PRÜFTECHNIK

VIBREX Catalog

2017

PRÜFTECHNIK Condition Monitoring GmbH
Oskar-Messterstr. 19-21
D-85737 Ismaning, Germany
+49 89 99616-0

CONTENTS

VIBREX – Continuous monitoring of one or two locations

VIBREX is a compact monitoring system with a modular design. It is used in machines with antifriction bearings and running at constant operating conditions (e.g. pumps).

Features

- Machine vibration and bearing condition monitoring
- One or two measurement channels
- Straightforward installation and commissioning
- Relay output
- Signal output (mV)
- Sensors and separators for explosive atmospheres

Ordering information

VIBREX is available in application-dependent variants.

Part number	Variant
VIB 5.761 V	VIBREX vibration monitor, 1 channel
VIB 5.761 VHT	VIBREX vibration monitor, 1 channel, High-temperature industrial accelerometer
VIB 5.761 VIP	VIBREX vibration monitor, 1 channel, High-temperature industrial accelerometer for IP68 option
VIB 5.762 V	VIBREX vibration monitor, 2 channels
VIB 5.762 VHT	VIBREX vibration monitor, 2 channels, High-temperature industrial accelerometer
VIB 5.762 VIP	VIBREX vibration monitor, 2 channels, High-temperature industrial accelerometer for IP68 option
VIB 5.763 B	VIBREX bearing condition monitor, 1 channel
VIB 5.764 B	VIBREX bearing condition monitor, 2 channels
VIB 5.765 VB	VIBREX combined vibration and bearing condition monitor, 1 channel

Items delivered in the box is derived from the overview below.

Scope of supply- VIBREX vibration monitor

CONTENTS			VARIANT					
			VIB 5.761 ...			VIB 5.762 ...		
Part number	Description	Details	V	VHT	VIP	V	VHT	VIP
VIB 5.752	Basic unit	p. 7	✓	✓	✓	✓	✓	✓
VIB 5.755 I	Evaluation module for vibration monitoring according to ISO 10816-3, 10 Hz – 1 kHz	p. 8	✓	✓	✓	✓, 2x	✓, 2x	✓, 2x
VIB 5.754	Empty module	---	✓	✓	✓	✗	✗	✗
VIB 6.125 R	High-temperature industrial accelerometer, permanent installation	p. 10	✗	✓	✗	✗	✓, 2x	✗
VIB 6.125 RIP	High-temperature industrial accelerometer for IP68 option, permanent installation	p. 13	✗	✗	✓	✗	✗	✓, 2x
VIB 5.775-5	Connection cable 5 m (16' 4 55/64")	p. 31	✗	✓	✓	✗	✓, 2x	✓, 2x
VIB 5.751 SET	Mounting kit for VIBREX basic unit	p. 32	✓	✓	✓	✓	✓	✓
VIB 9.610	VIBREX operating manual	---	✓	✓	✓	✓	✓	✓
VIB 9.831	Operating manual for accelerometers	---	✗	✓	✓	✗	✓	✓

Scope of supply- VIBREX bearing monitor and combined bearing / vibration monitor

CONTENTS			VARIANT		
			VIB ...		
Part number	Description	Details	5.763 B	5.764 B	5.765 VB
VIB 5.752	Basic unit	p. 7	✓	✓	✓
VIB 5.755 I	Evaluation module for vibration monitoring according to ISO 10816-3, 10 Hz – 1 kHz	p. 8	✗	✗	✓
VIB 5.756 I	Evaluation module for bearing monitoring	p. 8	✓	✓, 2x	✓
VIB 5.754	Empty module	---	✓	✗	✗
VIB 5.751 SET	Mounting kit for VIBREX basic unit	p. 32	✓	✓	✓
VIB 9.610	VIBREX operating manual	---	✓	✓	✓

Note: The items in the box for the variants are fixed. A customized configuration is possible. Customized configurations may be created using items from the aforementioned variants and those from the alternative components list below.

Alternative components for customized configurations

Part number	Description	Note	Details
	Evaluation modules		
VIB 5.755 L	Vibration module for low-speed machines, 1 Hz – 1 kHz	Evaluating vibration velocity in mm/s	p. 8
VIB 5.755 ML	Vibration module for low-speed machines, 2 Hz – 1 kHz	Evaluating vibration velocity in mm/s	p. 8
VIB 5.755 IUS	Vibration module for standard machines according to ISO 10816-3, 10 Hz – 1 kHz (U.S. version)	Evaluating vibration velocity in inch/s	---
VIB 5.757 G	Acceleration module for high-speed machines, 2 Hz – 20 kHz	Evaluating vibration acceleration in m/s^{-2}	p. 8
VIB 2.570.G	Calibration certificate for evaluation module		
	Sensors		
VIB 6.122 R	Industrial accelerometer, permanent installation, standard		p. 10
VIB 6.122 DEX	Industrial accelerometer, permanent installation, intrinsically safe	Limiting device is necessary	p. 10
VIB 6.125 IDEX	Industrial accelerometer, permanent installation, high temperature, intrinsically safe	For IP 68 option; Limiting device necessary	p. 13
VIB 6.127	Industrial accelerometer for low-speed machines, permanent installation	Bearing condition evaluation and pump cavitation are not possible	p. 10
VIB 6.127 DEX	Industrial accelerometer for low-speed machines, permanent installation, intrinsically safe	Bearing condition evaluation and pump cavitation are not possible; limiting device is necessary	p. 10
VIB 6.129 IP	Industrial accelerometer for low-speed machines, permanent installation	For IP 68 option; Bearing condition evaluation and pump cavitation are not possible	p. 13
VIB 6.129 IDEX	Industrial accelerometer for low-speed machines, permanent installation, intrinsically safe	For IP 68 option; Bearing condition evaluation and pump cavitation are not possible; Limiting device is necessary	p. 13
	Cable and installation accessories		
Miscellaneous	Customized VIBREX connection cable	Cable pre-assembly according to cable configurator	
VIB 6.760 / 2	IP 68 option for industrial sensors	Cable pre-assembly according to cable configurator	p. 27
VIB 3.550	Limiting device for CLD-type accelerometers with intrinsic safety	1 per measurement channel	p. 29
VIB 6.770/13	Junction box for the extension of coaxial and triaxial cables; TNC to M20 threaded joints		p. 23
VIB 3.431	Adhesive adapter, M8 on the adhesive mount		p. 18

TECHNICAL INFORMATION

Technical data, VIBREX basic unit

Parameter	VIBREX basic unit
	INTERFACES
Slots	1 or 2 modules
Inputs	2 x CLD accelerometer Mains supply 115 / 230 VAC DC source 24VDC
Outputs	1 alarm relay 1 OK relay for self monitoring / warnung 1 analog level output (4 – 20 mA) mV output for signal analysis
Switching power	Maximum 3 A @ 250 V AC
Operating modes	Combined bearing condition / vibration monitoring (1 or 2 channels); Bearing condition only or vibration monitoring only (1 or 2 channels)
	ELECTRICAL
Power supply	Tandem-Piezo CLD accelerometer
Overload protection	Thermal fuse in transformer and resistance fuse (160 mA slow-acting)
Signal output (mV)	Direct sensor signal (buffered, 100 Ohm)
Transmission	1.0 $mV_{eff.}$/ms-² (=10 mV/g) for sensors with a sensitivity of 1 µA/ms-² 5.35 $mV_{eff.}$/ms-² (=52 mV/g) for sensors with a sensitivity of 5.35 µA/ms-²
Frequency response	= Frequency response sensor
	ENVIRONMENT
Operating temperature	-10 °C to 60 °C (14 °F to 140 °F)
Environmental protection	IP 65
Vibration limit	< 50 m/s² (center frequency: 60 Hz, bandwidth: 100 Hz)
Housing material	Plastic (polycarbonate, Makrolon) with transparent lid, protection class II
Dimensions	200 mm x 120 mm x 77 mm (7 7/8" x 4 23/32" x 3 1/32") — L x B x W

Information on intrinsic safety

When monitoring machines in explosive atmospheres, intrinsically safe sensors must be used and a limiting device is necessary for every measurement channel. VIBREX basic unit must be installed outside the hazardous area.

