

DATA SHEET

Vibro-Meter®

CE620 piezoelectric accelerometer with integrated electronics



KEY FEATURES AND BENEFITS

- From the Vibro-Meter® product line
- Voltage output signal: 100 or 500 mV/g
- Frequency response: 2 Hz to 10 kHz
- Temperature range: -55 to 140°C
- Ground isolated from case
- Isolated electronics for reduced noise and increased bias voltage stability
- Available in standard versions and Ex versions certified for use in potentially explosive atmospheres

APPLICATIONS

- General-purpose vibration monitoring in harsh industrial environments and/or hazardous areas

DESCRIPTION

The CE620 piezoelectric accelerometer with integrated electronics from Meggitt's Vibro-Meter® product line is a general-purpose vibration sensor designed for the monitoring and protection of machinery in harsh industrial environments.

The CE620 is available in different versions for different industrial environments: standard versions for use in standard (non-hazardous) areas and Ex versions for installation in hazardous areas.

It is an industry standard IEPE (integrated electronics piezo electric) vibration sensor that requires a constant current power supply and provides a dynamic vibration output signal (AC voltage) on a bias level (DC voltage). The CE620 is available with a sensitivity of either 100 or 500 mV/g.

A range of 2-wire shielded cables are available to connect the sensor to the monitoring system, depending on the environment.

For specific applications, contact your local Meggitt representative.



Information contained in this document may be subject to export control regulations of the European Union, USA or other countries. Each recipient of this document is responsible for ensuring that transfer or use of any information contained in this document complies with all relevant export control regulations. ECN N/A.

SPECIFICATIONS

Note: Unless otherwise stated, all values listed are typical values, referenced at 23°C (73°F), 24 V_{DC} supply, 4 mA constant current and 80 Hz.

Operating

Sensitivity	: 100 or 500 mV/g ±5%
Dynamic range	
• 100 mV/g versions (ordering option code B100)	: ±80 g
• 500 mV/g versions (ordering option code B500)	: ±16 g
Transverse sensitivity	: <5%
Linearity	: <1% up to full scale
Frequency response	
• 2 Hz to 10 kHz	: ±5%
• 0.8 Hz	: -3 dB
Resonant frequency	: 18 kHz nominal
Temperature response	
• -55 to 140°C (-67 to 284°F)	: ±5% typical deviation

Electrical

Power supply voltage (for current source)	: 24 V _{DC} ±25% (18 to 30 V _{DC})
Power supply current	: 0.5 to 8 mA
Bias voltage	: 12 V _{DC} nominal
Output impedance	: 150 Ω nominal
Residual electrical noise	: 0.1 mg maximum
Grounding	: Base isolated
Reversed polarity	: Protected

Environmental

Temperature range	
• Standard versions (ordering option code A1)	: -55 to 140°C (-67 to 284°F)
• Ex versions (ordering option code A2)	: -55 to 115°C (-67 to 239°F)
Protection rating (according to IEC 60529)	: IP67

SPECIFICATIONS *(continued)*

Potentially explosive atmospheres

Available in Ex approved versions for use in hazardous areas

Type of protection Ex i: intrinsic safety (ordering option code A2)		
Europe	EC type examination certificate	Baseefa 16 ATEX 0027 X II 1 GD (Zones 0, 1, 2) Ex ia IIC T4 Ga Ex ia IIIC T135°C Da
International	IECEx certificate of conformity	IECEx BAS 16.0030X Ex ia IIC T4 Ga Ex ia IIIC T135°C Da

 For specific parameters of the mode of protection concerned and special conditions for safe use, refer to the Ex certificates that are available from Meggitt SA.

 For the most recent information on the Ex certifications that are applicable to this product, refer to the Ex product register (PL-1511) that is available from Meggitt SA.

Approvals

- Conformity : CE marking, European Union (EU) declaration of conformity
- Environmental management : RoHS compliant (2011/65/EU)
- Hazardous areas : Ex approved versions
(see **Potentially explosive atmospheres on page 3**)

SPECIFICATIONS *(continued)*

Physical

Case material	: Stainless steel
Dimensions	: See Mechanical drawings on page 5
Weight	
• <i>Standard versions</i> (ordering option code A1)	: 110 g (0.24 lb) approx.
• <i>Ex versions</i> (ordering option code A2)	: 170 g (0.37 lb) approx.

