

**FLUKE**

Reliability

# PRÜFTECHNIK Product Catalog

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PRÜFTECHNIKCatalog  
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## What's new

The following additions and changes are reflected in version **05.2024**.

### New

- VIB 6.142 RSET (5149487) now included
- Preassembled VIBXPRT 3 cables

### Changed / Corrected

- Hint added on how to order VIBCODE measurement studs
- Information on contents of OMNITREND Center, client-server version added
- Link to VIBREX cables added
- Lengths of sensor cable with 2-pole plug-in connector (MIL) newly defined
- Dimension added to PERMABLOC shims
- The contents of sensor sets VIB 6.142 and 6.147 defined
- Information about coaxial cable VIB 90093 added
- Information on PC license for VIBXPRT II VIB 5.312-P added
- SHAFTALIGN touch technical data updated
- Tape measure ALI 3.588 EX replaced with ALI 3.589

### Discontinued

- VIB 5.333 connection adapter for LED stroboscopes for VIBXPRT II

## PREVIOUS VERSIONS

### 10.2023

- VIBXPRT 3 Standard Balancing package VIB 5.010-B (5437195) and optional accessories
- touch packages updated to reflect new BT module.
- Added note on GEO CENTER software registration and activation code ALI 13.200-KEY (5347077).
- Size and characteristics table according to ISO 4014 added for spanner socket ALI BV26.xx.
- Added eMaint condition monitoring subscription
- Phasing in Fluke item numbers. Previous item numbers are displayed as reference. This will be a continuous process until all items are marked with the respective Fluke item number.

### Changed / Corrected

- OMNITREND Center Client Server new part number VIB 8.200-KEY (5347050)
- OMNITREND Center single user new part number VIB 8.210-KEY (5347061)
- OMNITREND for VIBXPRT II new part number VIB 8.981-KEY (5347045)
- OMNITREND for VIBSCANNER new part number VIB 8.955-KEY (5347023)
- Software subscription not part of Fluke 3563 packages — must be purchased separately
- sensALIGN 7 sensor ALI 4.900 (5144157) replaced with ALI 4.901 (5382606) in all packages
- Inspection certificates for both sensALIGN 7 sensor and laser included in related product
- Inspection certificates for both sensALIGN 5 sensor and laser included in related product
- Inspection certificate for sensALIGN 3 sensor included in sensor
- Inspection certificates for both sensALIGN 5 EX sensor and EX laser included in related product

- Tripod case ALI 6.957 (5145166) replaced with ALI 6.957-1 (5497212)
- Information on VIBCODE measure studs revised

### **Discontinued**

- Intrinsically safe VIBXPRT variants and their related accessories
- Intrinsically safe industrial accelerometer (standard) VIB 6.122 DEX (5149315)
- Intrinsically safe industrial accelerometer (low speed) VIB 6.127 DEX (5149371)
- Intrinsically safe industrial accelerometer (standard, mobile) VIB 6.142 DEX (5149468)
- Intrinsically safe laser trigger / RPM sensor VIB 6.631 EX
- Sensor cable for laser trigger/RPM sensor, 5 m, Binder socket to M12 Binder plug VIB 7.832-5 (5159193)
- ROTALIGN Ultra iS, add-on package for straightness measurements ALI 40.007 (5144241)
- GEO LEVALIGN expert, add-on package ALI 13.212 (5138576)
- All INCLINEO accessories
- Small diameter bore bracket ALI BV25
- Rotatable mandrel ALI BV27.xx.yy
- LEVALIGN Ultra laser mount plate for tripod ALI 6.959 (5145182)
- Rectangular sheet stock for custom shims ALI 2.529 (5141202)
- EDDYTHERM 2x package 110V / 120V 50Hz-60Hz ETH 16.120 (5146008)
- EDDYTHERM 2x package 500V 50Hz / 575V 60Hz ETH 16.500 (5146072)
- Crimping tool for coax cable VIB 81026
- Cutting tool for coax cable VIB 81052
- VIBROWEB-XP device driver for OMNITREND VIB 7.780-DR (5139337)
- PC license for VIBROWEB XP VIB 7.780-P (5139343)
- OMNITREND CENTER Email Center VIB 8.207 (5139663)

### **09.2022**

- Phasing in Fluke item numbers. Previous item numbers are displayed as reference. This will be a continuous process until all items are marked with the respective Fluke item number.