Technical data, VIBREX evaluatuion modules

Parameter	VIBREX evaluation module				
	VIB 5.755 I	VIB 5.755 L	VIB 5.755 ML	VIB 5.756 I	VIB 5.757 G
MEASUREMENT					
Measurement quantity	RMS vibration velocity			Shock pulse (Maximum value in dBsv)	RMS vibration acceleration
Frequency range	10 Hz – 1 kHz	1 Hz – 1 kHz	2 Hz – 1 kHz	---	2 Hz – 20 kHz
Measurement range	0 to 10 / 20 / 50 / 100 mm/s			20 - 79 dBsv	0 to 60 / 120 / 300 / 600 m/s-²
ELECTRICAL					
Operating voltage	18 – 30 V DC				
Maximum current	ca. 35 mA				
Output	4-20 mA, analog — with basic unit				
SETTINGS					
Status and alarm indicators	5 LEDs for alarm, warning, short circuit, open circuit, and power supply				
Alarm and warning thresholds	10% to 100% of measurement range end value			Alarm: 20 – 79 dBsv. Warning: ‚Alarm' – 15 dBsv	10% to 100% of measurement range end value
Alarm and warning delay	5 – 50 s				
Type of industrial sensor	Standard *	Low-speed**	Standard	Standard	Standard

* Sensitivity: 1,0 µA/ms-²

** Sensitivity: 5,35 µA/ms-²

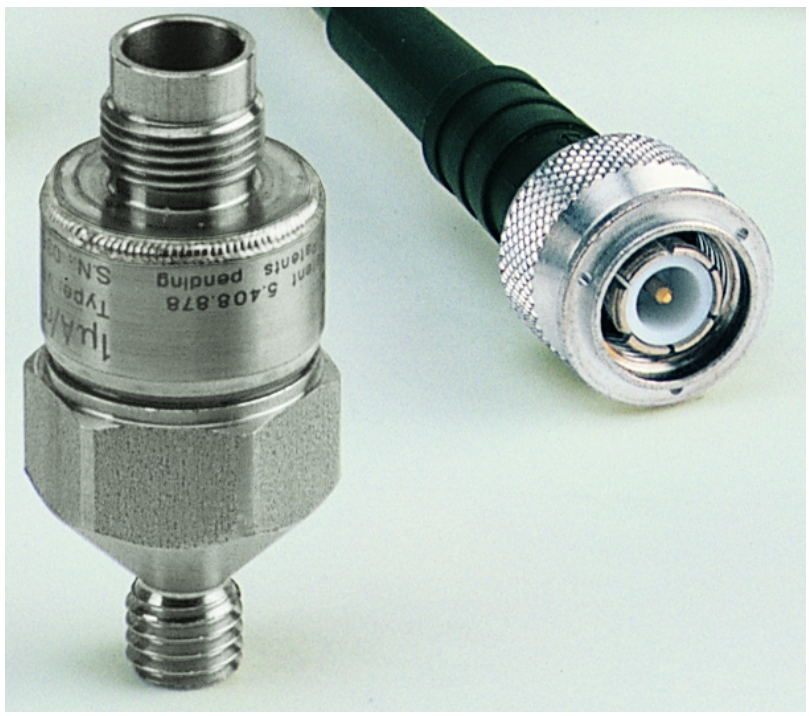
Components

The following section provides detailed information about the components and the optional accessories.

Note: Some components are not suitable for use with VIBREX for technical reasons.

Industrial CLD accelerometers for permanent installation

These robust type of sensors are suited for vibration measurements on industrial nmachinery. The sensors are permanently installed on the machine measuring point where the signal is acquired using a stationary condition monitoring system.



Industrial accelerometers for permanent installation

Features

- 3-in-1 sensor: housing vibration, shock pulse (condition of roller bearings), cavitation
- $f_{min.}$: 0.3 Hz – ideal for machines running at low speeds
- Intrinsic safety, Zone 1
- $T_{max.}$: 135°C (275°F)
- Rigid mounting using threaded screws
- Current Line Drive (CLD) output for long cable use
- Immune to interference (Tandem-Piezo)

Ordering information

Part number	Industrial accelerometers for permanent installation
VIB 6.122 R	Standard
VIB 6.122 DEX	Standard, intrinsically safe
VIB 6.125 R	Standard, high temperature
VIB 6.127*	Low speed
VIB 6.127 DEX*	Low speed, intrinsically safe

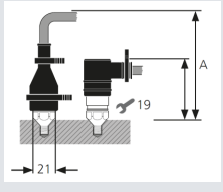
* Not suitable for shock pulse measurement and pump cavitation.

Accessories

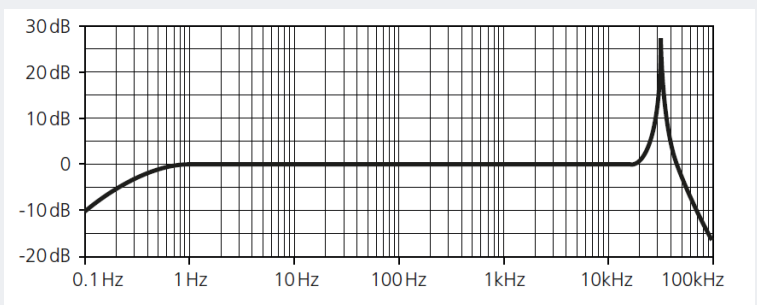
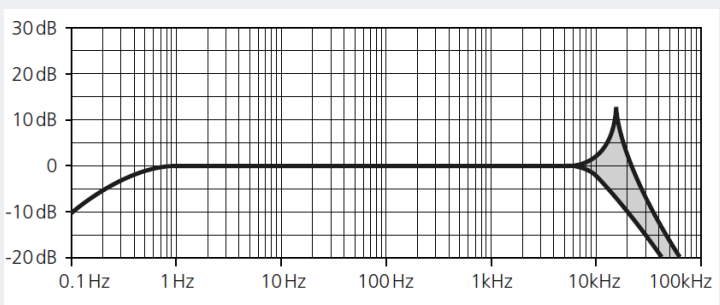
Part number	Description / Group
Miscellaneous	"Mounting adapters for vibration sensors" p. 18
Miscellaneous	"Protection caps for industrial sensors" p. 16
Miscellaneous	"Tools for installation of accelerometers" p. 33
VIB 3.550	"Instrinsic safety barriers" p. 29

TECHNICAL INFORMATION

Technical data - VIB 6.12...

Parameter	VIB 6.122 R	VIB 6.125 R	VIB 6.127
MEASUREMENT			
Signalling system	Current Line Drive, 3.5 mA static current with superimposed AC signal		
Transmission factor	1.0 µA/ms^{-2} ± 3% (Ref.: 159 Hz; 25 °C /77 °F)		5.35 µA/ms^{-2} ± 4% (Ref.: 159 Hz; 25 °C/77 °F)
Frequency range ± 5%	2 Hz to 8 kHz		2 Hz to 4 kHz
Frequency range ± 10%	1 Hz to 20 kHz		1 Hz to 8 kHz
Frequency range ± 3dB	0.3 Hz to 20 kHz		0.3 Hz to 12 kHz
Resonance frequency	36 kHz		17 kHz; > 20 dB damped
Linearity range, ± 10%	± 961 ms^{-2}		± 450 ms^{-2}
Temperature range; Cable VIB 90093	-40 °C to 100 °C (-40 °F to 212 °F)	-40 °C to 125 °C (-40 °F to 257 °F) / 135 °C (275 °F); VIB 90007)	-40 °C to 100 °C (-40 °F to 212 °F)
ELECTRICAL			
Power supply	> 10 mA / 7-18 VDC		
Transverse sensitivity	< 5%		
Temperature sensitivity	< 0,05 ms^{-2}/K		< 0,01 ms^{-2}/K
Magnetic sensitivity	< 5 ms^{-2}/T (at 50 Hz)		< 1 ms^{-2}/T (at 50 Hz)
Base strain sensitivity	< 0.1 ms^{-2}/µm/m		
Electrical noise, rms	< 0.01 ms^{-2} from 2 Hz		< 0,002 ms^{-2} from 2 Hz
Output impedance	> 1 MOhm		> 300 kOhm
Insulation	> 10^{9} MOhm		
MECHANICAL			
Case material	Stainless steel VA 1.4305		
Environmental protection	IP 65 with cable connector locked		
Cable connection	TNC socket		
Mounting at measurement point	M8 thread		
Shock limit	< 250 kms-²		< 50 kms-²
Weight	40 g (1.4 oz)		43 g (1.5 oz)
Mounting height A, using straight TNC plug / angled TNC plug 	A > 115 mm / 55 mm (4.53" / 2.2")		A > 120 mm / 60 mm (4.72" / 2.36")

Frequency response

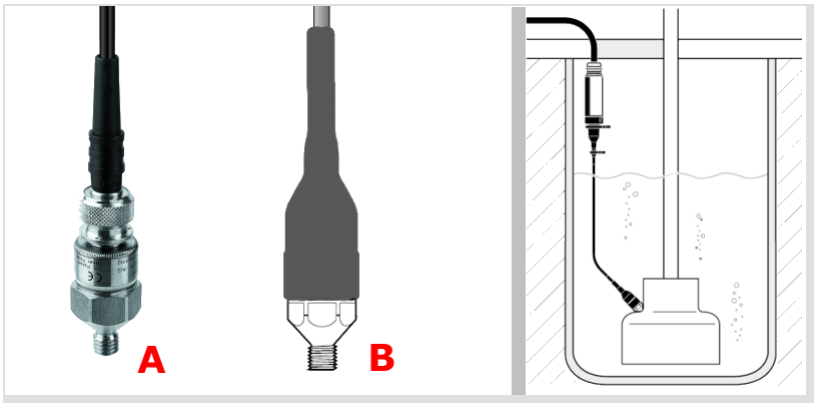
0.3 Hz - 20 kHz	0.3 Hz - 12 kHz
	
Type of industrial sensor • VIB 6.122 R, VIB 6.122 DEX, • VIB 6.125	Type of industrial sensor • VIB 6.127, VIB 6.127 DEX,

Intrinsic safety details

Industrial sensor, VIB 6.12..DEX	
Marking	Gas: II 2G Ex ib IIC T4 / Dust: II 2D Ex ib IIIB $T_5$187°C
Temperature range	-40 °C to +80 °C (-40 °F to 176 °F)

Industrial CLD accelerometers for use in liquid media

These accelerometers are intended for use in liquid media. The connection cable to the sensor is hermetically sealed (IP 68).