Connector

Type	: MIL-C/DTL-5015 type – rugged circular, threaded coupling, 2-pin connector with keyway. Mates with MIL-C/DTL-5015 type connectors used by the recommended cable assemblies.
Pinout	
• <i>Pin A+</i>	: Power supply and output signal
• <i>Pin B-</i>	: Common
Recommended cable assemblies	: EC602, EC612, EC318 or EC319 (see Accessories on page 6)

Mounting

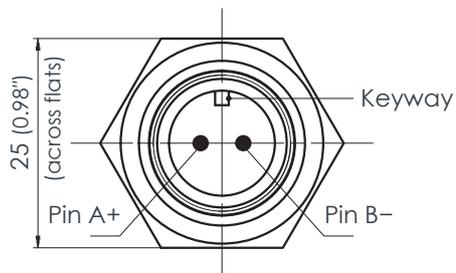
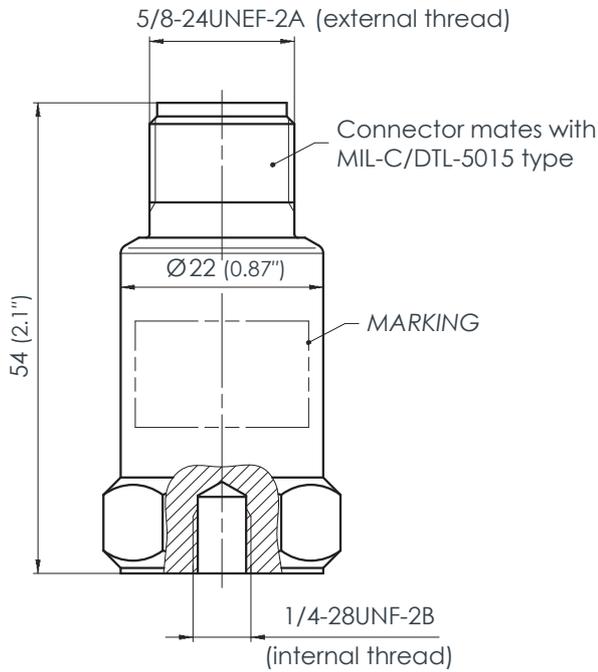
Stud or adaptor	: 1/4-28UNF (see Accessories on page 6)
Torque	: 8 N•m (5.9 lb-ft). Refer also to the <i>CExx and PVxx vibration sensors (piezoelectric accelerometers and piezoelectric velocity sensors) installation manual</i> .

Calibration

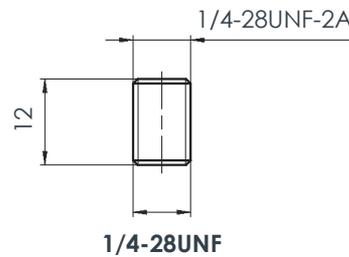
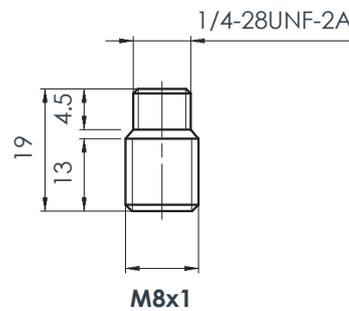
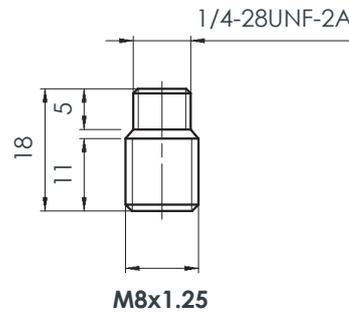
Dynamic calibration at factory. No subsequent calibration necessary.

MECHANICAL DRAWINGS

CE620 accelerometer



Adaptor studs



Note: All dimensions are in mm (in) unless otherwise stated.