### **Changed / Corrected**

- Intrinsically safe industrial accelerometer VIB 6.122 EX0 (5245594)now released
- Intrinsically safe industrial accelerometer VIB 6.125 EX0 (5245608)now released
- Intrinsically safe low speed industrial accelerometer VIB 6.127 EX0 (5245613)now released
- Intrinsically safe industrial accelerometer VIB 6.142 EX0 (5245636)now released
- USB flash drive 5306155 without documentation
- USB flash drive ALI 13.200-USB (5151778) replaced with activation key ALI 13.200-KEY (5347077)
- Description of "special analysis" firmware module VIB 5.391-FM

### **Discontinued**

- Long Range Laser (675 nm) for sensALIGN 5 sensors ALI 4.120 (5143670)
- Long Range Laser ALI 4.100 (5143637)
- INCLINEO variant with all mounting bases ALI 18.000 (5140645)
- INCLINEO precision inclinometer without mounting base ALI 18.201 (5140689)
- AA battery 1.5 V 90022 (5186403)
- Screwdriver, PH1x35 0 0621 0038 (5186471)



- All LBB components used to measure diaphragms in turbines (due to discontinuation of CENTRALIGN Ultra RS5)
- Magnetic foot ALI 4.500 (5153176)
- OMNITREND for VIBSCANNER software package VIB 8.955 (5139832)
- ODS/Modal Analysis (VIBXPERT firmware module) VIB 5.389-FM (5148355)
- Route (VIBXPERT firmware module) VIB 5.383-FM (5172237)
- Measurement studs: VIB 32310 (5147691); VIB 32410 (5147706); VIB 33000 (5147714)
- VIBCODE measurement studs: VIB 8.679 SET (5151188); VIB 8.680 SET (5151195); VIB 8.685 SET (5151223); VIB 8.685 A25 (5151238); VIB 8.571 (5150782); VIB 8.572 (5150794); VIB 8.573 (5150802); VIB 8.576 (5150825); VIB 8.577 (5150833); VIB 8.578 (5150840); VIB 8.690 SET (5151245); VIB 8.690 A25 (5151250)
- Shield connector for sensor cables VIB 6.726-100 (5150077)
- VIBGUARD protective housing 'LH' VIB 7.800-LH (5150339)
- VIBGUARD protective housing 'LH' VIB 7.820-LH (5197412)
- USB flash drive (Documentation) LIT 01.801 (5175195)
- WEARSCANNER particle scanner VIB 6.411 (5237509)
- Data and supply line for WEARSCANNER: VIB 6.420-5 (5199865); VIB 6.420-20 (5199876)
- SONOCHEK product line: SON 6.001 (5146994); SON 6.010 (5147001); SON 6.020 (5147012); SON 6.110 (5168274); SON 6.120 (5168312); SON 6.120-3 (5168320); SON 6.120-4 (5168335); SON 6.120-5 (5147020); SON 6.120-6 (5147035); SON 6.200 (5147047); SON 6.400 (5168364); SON 6.406 (5168402); SON 6.501 (5168433); SON 6.502 (5168440); SON 6.510 (5147058); SON 6.520 (5147064); SON 6.600 (5168469); SON 6.601 (5168478); SON 6.710-USB (5138936); SON 6.800 (5168484); SON 6.810 (5168491); SON 6.110-1 (5168288); SON 6.110-2 (5168295); SON 6.110-3 (5168301); SON 6.202 (5168358); SON 6.402 (5168373); SON 6.403 (5168386); SON 6.405 (5168399); SON 6.407 (5168416); SON 6.408 (5168425)

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## Handheld devices

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# VIBXPERT 3 – Field Balancing with 6 input channels

VIBXPERT 3 is a modern system to perform field balancing easily. This robust and versatile system is easy to operate.