Industrial accelerometers for use in liquid media; A – not sealed, B – hermetically sealed (IP 68)

Features

- Ideal for use in liquid media
- Rating IP 68 optional
- 3-in-1 sensor: housing vibration, shock pulse (condition of roller bearings), cavitation
- Intrinsic safety, Zone 1
- $f_{min.}$: 0.3 Hz – ideal for machines running at low speeds
- $T_{max.}$: 135°C (275°F)
- Rigid mounting using threaded screws
- Current Line Drive (CLD) output for long cable use
- Immune to interference (Tandem-Piezo)

Ordering information

Part number	Industrial accelerometer for use in liquid media
VIB 6.125 RIP	Standard machinery, high temperature, IP 68 option
VIB 6.125 IDEX	Standard machinery, high temperature, IP 68 option, intrinsic safety
VIB 6.129 IP*	Low speed, high temperature, IP 68 option
VIB 6.129 IDEX*	Low speed, high temperature, IP 68 option, intrinsic safety

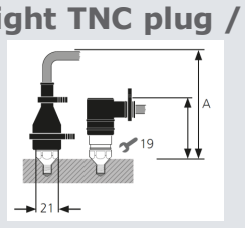
* Not suited for shock pulse measurements and cavitation measurements.

Accessories

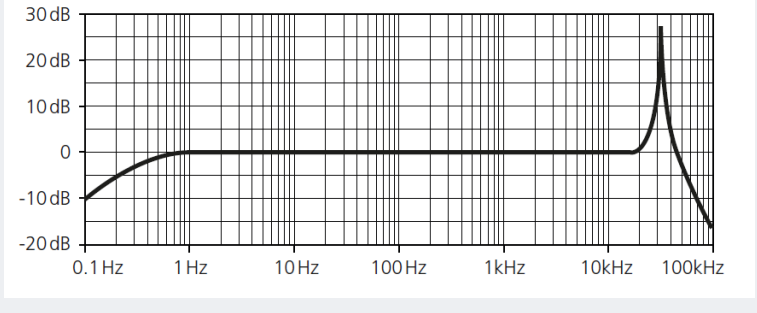
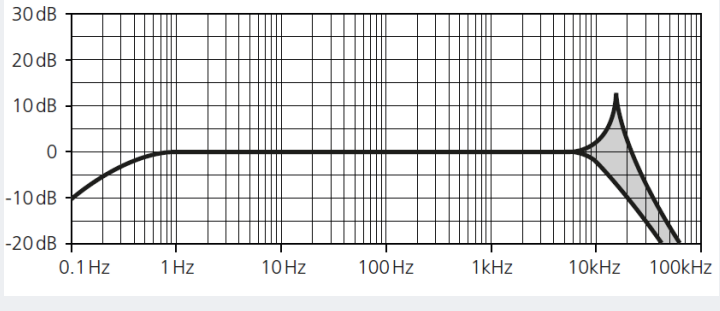
Part number	Description / Group
Miscellaneous	"Mounting adapters for vibration sensors" p. 18
Miscellaneous	"Protection caps for industrial sensors" p. 16
Miscellaneous	"Tools for installation of accelerometers" p. 33
VIB 6.760	"IP68 option for industrial accelerometers" p. 27
VIB 3.550	"Instrinsic safety barriers" p. 29

TECHNICAL INFORMATION

Technical data - VIB 6.12...

Parameter	VIB 6.125 RIP	VIB 6.129 IP
MEASUREMENT		
Signalling system	Current Line Drive, 3.5 mA static current with superimposed AC signal	
Transmission factor	1,0 µA/ms^{-2} ± 3% (Ref.: 159 Hz; 25 °C)	5,35 µA/ms^{-2} ± 4% (Ref.: 159 Hz; 25 °C)
Frequency range, ± 5%	2 Hz to 8 kHz	2 Hz to 4 kHz
Frequency range, ± 10%	1 Hz to 20 kHz	1 Hz to 8 kHz
Frequency range, ± 3dB	0.3 Hz to 20 kHz	0.3 Hz to 12 kHz
Resonance frequency	36 kHz	17 kHz; > 20 dB damped
Linearity range, ± 10%	± 961 ms^{-2}	± 450 ms^{-2}
Temperature range; Cable VIB 90093	-40 °C to 125 °C (-40 °F to 257 °F) (135 °C/275 °F, VIB 90007)	40 °C to 125 °C (-40 °F to 257 °F) (135 °C/275 °F, VIB 90007)
ELECTRICAL		
Power supply	> 10 mA / 7-18 VDC	
Transverse sensitivity	< 5%	
Temperature sensitivity	< 0,05 ms^{-2}/K	< 0,01 ms^{-2}/K
Magnetic sensitivity	< 5 ms^{-2}/T (at 50 Hz)	< 1 ms^{-2}/T (at 50 Hz)
Base strain sensitivity	< 0.1 ms^{-2}/µm/m	
Electrical noise, rms	< 0.01 ms^{-2} at 2 Hz	< 0.002 ms^{-2} at 2 Hz
Output impedance	> 1 MOhm	> 300 kOhm
Insulation	> 10^{9} MOhm	
MECHANICAL		
Case material	Stainless steel VA 1.4305	
Environmental protection	IP 65 with cable connector locked; IP 68 with VIB 6.760 / VIB 6.761	
Cable connection	TNC socket	
Mounting at measurement point	M8 thread	
Shock limit	< 250 kms-²	< 50 kms-²
Weight	40 g	43 g
Mounting height A, using straight TNC plug / angled TNC plug 	A > 115 mm / 55 mm	A > 120 mm / 60 mm
Mounting height mit IP-68-Option	A > 140 mm (VIB 6.760) A > 120 mm (VIB 6.761)	A > 140 mm (VIB 6.760) A > 120 mm (VIB 6.761)

Frequency response

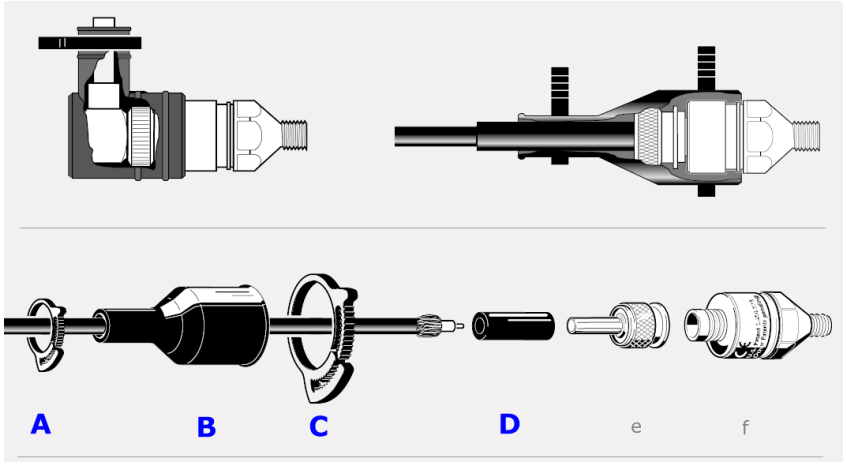
0,3 Hz - 20 kHz	0,3 Hz - 12 kHz
	
Industrial sensor type • VIB 6.125 RIP, VIB 6.125 IDEX	Industrial sensor type • VIB 6.129 IP, VIB 6.129 IDEX

Intrinsic safety details

Industrial sensor type VIB 6.125 IDEX / VIB 6.129 IDEX	
Marking Ex	Gas: II 2G Ex ib IIC T4 / Dust: II 2D Ex ib IIIB $T_5$187°C
Temperature range	-40 °C to 80 °C (-40 °F to 176 °F)

Protection caps for industrial sensors

The protection caps and the corresponding clamps are used to seal and relieve the strain at the connection between the sensor and the cable.



