DATA SHEET

vibro-meter®

PV660 piezoelectric velocity sensor

PV660

CE

KEY FEATURES AND BENEFITS

- From the vibro-meter® product line
- Voltage output signal: 4 mV/mm/s
- Frequency response: 1.9 to 7000 Hz
- Temperature range: −55 to 120°C
- Isolated electronics with internal shield for reduced noise
- Ground isolated from case
- Available as a sensor only
- Available in standard versions (non-hazardous areas only)

APPLICATIONS

- General-purpose vibration monitoring in harsh industrial environments

DESCRIPTION

The PV660 piezoelectric velocity sensor 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 PV660 is an industry standard IEPE (integrated electronics piezo electric) velocity sensor that requires a constant current power supply and provides a dynamic vibration output signal (AC voltage) on a bias level (DC voltage). It is available with a sensitivity of 4 mV/mm/s.

The PV660 is available as a sensor only (with a top connector). This allows a range of cable assemblies to be used to connect the sensor to the monitoring system, depending on the application/environment.

The PV660 is available in standard versions for use in standard (non-hazardous) areas only.

For specific applications, contact your local Meggitt representative.

Meggitt SA, Route de Moncor 4, Case postale, 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

SPECIFICATIONS

Note: Unless otherwise stated, all values listed are typical values, referenced at 24°C (75°F).

Operating

Sensitivity	: 4 mV/mm/s (100 mV/ips) ±5%
Dynamic range	: 1250 mm/s peak (50 ips peak)
Transverse sensitivity	: <5%
Linearity	: ±1% maximum
Frequency response	: 2.5 to 3500 Hz (±10%). 1.9 to 7000 Hz (±3 dB).
Resonant frequency	: 16 kHz nominal

Electrical

Power supply voltage (for current source)	: 22 to 28 V_{DC}
Power supply current	: 2 to 10 mA
Bias voltage (4 mA supply)	: 10 V_{DC} nominal
Output impedance	: 200 Ω nominal
Residual electrical noise	: 2.54 µm/s at 2.5 Hz, 0.254 µm/s at 10 Hz (100 µips at 2.5 Hz, 10 µips at 10 Hz)
Grounding	: Isolated from case (machine ground), internally shielded
Internal isolation (case to shield)	: 100 MΩ minimum
Reversed polarity	: Protected
Overvoltage	: Protected

Environmental

Temperature range	: −55 to 120°C (−67 to 248°F)
Humidity	: IP68 (according to IEC 60529)
Shock vibration limit	: 2500 g peak
Continuous vibration limit	: 500 g peak

Approvals

Conformity	: European Union (EU) declaration of conformity (CE marking)
Electromagnetic compatibility (EMC)	: EMC compliant (2014/30/EU). EN 61326-1.
Environmental management	: RoHS compliant (2011/65/EU)

SPECIFICATIONS *(continued)*

Physical

Case material	: Stainless steel (AISI 316L, DIN 1.4404)
Dimensions	: See **Mechanical drawings on page 4**
Weight	: 85 g (0.19 lb) approx.

Connector

Connector type	: MIL-C-5015-10SL-4P – rugged circular, threaded coupling, 2-pin connector with keyway. Note: Mates with MIL-C/DTL-5015 type connectors, as used by the recommended cable assemblies.
Connector pinouts (pin allocation)	
• Pin A (+)	: Power supply and output signal
• Pin B (−)	: Common
Recommended cable assemblies	: EC318, EC319, EC622 and EC632 (see **Accessories on page 5**)

Mounting

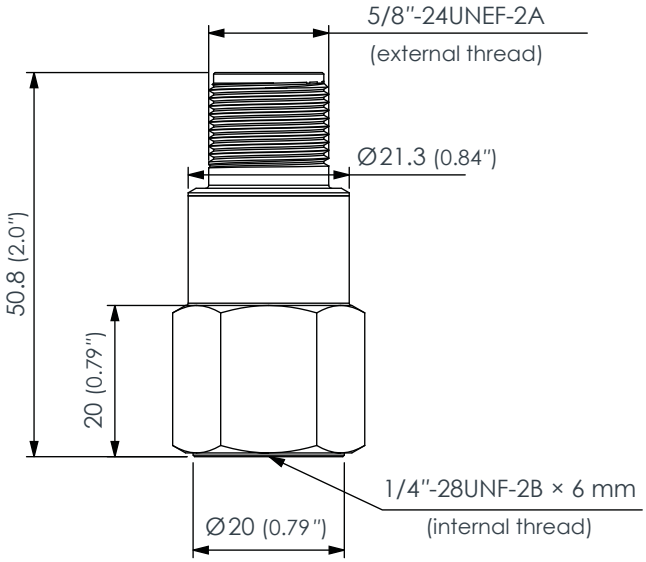
Stud or adaptor	: 1/4"-28UNF-2A (see **Accessories on page 5**)
Torque	: 2.4 N•m (1.8 lb-ft). Refer also to the *CExxx and PVxxx vibration sensors (piezoelectric accelerometers and piezoelectric velocity sensors) installation manual*.