## Application

- Vibration-based condition monitoring
- Field balancing (1 or 2 planes)
- Acceptance measurement with machine templates
- Troubleshooting
- Visual inspection

## Order information

This variant of VIBXPERT 3 is available:

Item No.	Reference	Variant
5437195	VIB 5.010-B	VIBXPERT 3 Standard Balancing

These items are delivered within the box:

## Scope of supply

Content				
Item No.	Reference	Description	Qty	Details
5355008	VIB 5.000	VIBXPERT 3 device	1	p. 13
5588892	VIB 5.020-B	VIBXPERT 3 Balancer firmware includes certificate	1	p. 15
5335476	VIB 5.028	VIBXPERT 3 Ruggedized trolley case	1	
5335483	VIB 5.054-GT	Shoulder strap	1	---
5335490	VIB 5.054-HS	Hand strap	2	---
5192630		Power supply	1	---
5245530	SYS 3.543	USB-C data cable, 1 m / 3.3 ft	1	---
5149479	VIB 6.142 R	Mobile Industrial accelerometer, 1 $\mu\text{A}/\text{ms}^{-2}$	2	p. 67
	VIB 5.037-2.9	Straight cable for line drive transducer, 2.9 m / 9.5 ft	2	---
5147219	VIB 3.420	Magnetic holder for curved surfaces	2	p. 112
5149855	VIB 6.631	Laser trigger / RPM sensor	1	p. 97
5149870	VIB 6.632	Bracket (stand) for Laser trigger	1	p. 120
	VIB 5.032-2.9	VIBXPERT 3 cable for laser trigger / RPM sensor, 2.9 m / 9.5 ft	1	---
5157126	VIB 3.306	Reflective tape, 10 mm wide	1	p. 120
5175769	ALI 9.541	Document folder	1	---
5346607	LIT 50.101	Getting started manual, VIBXPERT 3	1	---
5351057	VIB 2.530.G	VIBXPERT 3 test certificate	1	---

Optional items can be ordered:

### Optional accessories

Item No.	Reference	Description	Qty	Details
5351103	VIB 5.020-MCH	Multi-channel firmware with certificate	1	
5589607	VIB 5.085-ST	VIB 6.142 Sensor set with straight cable This set includes the mobile industrial accelerometer, a straight cable for the sensor and a magnetic holder.	1	
5589618	VIB 5.085-CL	VIB 6.142 Sensor set with coiled cable This set includes the mobile industrial accelerometer, a spiral cable for the sensor and a magnetic holder.	1	
5589629	VIB 5.086-ST	VIB 6.147 Sensor set with straight cable This set includes the accelerometer for low speed machines, a straight cable for the sensor and a magnetic holder.	1	
5589634	VIB 5.086-CL	VIB 6.147 Sensor set with coiled cable This set includes the accelerometer for low speed machines, a spiral cable for the sensor and a magnetic holder.	1	
5158589	VIB 5.339	Extension cable for analog measure channel	1	p. 146
5158412	VIB 4.750-5	Extension for Laser Trigger sensor cable, straight, 5 m /16.4 ft	1	p. 141

## TECHNICAL INFORMATION

### Technical data

Parameter	Technical data VIBXPRT 3 device (5437195 – VIB 5.010-B)
<b>MEASURE CHANNELS</b>	
<b>Number</b>	6 synchronous analog channels 2 trigger points
<b>Channels 1–6</b>	Frequency range: 0 to 50 kHz Voltage: -20 to +20 V Input impedance: 78 kΩ IEPE Linedrive
<b>Connectors</b>	1 and 4: Triaxial sensor, single axis sensor and VIBCODE 2,3,5 and 6: Single axis sensor
<b>Frequency range</b>	108 dB (total)
<b>Sampling rate</b>	up to 131 kHz per channel (Trigger 1 MHz)
<b>Signal processing</b>	6 x 24 bit ADCs (Trigger 2 x 14bit)
<b>Measure range/ accuracy</b>	Vibration acceleration: dependent on used sensor Shock pulse: -10 dBsv to 80 dBsv +/- 2 dBsv
<b>Speed (RPM)</b>	6 to 120 000 cpm ±0.1% or ± 1 cpm (the smaller is applicable)
<b>Fulfilled standard</b>	DIN ISO 2954:2012 (2-1 kHz, 10 Hz -1 kHz, 10-10 KHz)