Legend

- **A**: Clamp for dust cap, cable end VIB 6.720
- **B**: Dust cap, straight VIB 6.700
- **C**: Clamp for dust cap, sensor end VIB 6.721
- **D**: Dust cap sleeve VIB 6.722
  - e:TNC plug VIB 93022
  - f: Sensor VIB 6.122 R

Ordering information

Part number	Description
VIB 6.700	Dust caps, straight, 10 pieces
VIB 6.701	Dust caps, straight, oil-resistant, 10 pieces
VIB 6.710	Dust caps, angled, 10 pieces
VIB 6.711	Dust caps, angled, oil-resistant, 10 pieces
VIB 6.720	Clamps for dust caps, cable end, 10 pieces
VIB 6.721	Clamps for dust caps, sensor end, 10 pieces
VIB 6.722	Dust cap sleeves, 10 pieces

Note: Rating IP 67 is attained with only straight dust caps used together with dust cap sleeves, protective sheath or triaxial cable. Angled dust caps may be sealed using clamps at only the cable end (IP 65). Only sensors with straight sockets and dust caps may be used in explosive environments.

Only silicone-free dust caps may be used in paint shops.

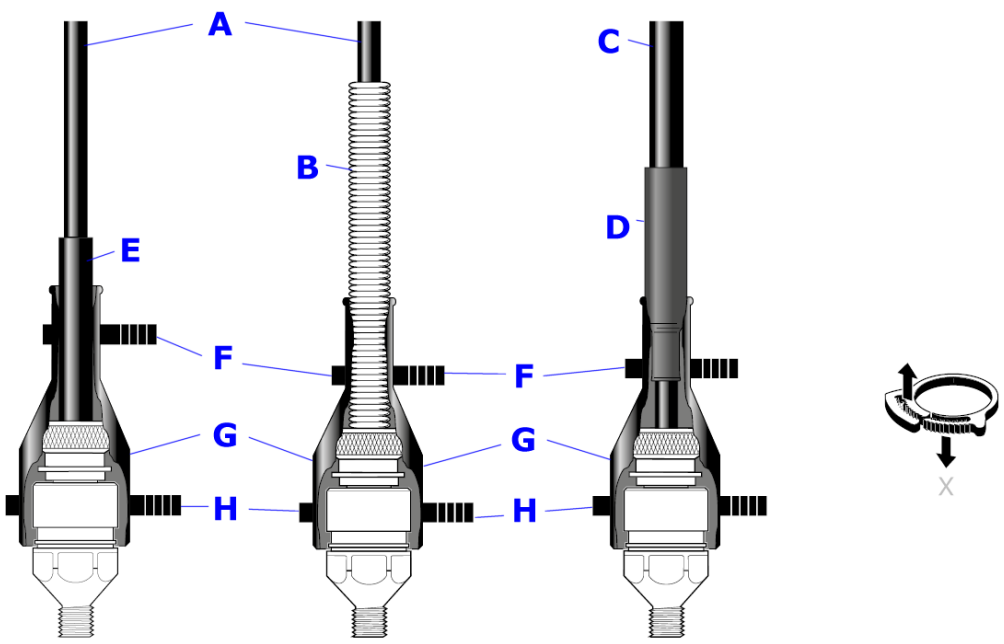
TECHNICAL INFORMATION

Technical data

Parameter	VIB 6.700	VIB 6.701	VIB 6.710	VIB 6.711	VIB 6.720	VIB 6.721	VIB 6.722
Material	Silicone (siloprene HV)		Viton (FKM polymer, P-60 120 black)		Nylon 66, thermally stabilized		Nitrile rubber (NBR)
Resistance	Ozone, weathering, aging, UV radiation, hot water, steam (up to 130°C), aliphatic hydrocarbons (mineral oils)		Ozone, weathering, aging, aliphatic, aromatic, chlorinated hydrocarbons (e.g. mineral oils, fats, fuels, mixtures), inorganic acids, chemicals, silicone oils or fats		Industrial solvents, fuels, oils, fats, weathering		Silicone-free, oil-resistant
Temperature range	-55 °C ... + 180 °C		-30 °C ... + 200 °C		-40°C ... +120°C		-30°C ... +100°C
Environmental protection	IP 67	IP 65	IP 67	IP 65	---		---
Clamping range	---				12,2...14,8 mm	20,5...23 mm	---

Installation example

- Standard installation using coaxial cable and dust cap sleeve
- Installation using coaxial cable and protective sheath
- Installation using triaxial cable and heat shrink sleeve



A: Coaxial cable VIB 90008-x
B: Protective sheath VIB 6.730
C: Coaxial cable VIB 90080-x
D: Heat shrink sleeve
E: Dust cap sleeve VIB 6.722
F: Clamp, cable end VIB 6.720
G: Dust cap VIB 6.700
H: Clamp, sensor end VIB 6.721
X: Open clamp

Mounting adapters for vibration sensors

Vibration sensors are mounted using adapters that conform to the structural shape of the sensor. In addition to these, different types of adapters are available. Depending on the application and the on-site requirements, sensors may be fixed to the measurement points by being screwed down or held secure using adhesives or strong magnets.

Mounting options for an "industrial" accelerometer

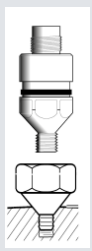
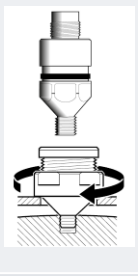
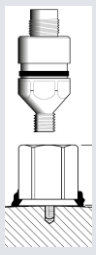
Fixation options

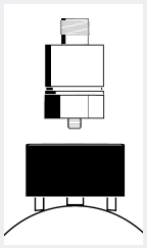
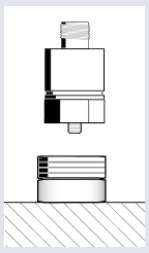
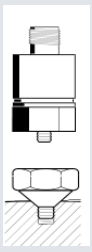
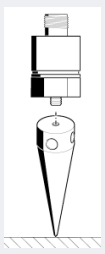
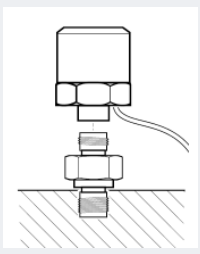
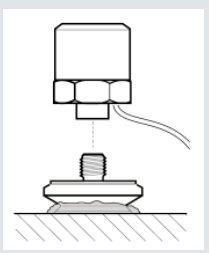
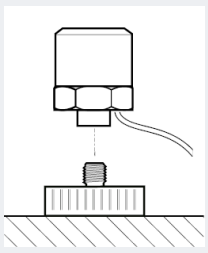
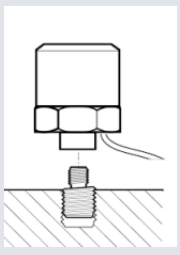
- Screwed mounting
- Glued mounting
- Magnetic connection
- Manuel connection using a probe tip

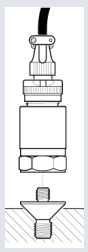
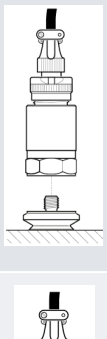
Suitable for following types of sensors:

- "Industrial" CLD accelerometer
- "Mini" CLD accelerometer
- IEPE accelerometer "100 mV/g",
- "Wind" CLD accelerometer
- VIBROTECTOR vibrations monitor

Ordering information

Part number	Illustration	Description	Application / Hint
Mounting adapters for industrial accelerometers VIB 6.12x			
VIB 8.772		Screwed adapter to M10	For installation into an existing M10 hole, e.g. jack ring thread on a motor
VIB 3.411 **VIB 3.412** **VIB 3.413**		Screwed adapter with locking nut to M8 / M10 / M12	For measurement points located directly under a thin cover (e.g. guard plate, housing). The adapter may be used to replace existing casing screws.
VIB 3.431		Adhesive adapter, M8 to adhesive mount	For measurement points where mounting holes cannot be drilled. Fix using a two-component adhesive (e.g. WEICON HB 300). The adhesive adapter is also suit-able for the "100mV/g (IEPE)"accelerometer type VIB 6,210.
VIB 8.586 / **VIB 8.587 /** **VIB 8.588 /** **VIB 8.589**		Extension post, Length: 55 / 95 / 170* / 35 mm (2 11/64" / 3 47/64" / 6 11/16"* / 1 3/8" * 170 mm (6 11/16") for shock pulse measurements only	For measurement points that are difficult to access or located inside a guard plate. Diameter: 12 mm (15/32")
Mounting adapters for mobile industrial sensors, VIB 6.14x			

