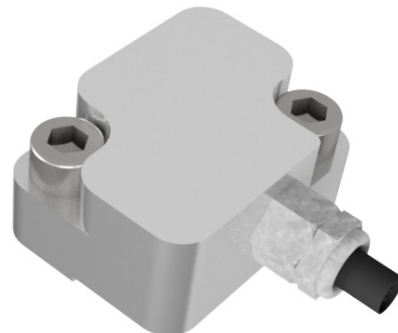


CHARACTERISTICS

The 4dot PM3 is a three-axis vibration sensor with a frequency range from 0 Hz to 24 kHz. Its ability to measure frequencies down to zero allows for accurate signal integration into velocity and position data. The sensor's form factor is specifically designed for integration into forming machine tools as well as forming and machining equipment. The signal is transmitted via a shielded twisted pair cable.



The sensor requires an external 24 V DC power supply.

Its three-axis sensing capability, connectorless design, and stainless-steel housing make it suitable for a wide range of applications while maintaining a minimal installation footprint.

APPLICATION - WHERE THE SENSOR CAN BE USED

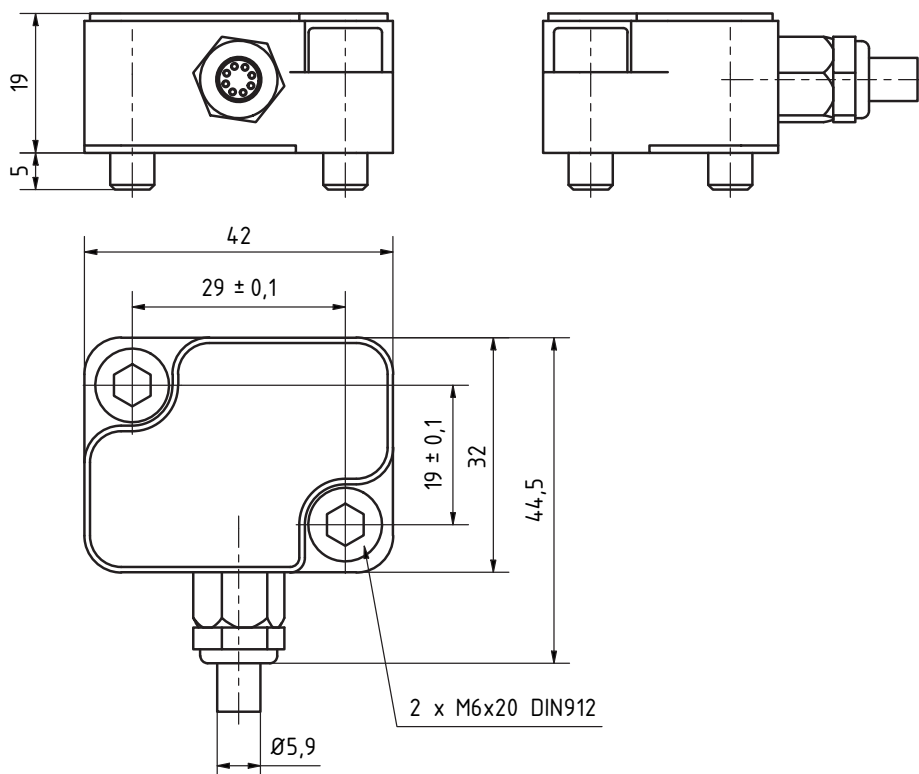
General applications: vibration measurement, acceleration measurement, velocity measurement, position measurement

Applications: forming machines, machine tools, mining machines, heavy industry, energy, transport, science and research

CONNECTION DIMENSIONS

External dimensions: 42x44,5x19 mm (w×l×h)

Connection dimensions: 29x19 ± 0,1 mm (2xM6 DIN 912)



INSTALLATION

Installation procedure:

1. Clean and degrease the M6 connection holes.
2. Wipe and coat the seating surface on the gauge body and under the screw heads with petroleum jelly.
3. For heavy duty applications, apply thread adhesive to the threads according to the instructions.
4. Tighten bolts to 7 Nm (min 5 Nm, max 14 Nm - depending on the application and bolts used).

TECHNICAL DATA

Measurements

• Measurement directions:	x,y,z		
• Sensor element:	Capacitive type		
• Range:	$\pm 490,5 \text{ ms}^{-2} (\pm 50\text{g})$	$\pm 981 \text{ ms}^{-2} (\pm 100 \text{ g})$	$\pm 4905 \text{ ms}^{-2} (\pm 500 \text{ g})$
• Sensitivity $\pm 5\%$:	$16,3 \text{ mV/ms}^{-2} (160 \text{ mV/g})$	$8,16 \text{ mV/ms}^{-2} (80 \text{ mV/g})$	$1,63 \text{ mV/ms}^{-2} (16 \text{ mV/g})$
• Frequency range $\pm 3\text{dB}$:	0 - 11 000 Hz	0 - 23 000 Hz	0 - 24 000 Hz
• Resonant frequency:	21 kHz	42 kHz	45 kHz

Electric properties

• Supply voltage:	20 - 30 V DC
• Base voltage:	10 V
• Output voltage:	$\pm 8\text{V}$

Mechanical

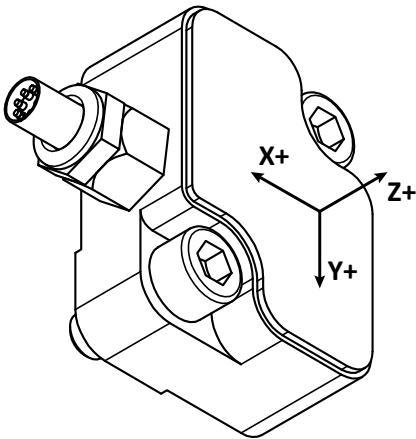
• External dimensions:	42x44,5x19 mm (w x l x h)
• Weight:	120 g without cable

Temperature

• Sensor operating temperature:	-20 up to 105 °C
• Transport temperature:	-20 up to 80 °C

Material

• Body:	Stainless steel
• Cable:	PVC
• Connector:	Plastic



Measurement directions

WIRING

Axis	Number	Cable Colour	Cable Connection
X	1	brown	A10+
X	2	black	A10-
Y	3	red	A11+
Y	4	black	A11-
Z	5	orange	A12+
Z	6	black	A12-
POWER SUPPLY	7	yellow	24V
POWER SUPPLY	8	black	COM

CONFIGURATION

Sensor type

PM3 - three-axis vibration sensor

Range

50 - ± 50 g

100 - ± 100 g

500 - ± 500 g

Fitted axis

X - axis x

Y - axis y

Z - axis z

Cabling

Cable lenght in metres

Connector

M12 - M12, 8 pin, fork

F - without connector

PM3 - 50 - X Y Z - 5 - F

A PT-type temperature sensor (e.g. PT100 or PT1000) can be included upon request, based on individual customer requirements.

LABEL

4dot Mechatronic Systems s.r.o.

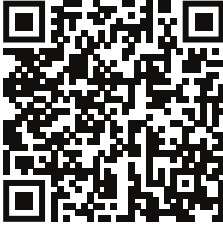
SN: 100-232-0001

PN: E11-232-0001

Type: PM3-50-XYZ-5-F

4dot

■■■■



Axis

Sensitivity

x160 mV/g

y160 mV/g

z160 mV/g

To make machines produce

Made in Czech Republic

Sample of the label