Parameter	Technical data VIBXPART 3 device (5437195 – VIB 5.010-B)
<b>DISPLAY</b>	
<b>Type</b>	Capacitive touchscreen Optically bonded for high contrast and increased shock resistance
<b>Active area</b>	(220 x 137) mm (7 7/8" x 5 25/64") (1280 x 800 pixels)
<b>Size</b>	256 mm (10 5/64")
<b>Color depth</b>	16.7 million colors
<b>Viewing angle</b>	< 150°
<b>Operation</b>	Multi-touch — gesture control Glove-compatible
<b>Illumination</b>	Backlit, adjustable
<b>Ambient light sensor</b>	Yes
<b>POWER SUPPLY</b>	
<b>Battery type</b>	Lithium-Ion rechargeable battery
<b>Nominal voltage</b>	7.2 V
<b>Energy density</b>	72 Wh
<b>Charge time (typical)</b>	6.5 hrs (0 to 100% @ 25 °C / 77 °F) 3.5 hrs (0 to 80% @ 25 °C / 77 °F)
<b>Charge temperature</b>	10 °C to 40 °C (50 °F to 104 °F)
<b>Operation time (typical)</b>	8 hours (based on brightness at 50%, sensor measures in preview mode)
<b>Charger</b>	100-240 V~, 50-60 Hz (input) 12 V 3 A (output)
<b>Energy saving mode</b>	Yes
<b>COMPUTER</b>	
<b>Processor</b>	ARM Quadcore 1.6 GHz
<b>Operating elements</b>	Multi- touchscreen, ON/OFF button, 2 ENTER buttons
<b>Memory</b>	microSD card, 256 GB for measured data, permanently installed 4 GB RAM
<b>USB</b>	1 x USB 2.0, device interface
<b>RFID</b>	RFID reader module for PRÜFTECHNIK transponder ALI 50.628-25 complies with ISO 14443a and ISO 15693 Read distance: maximum 3 cm / 1 3/16"
<b>WiFi</b>	IEEE 802.11a/b/g/n/ac Throughput: < 200 Mbps Security: WPA2
<b>Stroboscope</b>	Frequency range: 0.1 – 1000 Hz Resolution: 0.06 1/min. LEDs: Risk group 1 per IEC 62471
<b>LED</b>	1x RGB LED (display for battery and charge statuses)
<b>ENVIRONMENT / GENERAL</b>	

Parameter	Technical data VIBXPRT 3 device (5437195 – VIB 5.010-B)
<b>Connections</b>	Charge socket for charger USB type C port for data cable 2 x plug-in connector (8-pole) for signal cable 4 x plug-in connector (3-pole) for signal cable 2 x plug-in connector (4-pole) for trigger
<b>Housing</b>	2-component housing: Premold: PC (LEXAN), black Overmold: TPE (Thermolast), black
<b>Dimensions</b>	Approx. 326 x 210 x 56 mm (12 53/64" x 8 17/64" x 2 13/64") [LxWxH]
<b>Weight</b>	Approx. 2.2 kg (4.85 lbs.)
<b>IP Rating</b>	IP65, dust-proof and spray water-protected
<b>Temperature range</b>	Operation: -10 °C to +50 °C (14 °F to 122 °F) Storage: -20 °C to +60 °C (-4 °F to +140 °F)
<b>Humidity</b>	0% to 90 %, non-condensing
<b>Certification</b>	CE, RoHS, FCC, FCC/IC , UK CA
<b>OUTPUT CHANNELS (TRIGGER 1 AND TRIGGER 2)</b>	
<b>Stroboscope control</b>	TTL output
<b>Frequency range</b>	0.1 to 1000 Hz
<b>Resolution</b>	0.05 Hz
<b>Frequency range</b>	10 Hz to 20 kHz

### Balancer firmware features

Parameter	Balancer firmware (5588269 – VIB 5.020-B-CB)
<b>OPERATING MODES</b>	
<b>Multimode, Characteristic Overall Values</b>	<ul style="list-style-type: none"> <li>• Vibration (Acceleration, Velocity, Displacement)</li> <li>• Temperature</li> <li>• Overall value for user-defined quantity (AC)</li> </ul>
<b>Multimode, Signals</b>	<ul style="list-style-type: none"> <li>• Amplitude spectrum w/ fixed parameters for accel., velocity, displacement</li> <li>• ; overall value over RPM (RMS and either 0-p, p-p or crest factor)</li> <li>• Vibration pointer (phase - speed) with recording function for the evaluation and documentation of the time response, the speed dependency of vibrations and for the quick evaluation of the phase reference of measurement points.</li> <li>• Time waveform for acceleration, velocity, displacement</li> <li>• Time waveform for user-defined quantity (AC)</li> <li>• Phase measurement</li> <li>• Amplitude spectrum w/ fixed parameters for user-defined quantity (AC)</li> <li>• Envelope spectrum of acceleration (fmax.: 800 Hz / HP: 10kHz) for bearing analysis and analysis of shock-excited vibrations.</li> </ul>
<b>Balancing</b>	<ul style="list-style-type: none"> <li>• One-plane balancing; optional: vibration minimization in the second plane</li> <li>• Balancing in two planes under operating conditions</li> <li>• Correction type: Fixed location, Fixed mass, Tape measure, Free correction</li> <li>• Calculation of balancing grade and residual centrifugal force</li> <li>• Balancing speed: 30-199,000 1/min</li> <li>• Balancing report with selectable options</li> </ul>
<b>ANALYSIS FUNCTIONS</b>	