Part number	Illustration	Description	Application / Hint
VIB 3.420		Magnetic adapter for curved surfaces	For measurement locations made of ferromagnetic material. Shock pulse measurements (roller bearing condition) are not possible with these adapters.
VIB 3.422		Magnetic adapter for flat surfaces	
VIB 3.430		Adhesive adapter	For measurement points where mounting holes cannot be drilled. Fix using a two-component adhesive (e.g. WEICON HB 300).
VIB 3.435 / VIB 3.436 / VIB 3.440		Screw adapter on Screw adapter on	
VIB 3.450		Probe tip	Manual coupling to the measurement location. Material: Aluminium; Dimensions: 19 x 73 mm (D x H)
Mounting adapter for mini-sensor, VIB 6.20x			
VIB 3.417-M5 / VIB 3.417-M6		Screw adapter on M5 / M6	
VIB 3.418		Adhesive adapter	For measurement points where mounting holes cannot be drilled. Fix using a two-component adhesive (e.g. WEICON HB 300).
VIB 3.423		Magnetic adapter	
VIB 3.480		M8 threaded pin	Installed in the sensor as standard. Can be replaced if necessary.
Mounting adapter for VIBROTECTOR, and sensor "Wind" (VIB 6.195) or "100mV/g" (VIB 6.172)			

Part number	Illustration	Description	Application / Hint
VIB 3.437		Screw adapter on M8-90°	
VIB 3.438 / VIB 3.439		Screw adapter on M8 flat	
VIB 3.433		Adhesive adapter	For measurement points where mounting holes cannot be drilled. Fix using a two-component adhesive (e.g. WEICON HB 300).
VIB 3.423		Magnetic adapter	
VIB 3.480		M8 threaded pin	Installed in the sensor as standard. Can be replaced if necessary.

Accessories

Item No.	Item name / item group
Miscellaneous	"Tools for installation of accelerometers" p. 33

TECHNICAL INFORMATION

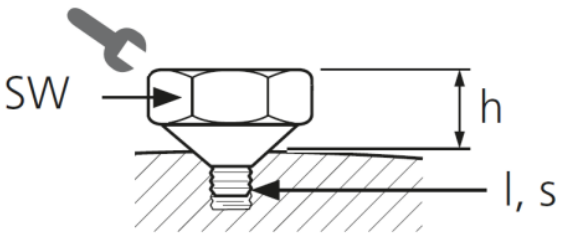
Technical data, Magnetic adapter

Parameter	VIB 3.420	VIB 3.422	VIB 3.423
Housing, material	Plastic PA6, pole shoe made of steel	Steel	
Block magnet	NdFeB (neodymium iron boron)		
Temperature range (for PA6)	-40°C ... +120°C	---	---
Connection thread	M5		¼-28 UNF
Weight, total	70 g	27 g	41 g
Weight, magnet	28 g	5 g	7 g
Diameter	34 mm	20 mm	25 mm
Height	23 mm	11 mm	10 mm

Note: During transport/storage, a steel washer needs to be attached to the pole shoes as a short-circuit rail. The safety data sheet is available on the PRUFTECHNIK website.

Material and dimensions

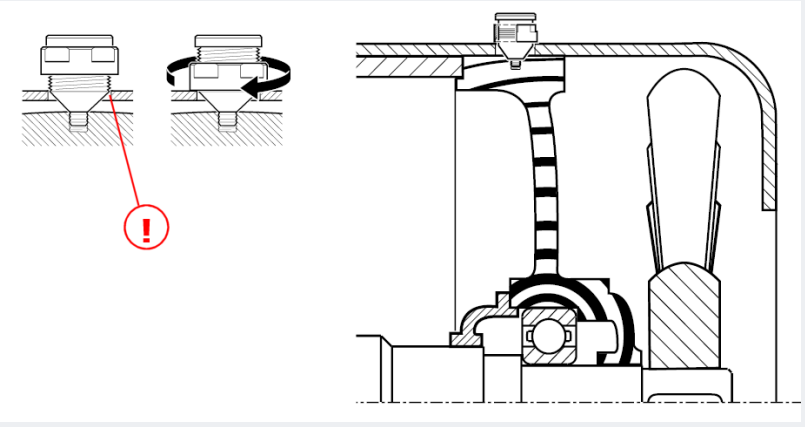
All of the adapters listed below are made from stainless steel (VA1.4305).
The dimensions are stated in millimeters.



Item No.	Mounting height h	Thread size s	Thread length l	Wrench size SW
VIB 3.411	18	M8	6	20
VIB 3.412	17	M10	6	20
VIB 3.413	16	M12	6	20
VIB 3.417-M5	11	M5	5	13
VIB 3.417-M6	11	M6	6	13
VIB 3.418	6	---	---	---
VIB 3.430	16	---	---	---
VIB 3.431 / 3.432	21	---	---	---
VIB 3.433	8	---	---	---
VIB 3.435	8	M5-120°	3.5	19
VIB 3.436	8	M6-90°	6	19
VIB 3.437	4	M8-90°	5	---
VIB 3.438	8	M8	4	22
VIB 3.439	1	M5	4	---
VIB 3.440	9	M8-90°	5	19
VIB 3.480	0	M8	11	---
VIB 8.772	12	M10-120°	7	19

Mounting examples

Screw adapter with lock nut

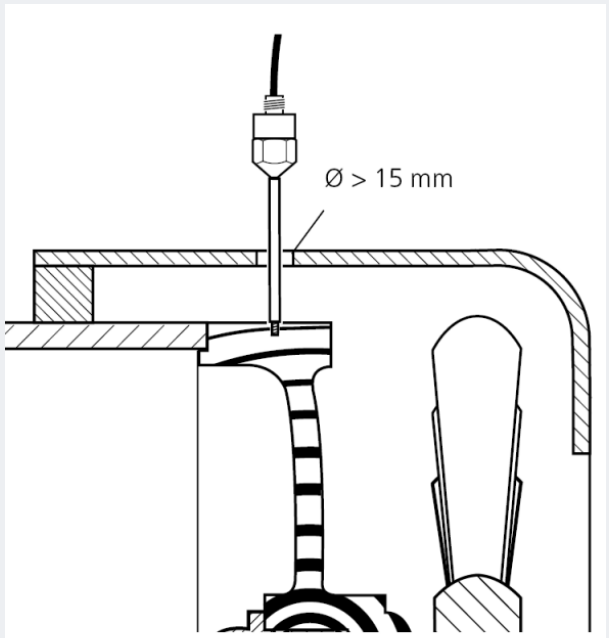


Screw adapter with lock nut

!: No contact between the adapter and cover.

The lock nut fixes the cover in place while the screw adapter is bolted to the measurement location. For optimum transmission of the signal, the cone must only come in contact with the measurement location and must not come in contact with the cover.

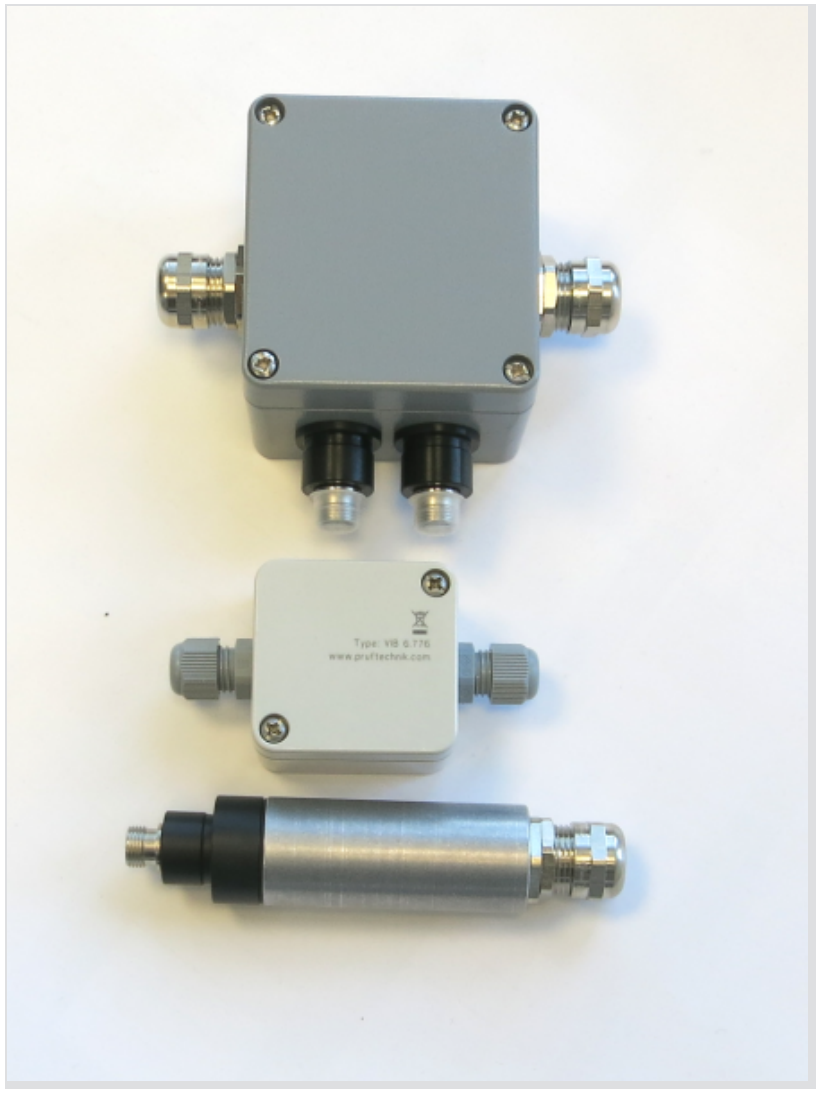
Extension rod



!: No contact between the extension rod and cover.