ORDERING INFORMATION

To order please specify

Type	Designation	Part number (PNR)
CE620	Piezoelectric accelerometer	See below

Ordering number: 444 - 620 - 000 - 011 - **A** - **B** - - - -

Environment (A)		Sensitivity (B)	
Standard	1	100	100 mV/g
Explosive (Ex i)	2	500	500 mV/g

ACCESSORIES

Supplied

Item	Type	Part number (PNR)
• Adaptor studs	M8x1.25 (1/4-28UNF-2A to M8x1.25)	
	M8x1 (1/4-28UNF-2A to M8x1)	
	1/4-28UNF (1/4-28UNF-2A to 1/4-28UNF-2A)	

Note: One of each type of adaptor stud is supplied with a CE620, that is, one M8x1.25, one M8x1 and one 1/4-28UNF.

Optional

Item	Type	Part number (PNR)
• Cable assemblies	EC602 (Standard version with a 2-pin MIL-C/DTL-5015 type connector and ETFE 2-wire cable)	922-602-000-001
	EC612 (Standard version with a 2-pin MIL-C/DTL-5015 type connector and ETFE 2-wire cable with metallic overbraid)	922-612-000-001
	EC318 (Standard version with a 2-pin MIL-C/DTL-5015 type connector and RADOX® 125 2-wire cable)	922-318-000-002
	EC318 (Standard version with a 2-pin MIL-C/DTL-5015 type connector and RADOX® 125 2-wire cable with protection tube)	922-318-000-403
	EC319 (Splashproof version with a 2-pin MIL-C/DTL-5015 type connector and RADOX® 125 2-wire cable)	922-319-000-002
	EC319 (Splashproof version with a 2-pin MIL-C/DTL-5015 type connector and RADOX® 125 2-wire cable with sealed protection tube (leaktight))	922-319-000-103

Note: The cable length must be specified when ordering a cable assembly.

ACCESSORIES (continued)

Item	Type	Part number (PNR)
• Mounting adaptor	MA122_012 (1/4-28UNF-2A to M6, with a conic base)	809-122-000-012
• Insulating stud	MA122_021 (1/4-28UNF-2A to M6, with a conic base)	809-122-000-021

Meggitt (Meggitt PLC) is a leading international engineering company, headquartered in England, that designs and delivers high-performance components and subsystems for aerospace, defence and selected energy markets. Meggitt comprises four customer-aligned divisions: Airframe Systems, Engine Systems, Energy & Equipment and Services & Support.

The Energy & Equipment division includes the Energy Sensing and Controls product group that specialises in sensing and monitoring solutions for a broad range of energy infrastructure, and control valves for industrial gas turbines, primarily for the Power Generation, Oil & Gas and Services markets. Energy & Equipment is headquartered in Switzerland (Meggitt SA) and incorporates the Vibro-Meter® product line, which has over 65 years of sensor and systems expertise and is trusted by original equipment manufacturers (OEMs) globally.



All information in this document, such as descriptions, specifications, drawings, recommendations and other statements, is believed to be reliable and is stated in good faith as being approximately correct, but is not binding on Meggitt (Meggitt SA) unless expressly agreed in writing. Before acquiring and/or using this product, you must evaluate it and determine if it is suitable for your intended application. You should also check our website at www.meggittsensing.com/energy for any updates to data sheets, certificates, product drawings, user manuals, service bulletins and/or other instructions affecting the product.

Unless otherwise expressly agreed in writing with Meggitt SA, you assume all risks and liability associated with use of the product. Any recommendations and advice given without charge, whilst given in good faith, are not binding on Meggitt SA. Meggitt (Meggitt SA) takes no responsibility for any statements related to the product which are not contained in a current Meggitt SA publication, nor for any statements contained in extracts, summaries, translations or any other documents not authored and produced by Meggitt SA.

The certifications and warranties applicable to the products supplied by Meggitt SA are valid only for new products purchased directly from Meggitt SA or from an authorised distributor of Meggitt SA.

In this publication, a dot (.) is used as the decimal separator and thousands are separated by thin spaces. Example: 12345.67890.

Copyright© 2018-2019 Meggitt SA. All rights reserved. The information contained in this document is subject to change without prior notice.

Sales offices

Meggitt has offices in more than 30 countries. For a complete list, please visit our website.

Local representative

Head office

Meggitt SA
Rte de Moncor 4
PO Box 1616
CH-1701 Fribourg
Switzerland

Tel: +41 26 407 11 11

Fax: +41 26 407 13 01

energy@ch.meggitt.com

www.meggittsensing.com/energy

www.meggitt.com