Parameter	Balancer firmware (5588269 – VIB 5.020-B-CB)
<b>Cursor</b>	single, delta, harmonics, sub harmonics, sideband cursor
<b>Max 10 values</b>	List of the 10 highest amplitudes in the spectrum
<b>Results display</b>	<ul style="list-style-type: none"> <li>• Linear scaling, Logarithmic scaling (Y axis)</li> <li>• Trend, Cascade diagram (waterfall), Polar plot</li> <li>• Order scaling for amplitude / envelope spectrum</li> </ul>
<b>MEASUREMENT FUNCTIONS</b>	
<b>Averaging</b>	<ul style="list-style-type: none"> <li>• none (not for temperature),</li> <li>• linear (not for time waveform),</li> <li>• peak hold (not for time waveform and temperature),</li> <li>• exponential (not for time waveform &amp; temperature),</li> <li>• time-synchronous (time waveform, spectrum, balancing)</li> <li>• Unlimited averaging if the imbalance pointer is unstable</li> </ul>
<b>Trigger modes</b>	<ul style="list-style-type: none"> <li>• Free running, external (time-synchronous), internal</li> <li>• Amplitude, Edge, Pre and post triggered.</li> </ul>
<b>FFT</b>	<ul style="list-style-type: none"> <li>• Fmin: 1 / 2 / 10 Hz, selectable acc. to meas. quantity</li> <li>• Fmax: 0,2 / 0,4 / 0,8 / 1,6 / 12,8 kHz, selectable acc. to meas. quantity</li> <li>• Lines: 800 / 1600 / 3200 / 6400, selectable acc. to meas. quantity</li> </ul>



## VIBXPERT II – Dual channel FFT data collector

VIBXPERT II is the expert system for performing vibration analysis, machinery diagnosis and balancing of rotors. This handy and versatile system is easy to operate, and its many functionalities and analysis tools make it unique.



### Application

- Route-based data collection
- Automatic data acquisition with a multiplexer
- Vibration-based condition monitoring
- Field balancing (1 or 2 planes)
- Acceptance measurement with machine templates
- Troubleshooting
- Multimeter
- Data logging
- Visual inspection

### Ordering information

Depending on application and functionalities, VIBEXPERT II is available in four variants.

Item No.	Variant
<b>VIB 5.310-1E</b>	VIBXPERT II data collector, 1 channel
<b>VIB 5.310-1</b>	VIBXPERT II data collector and signal analyser, 1 channel
<b>VIB 5.310-2</b>	VIBXPERT II data collector and signal analyser, 2 channels
<b>VIB 5.310 B</b>	VIBXPERT II Balancer, 2 channels

The items delivered within the box are shown in the following overview.

### Scope of supply

Item No.	Content Description	Details	Data	Signal		Balancer
			VIB 5.310-1E	VIB 5.310-1	VIB 5.310-2	VIB 5.310 B
<b>VIB 5.310</b>	<b>VIBXPERT II instrument</b>	p. 21	✓	✓	✓	✓
<b>VIB 5.318-E</b>	<b>Firmware "E-Registration" incl. certificate</b>	p. 23	✓	✗	✗	✗
<b>VIB 5.311</b>	<b>Firmware "1 channel" incl. certificate</b>	p. 23	✗	✓	✓	✗
<b>VIB 5.311-CH2</b>	<b>Firmware "2 channels" incl. certificate</b>	p. 23	✗	✗	✓	✗
<b>VIB 5.317-B</b>	<b>Firmware "Balancer" incl. certificate</b>	p. 26	✗	✗	✗	✓
<b>VIB 5.325</b>	<b>Battery (built-in)</b>	p. 41	✓	✓	✓	✓
<b>VIB 5.327</b>	<b>Wheeled case</b>	p. 36	✓	✓	✓	✓
<b>VIB 5.356</b>	<b>Carrying pouch</b>	p. 39	✓	✓	✓	✓
<b>VIB 5.320-INT</b>	<b>Charger, International</b>	p. 40	✓	✓	✓	✓