Junction boxes for the extension of cables

These junction boxes are used to extend cables. Junction boxes with a TNC connection may be used as an interface for data collection when using a handheld device.

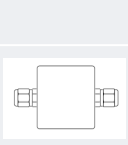


Junction boxes used for the extension of two cables (top) and for one cable (middle and bottom)

Features:

- Protects cable connection from dust and humidity
- Straightforward to mount
- Coaxial and 2-pin cablesl
- Extension from coaxial to triaxial possible
- Cable diameter: 3 mm to 12 mm (1/8" to 15/32")

Ordering information

Part number		Description
VIB 6.775/9		Junction box for extension of two cables — coaxial to triaxial; TNC to M16 connection fitting
VIB 6.775/13		Junction box for extension of two cables — coaxial to triaxial; TNC to M20 connection fitting
VIB 6.776		Junction box for extension of one cable — 2-pin to 2-pin; M12 to M12 connection fitting
VIB 6.770/9		Junction box for extension of one cable — coaxial to coaxial; TNC to M16 connection fitting
VIB 6.770/13		Junction box for extension of one cable — coaxial to triaxial; TNC to M20 connection fitting

Note: Junction boxes with M20 connection fitting are also suitable for coaxial cables with protective sheath.

Accessories

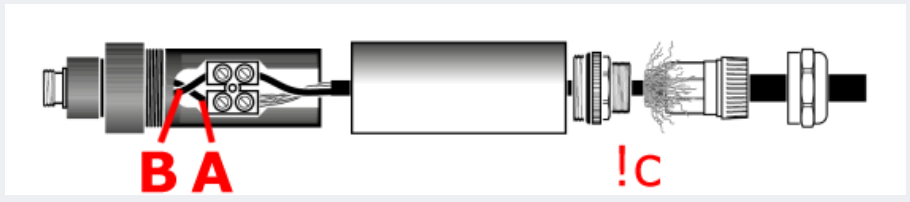
Part number	Description
Miscellaneous	"Protection caps for industrial sensors" p. 16

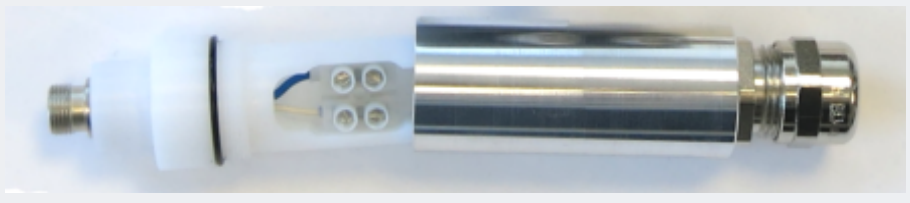
TECHNICAL INFORMATION

Technical data

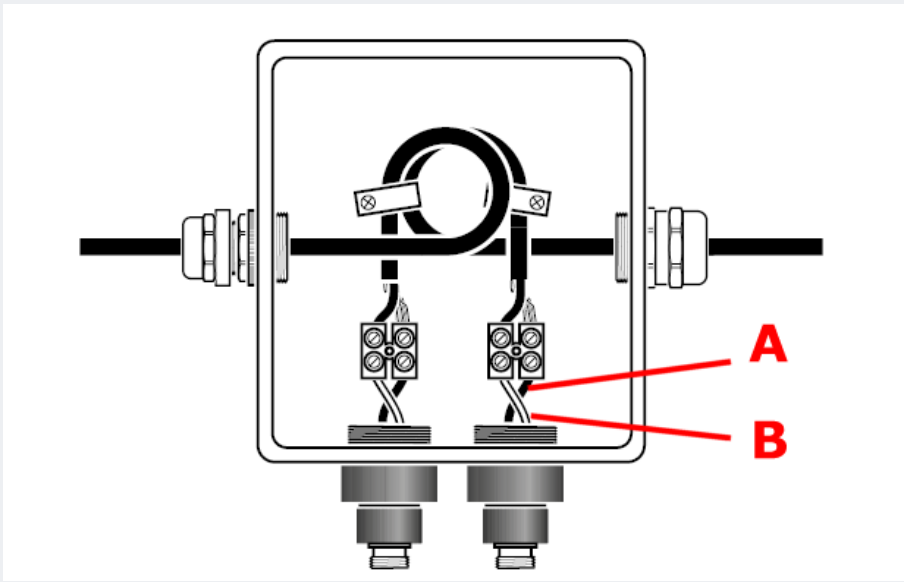
Parameter	VIB 6.770/9	VIB 6.770/13	VIB 6.776	VIB 6.775/9	VIB 6.775/13
Case material	Aluminium		ABS plastic	Aluminium (die cast)	
In	TNC connector		M12 Cable connection fitting	2 x TNC connector	
Out **Cable connection fitting**	M16	M20	M12	M16	M20
Environmental protection	IP 65				
Dimensions	128 x 29 mm — L x B		90 x 50 x 35 mm (LxBxW)	104 x 120 x 57 mm (LxBxW)	
Separation between drilled holes 	---		A: 40 mm B: 40 mm	A: 52 mm B: 63 mm	

Connection diagram





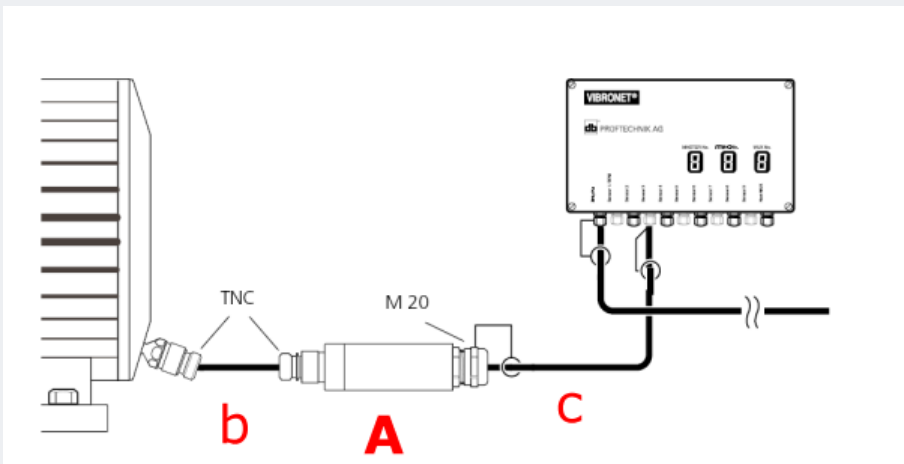
VIB 6.770/13
A: Shield (blue)
B: Signal (white)
!c: Wrap outer triax shield around the connection fitting



VIB 6.775/9, VIB 6.775/13
A: Shield (blue)
B: Signal (white)

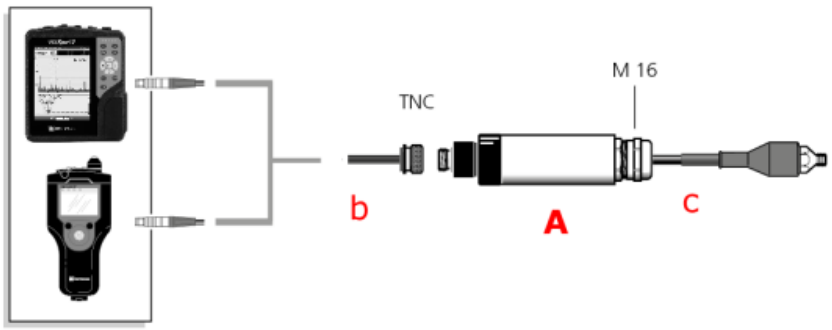
Application example

Extending a sensor cable using a triaxial cable (EMC protection)



