
Electrical noise, equiv. g nominal:	
Broadband 2.5 Hz to 25 kHz	160 $\mu$ g
Spectral	10 Hz 10 $\mu$ g/ $\sqrt{\text{Hz}}$
	100 Hz 2.0 $\mu$ g/ $\sqrt{\text{Hz}}$
	1000 Hz 1.5 $\mu$ g/ $\sqrt{\text{Hz}}$

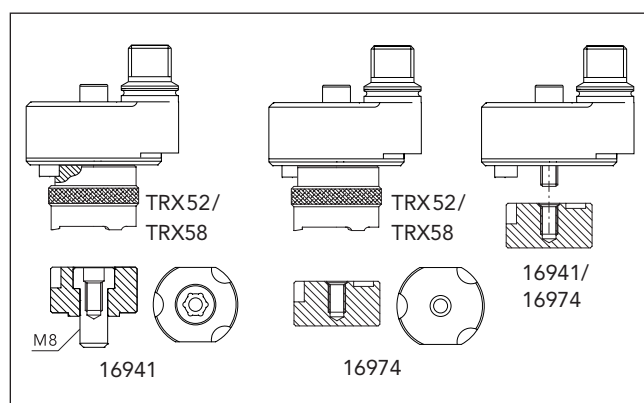
Output impedance, max	400 $\Omega$
Bias output voltage	12 VDC
Grounding	Case isolated, internally shielded
Turn-on time	< 1 sec

### Environmental

Temperature range	-50 to 120 °C
Vibration limit	500 g peak
Shock limit	5000 g peak
Electromagnetic sensitivity, equiv. g.	100 $\mu$ g/gauss
Sealing	Hermetic
Base strain sensitivity, max	0.0005 g/ $\mu$ strain

### Physical

Weight	124 g
Case material	316L stainless steel
Mounting	UNF 10-32



Output connector	4 pin, M12 male
Mating connector	M12S female
Recommended cabling	4 conductor, shielded
Accessories supplied	Captive screw, calibration data

### Connections

Axis X, power/signal	Connector pin 1
Axis Y, power/signal	Connector pin 2
Axis Z, power/signal	Connector pin 3
Common (all channels)	Connector pin 4
Ground	Shell

### Part numbers

90546	Triaxial vibration transducer
CAB91	Cable for 90546, 8-pin/4-pin M12 connectors
16941	Mounting foot for 90546, screw
16974	Mounting foot for 90546, glue
90510	Connector M12S female, straight

*Magnetic mounting bases for triaxial transducers, see TD-548.*