Item No.	Content Description	Details	Data	Signal		Balancer
			VIB 5.310-1E	VIB 5.310-1	VIB 5.310-2	VIB 5.310 B
VIB 5.330SUSB	USB cabel	p. 132	✓	✓	✓	✓
VIB 5.350-USB	USB flash drive	p. 132	✗	✗	✗	✓
VIB 5.330AMEM	Connection cable for USB flash drive	p. 132	✗	✗	✗	✓
VIB 6.142 R	Mobile Industrial accel-erometer, 1 $\mu\text{A}/\text{ms}^{-2}$	p. 67	✓	✓	✓, 2x	✗
VIB 6.147	Mobile Industrial accel-erometer, 5,35 $\mu\text{A}/\text{ms}^{-2}$	p. 67	✗	✗	✗	✓, 2x
VIB 3.420	Magnetic holder for curved surfaces	p. 112	✓	✓	✓, 2x	✓, 2x
VIB 5.436	Sensor cable for CLD-type accelerometer, sprialized	p. 135	✓	✓	✓, 2x	✓
VIB 5.437-2,9	Sensor cable for CLD-type accelerometer, straight, 2.9m/9.5ft	p. 135	✗	✗	✗	✓
VIB 5.339	Cable extension for analog measurement channel, 8 m	p. 135	✗	✗	✗	✓
VIB 6.631	Laser trigger / RPM sensor	p. 97	✗	✗	✗	✓
VIB 6.632	Stand for Laser trigger	p. 120	✗	✗	✗	✓
VIB 5.432-2,9	Sensor cable for laser trigger / RPM sensor, straight, 2.9 m / 9.5 ft	p. 141	✗	✗	✗	✓
VIB 4.750-5	Extension for Laser Trigger sensor cable, straight, 5 m / 16 ft	p. 141	✗	✗	✗	✓
VIB 3.306	Reflective tape, 10 mm wide	p. 120	✗	✗	✗	✓
LIT 53.102	Short instructions, VIBXPRT II	---	✓	✓	✓	✗
LIT 53.103	Short instructions, VIBXPRT II Balancer	---	✗	✗	✗	✓
LIT 66.200	Manual, Laser trigger	---	✗	✗	✗	✓
VIB 2.520.G	VIBXPRT inspection certificate	---	✓	✓	✓	✓

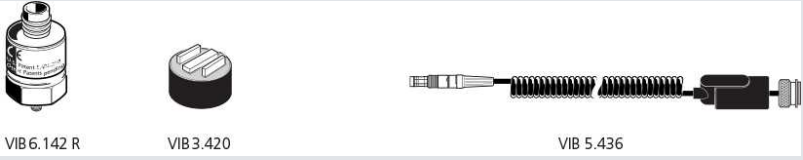

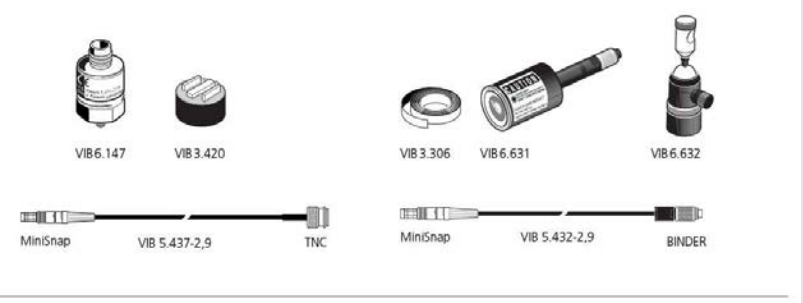
**Note:** The items in the box for the four variants are fixed. A customized configuration is possible.