Calibration

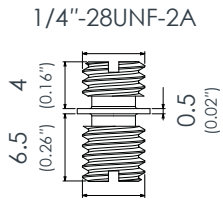
Dynamic calibration at factory. No subsequent calibration necessary.

MECHANICAL DRAWINGS

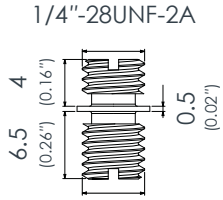
PV660 accelerometer



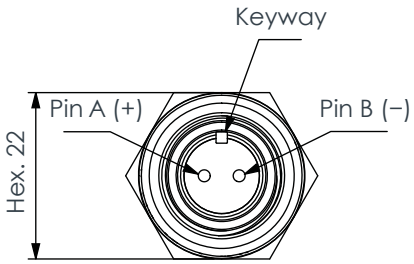
Adaptor studs



1/4"-28UNF



M8 × 1.25



Notes

All dimensions in mm (in) unless otherwise stated.

The PV660 sensor mates with MIL-C/DTL-5015 type connectors. See **Ordering information on page 5** and the ECxxx cable assemblies in **Accessories on page 5**.

Ordering number (PNR):

440 - 660 - 000 - 111 — **A** — **C**

Environment (A)	
Standard	1

Connector (C)	
01	MIL-C-5015-10SL-4P

ORDERING INFORMATION

To order, please specify the version(s) of the PV660 piezoelectric velocity sensor required …

Type	Designation	Ordering number (PNR)
PV660	4 mV/mm/s sensor	440-660-000-111-A1-C01

ACCESSORIES

Supplied

Item	Type	Part number (PNR)
• Adaptor studs	1/4-28UNF (1/4"-28UNF-2A to 1/4"-28UNF-2A)	809-601-000-011
	M8 × 1.25 (1/4"-28UNF-2A to M8 × 1.25)	809-601-000-021

Note: One of each of these type of adaptor studs is supplied with a PV660, that is, one M8 × 1.25 and one 1/4"-28UNF.

Optional

Item	Type	Part number (PNR)
• Adaptor studs	M8 × 1 (1/4"-28UNF-2A to M8 × 1)	809-601-000-031

ACCESSORIES *(continued)*

Optional *(continued)*

Item	Type	Part number (PNR)
• Cable assemblies	EC318. Standard version with a 2-pin MIL-C/DTL-5015 type connector, 2-wire RADOX® cable.	922-318-000-002
	EC318. Standard version with a 2-pin MIL-C/DTL-5015 type connector, 2-wire RADOX® cable and cable protection (flexible stainless-steel hose).	922-318-000-403
	EC319. Splashproof version with a 2-pin MIL-C/DTL-5015 type connector, 2-wire RADOX® cable.	922-319-000-002
	EC319. Splashproof version with a 2-pin MIL-C/DTL-5015 type connector, 2-wire RADOX® cable and cable protection (sealed, flexible stainless-steel hose).	922-319-000-103
	EC622. Standard version with a 2-pin MIL-C/DTL-5015 type connector, 2-wire Polyurethane (PUR) cable, IP67 cable boot (overmold).	922-622-000-001
	EC632. Higher-temp. version with a 2-pin MIL-C/DTL-5015 type connector, 2-wire Teflon® FEP cable, IP67 cable boot (overmold).	922-632-000-001
	EC632. Higher-temp. version with a 2-pin MIL-C/DTL-5015 type connector, 2-wire Teflon® FEP cable, IP67 cable boot (overmold) and cable protection (stainless steel (AISI 316L) overbraid).	922-632-000-101

Notes

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

When ordering a EC31x cable assembly, the ordering option code -L or -U is used to specify the overall cable length. EC31x cable assemblies can be specified with any cable length.

When ordering a EC6x2 cable assembly, the ordering option code -L is used to specify the overall cable length. EC6x2 cable assembles must be specified with a standard length of 2, 5, 10, 15, 20 or 30 m (corresponding to ordering option codes of L2000, L5000, L10000, L15000, L20000 or L30000, respectively).

Refer to the cable assembly product drawings for further information.

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

RELATED PRODUCTS

CE620	Piezoelectric accelerometer (100 or 500 mV/g output)	: Refer to corresponding data sheet
CE630	Piezoelectric accelerometer (100 or 500 mV/g output, side connector)	: Refer to corresponding data sheet
CE687	Piezoelectric accelerometer (4 to 20 mA output proportional to g)	: Refer to corresponding data sheet
PV685	Piezoelectric velocity sensor (4 to 20 mA output proportional to mm/s)	: Refer to corresponding data sheet

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.

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

Sales offices

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

Local representative

Head office

Meggitt SA
Route de Moncor 4
Case postale
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