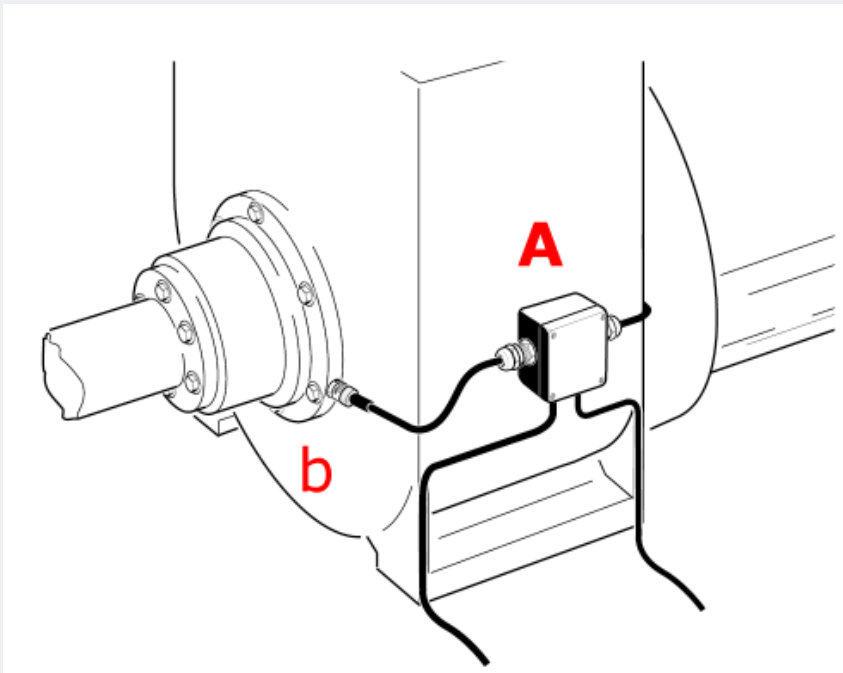
A: Junction box for one sensor cable VIB 6.770/13 (mounted electrically insulated)
b: Coaxial sensor cable;
2 x TNC
c: Triaxial cable to field multiplexer

Data collection at a junction box using a handheld device



A: Junction box for one sensor cable VIB 6.770/9
b: Sensor cable TNC to MiniSnap VIB 5.436
c: Coaxial sensor cable with open end wrapped around the junction box

Extending two sensor cables and the measurement location

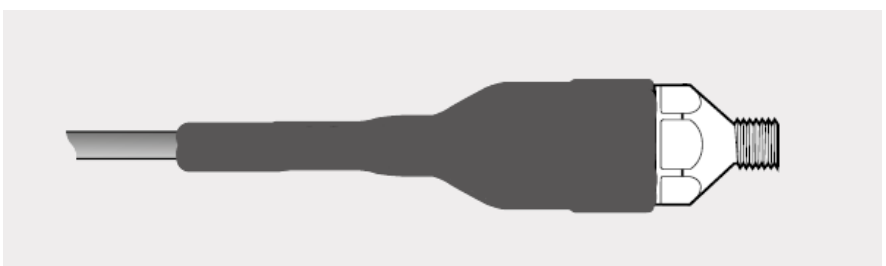


A: Junction box for two sensor cables VIB 6.775/9
b: Coaxial sensor cable with open end wrapped around the junction box

IP68 option for industrial accelerometers

In this cable option, the connection between the sensor and the cable is hermetically sealed and strain-relieved. The shrink-fit part, the cable and the TNC plug are pre-assembled ex-works together with one of the following sensor types:

- VIB 6.125 RIP, VIB 6.129 IP, VIB 6.125 IDEX, VIB 6.129 IDEX



IP68 option for industrial accelerometers

Features

- Environmental protection: IP68
- Also used in explosive atmospheres (Zone 1)
- Resistant to chemicals and see water
- Shorter version for reduced mounting depths

Ordering information

Part number	Description
VIB 6.760	IP68 option for industrial accelerometers
VIB 6.761	IP68 option for industrial accelerometers, short version
Ordering example	VIB 6.125 RIP / VIB 6.760 / VIB 90093-10 = Sensor + IP68 + coaxial cable, 10 m (32' 9.7")

Note: The test certificate for the sensor VIB 6.125-RIP may be ordered separately (VIB 2.550).

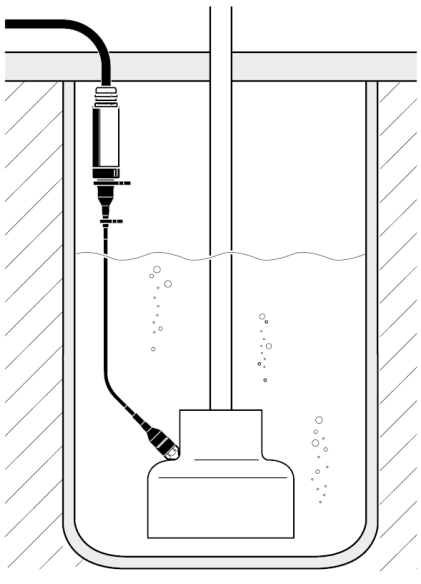
TECHNICAL INFORMATION

Technical data

Parameter	VIB 6.760	VIB 6.761
Environmental protection	IP68 (dust tight and waterproof)	
Temperature range	Sensor dependent	
Maximum depth / Pressure	< 8 m (26' 3") in water / zero pressure in oil	
Resistance	Aircraft fuel F40, lubricating oil O-156, hydraulic fluid H515, diesel fuel F54, motor fuel F46, water, seawater	
Mounting height	> 140 mm (5 33/64")	> 120 mm (4 23/32")

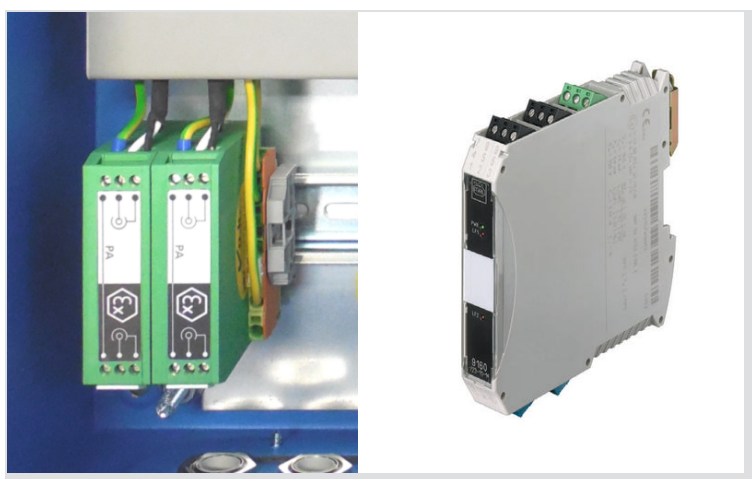
Application example

Vibration measurement on a submersible pump
Extending the sensor cable using the junction box VIB 6.770/13 and the triaxial cable VIB 90080 which both remain above the fluid medium.



Instrinsic safety barriers

These devices are used to separate intrinsically safe circuits from non-intrinsically safe circuits, and to limit current and voltage in intrinsically safe circuits. They are necessary for the operation of sensors in hazardous areas.



Limiting devices for CLD accelerometers (installed, left) and for VIBROTECTOR (right)

Features

- Input intrinsically safe
- Switching cabinet installation
- Power supply for VIBROTECTOR

Ordering information

Part number	Description
VIB 3.550	Limiting device for intrinsically safe CLD accelerometers — VIB 6.1xx DEX / VIB 6.202 XD / VIB 6.203 XD
0 2088 0009	Safety barrier for intrinsically safe IEPE accelerometers
0 2088 0010	Transmitter power supply unit for intrinsically safe VIBROTECTOR

TECHNICAL INFORMATION

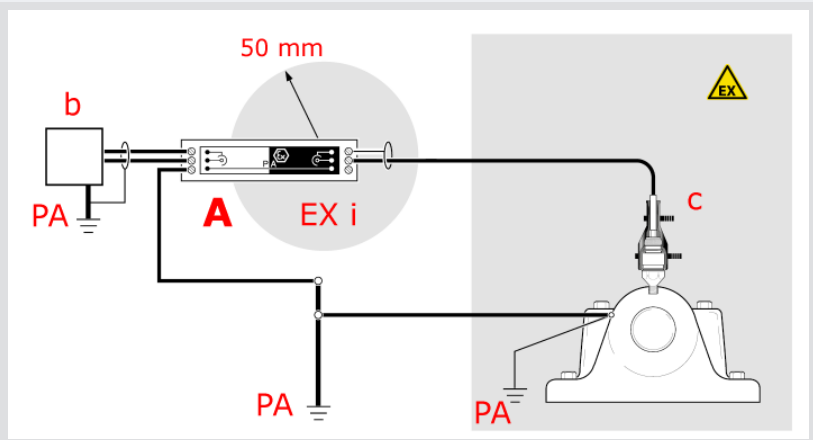
Technical data

Parameter	VIB 3.550					
ELECTRICAL						
Transmission accuracy	Sensor accuracy					
Non-intrinsically safe circuit	Um = 250 V AC					
Intrinsically safe circuit	In type of protection intrinsic safety Ex ib IIC Maximum values: U_0 = 13 V I_0 = 18 mA P_0 = 240 mW					
	L_0 [mH]	1,00	0,50	0,20	0,10	0,05	0,02
	C_0 [µF]	0,50	0,59	0,75	0,92	1,00	1,00
GENERAL						
Temperature range T_A	-10 °C to 50 °C (14 °C to 122 °C)					
Case material	PA6.6, green					
Environmental protection	IP 20					

Parameter	VIB 3.550
Dimensions	85 x 79 x 22.5 mm (3 11/32" x 3 7/64" x 57/64") — L x B x W
Conformity	CE, ATEX, IECEx
Marking	II (2)G [Ex ib] IIC

Note: Technical data for the safety barriers 0 2088 0009 and 0 2088 0010 is available on request.

Connection example

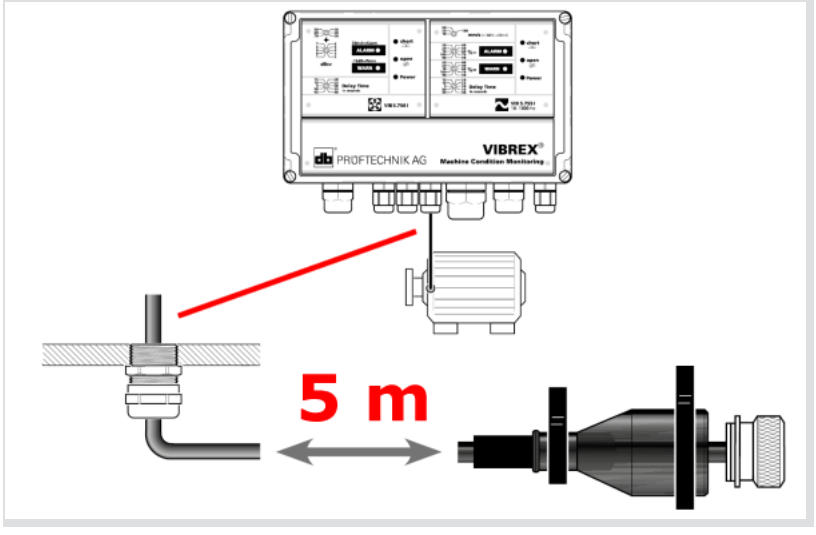


A: Limiting device VIB 3.550
b: Signal evaluation; CLD compatible
c: CLD accelerometer VIB 6.122 DEX

PA: Potential equalization line

Partly prefabricated sensor cable for VIBREX

This cable is supplied as a standard sensor cable with a VIBREX monitoring system.



VIBREX sensor cable, 5-meter long.

Features

- Cable type: coaxial, VIB 90093
- Cable length: 5 meters
- Assembly on the sensor side: TNC connector, protective cap, clamp rings 2x

Ordering information

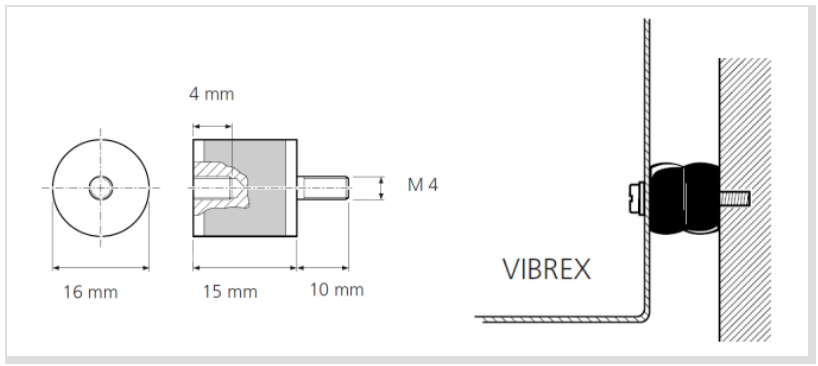
Item No.	Name
VIB 5.775-5	VIBREX sensor cable, partly prefabricated, 5-meter long

Accessories

Item No.	Item name / item group
VIB 6.77x	"Junction boxes for the extension of cables" p. 23

Mounting kit for VIBREX basic unit

The mounting kit comprises four vibration dampers to facilitate a vibration-free mounting of VIBREX basic unit.



Vibration dampers for a vibration-free mounting of the basic unit

What's in the box

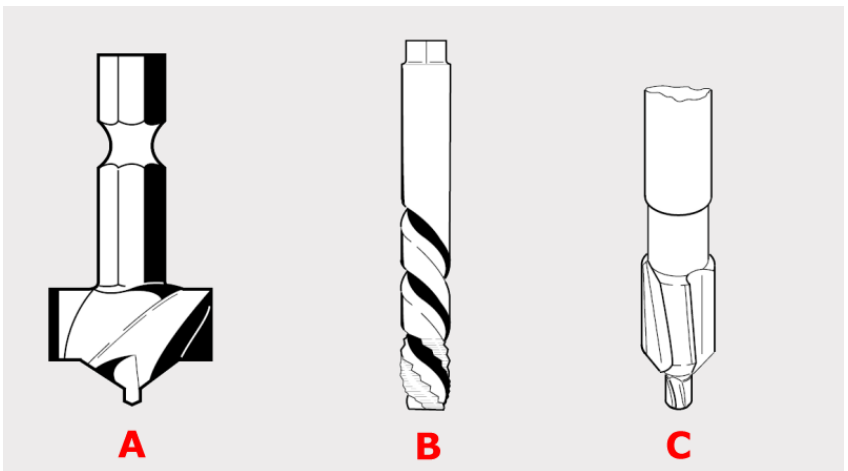
- Vibration dampers, 4 pieces
- Hex socket head cap screws M4x8, 4 pieces
- Hex nuts DIN 934, 4 pieces
- Spring washers DIN 127 B, 4 pieces
- Flat washers DIN 125 A, 4 pieces

Ordering information

Part number	Description
VIB 5.751 SET	Mounting kit for VIBREX basic unit

Tools for installation of accelerometers

This drilling tool is used when mounting sensors with screw threads. The special countersink is intended to prepare a measurement location for the vibration sensor installed in the VIBSCANNER.



VIBSCANNER special countersink (A), thread cutter (B), 90° countersink (C).

Overview

- Thread cutter M8 and UNC 5/16
- 90° countersink for sensors with a cone base
- Special countersink for VIBSCANNER sensor

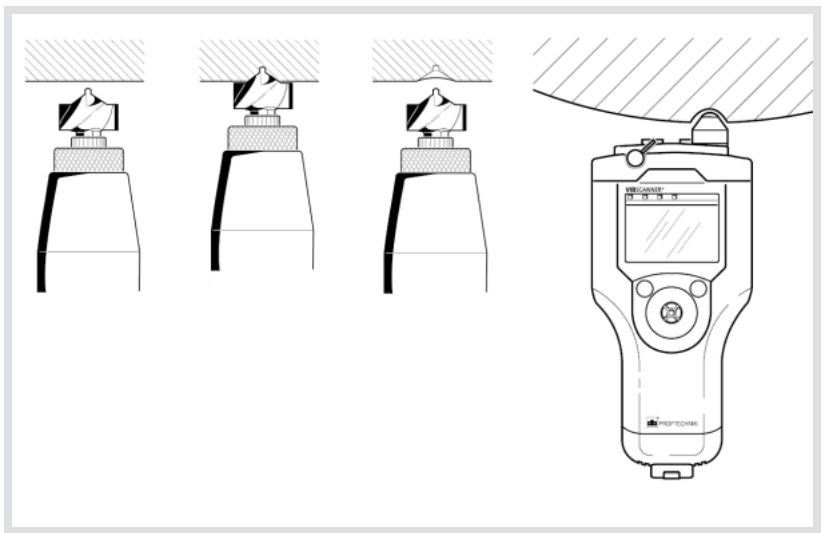
Ordering information

Item No.	Name
VIB 8.610	Special countersink, VIBSCANNER
VIB 8.693	Thread cutter M8
VIB 8.694	90° countersink
VIB 8.696	Thread cutter UNC 5/16

TECHNICAL INFORMATION

Application example

Preparation of a measurement location for the VIBSCANNER vibration sensor with the special countersink.



Productive Maintenance Technology

PRÜFTECHNIK
85737 Ismaning, Deutschland
info(at)pruftechnik.com