Optional items can be ordered for any of the four variants:

### Optional accessories

Item No.	Description – optional accessories	Note	Details
<b>OMNITREND Center PC software</b>			
<b>VIB 8.200-KEY</b>	OMNITREND Center Client Server		p. 190
<b>VIB 8.201/ 8.202</b>	Floating user licenses: 1 / 5		p. 190
<b>VIB 8.203 / 8.204</b>	Fix user licenses: 1 / 5		p. 190
<b>VIB 8.205</b>	10 additional database licenses		p. 190
<b>VIB 8.210-KEY</b>	OMNITREND Center single user		p. 190
<b>VIBXPERT II Firmware Upgrade</b>			
<b>VIB 5.315-REC</b>	Firmware "Recording"	incl. certificate Required: " VIBXPERT-Utility Advanced File Export (PC licence)" for data export (p. 194)	p. 25
<b>VIB 5.316-BAL</b>	Firmware "Balancing"	incl. certificate	p. 25
<b>VIB 5.319-ODS</b>	Firmware "ODS - Modal analysis"	incl. certificate Only with firmware "2 channels". Required: " VIBXPERT-Utility Advanced File Export (PC licence)" for data export.	p. 25
<b>VIB 5.384-FM</b>	Firmware "Machine Templates"	incl. certificate	---
<b>OMNITREND PC software</b>			
<b>VIB 8.981-KEY</b>	OMNITREND for VIBXPERT II		p. 192
<b>VIB 5.312-P</b>	PC licence for VIBXPERT II	= communication licence	p. 192
<b>Sensors</b>			
<b>VIB 8.660</b>	VIBCODE sensor	w/o connection cable	p. 82
<b>VIB 6.655</b>	Triaxial accelerometer for mobile applications	required: Connection adapter	p. 84
<b>VIB 6.640</b>	Inductive proximity probe	incl. cable	p. 101
<b>VIB 8.608</b>	Handheld temperature probe	incl. connection cable	p. 107
<b>VIB 6.172</b>	Accelerometer 100mV/g (IEPE-type) with MIL-type connector		p. 79
<b>Cables and connection adapters</b>			
<b>VIB 5.331</b>	Ethernet cable		p. 130
<b>VIB 5.332-X</b>	Keyphase adapter for machine protection systems	Required: Sensor cable for laser trigger / RPM sensor	p. 141

Item No.	Description – optional accessories	Note	Details
<b>VIB 5.336</b>	Sensor cable for triaxial accelerometer VIB 6.655		p. 136
<b>VIB 5.345-6</b>	Extension for sensor cable with MIL connector, 6 m, MIL plug to MIL socket		p. 136
<b>VIB 5.346</b>	Connection cable for VIBRONET field multiplexer		p. 145
<b>VIB 5.346-MUX</b>	Cable adapter for the connection cable VIB 5.346		p. 145
<b>VIB 5.422</b>	Sensor cable for accelerometer (IEPE), spiral, 1.8 m, MIL connector to MiniSnap		p. 136
<b>VIB 5.430-2</b>	Serial PC cable		p. 131
<b>VIB 5.431</b>	Connection cable for external analyzers to analogOUT		p. 140
<b>VIB 5.433</b>	Sensor cable for measuring low voltage signals		p. 138
<b>VIB 5.434</b>	Sensor cable for measuring low current signals		p. 138
<b>VIB 5.437-5</b>	Sensor cable for CLD-type accelerometer, straight, 5 m / 16 ft		p. 135
<b>VIB 5.438-0.5</b>	Sensor cable for IEPE-type accelerometer		p. 136
<b>VIB 5.443</b>	Sensor cable for TTL trigger (foreign manufacturer)		p. 141
<b>VIB 5.444-5</b>	Cable extension for analog channel, 5 m / 16 ft		p. 146
<b>VIB 5.449-CLD</b>	Connection adapter for CLD-type accelerometer (VIB 6.195)		p. 135
<b>VIB 6.675</b>	Connection cable for Mono headphones		p. 140
<b>Miscellany</b>			
<b>VIB 3.450</b>	Probe tip for Mobile Industrial accelerometer VIB 6.14x		p. 112
<b>VIB 5.354-CL</b>	Sensor clip for VIBXPRT pouch		p. 39
<b>VIB 6.671-2</b>	Headphones, jack 3.5 m	Required: Connection cable for headphones	p. 88
<b>4550041</b>	Fluke 820-2 LED-Stroboscope	Required: Connection adapter for LED strobe light and sensor cable for laser trigger	p. 99

Item No.	Description – optional accessories	Note	Details
5149487	VIB 6.142 RSET (sensor set for vibration measurements)	This set includes a mobile standard accelerometer (VIB 6.142 R), the spiral cable for the sensor (VIB 5.436) and a magnetic holder (VIB 3.420). 	
5148319	VIB 5.386-HW (VXP II sensor set for balancing with two channels)	This set comprises 10 mm reflective tape (VIB 3.306), 2.9 m trigger cable (VIB 5.432-2.9), laser trigger sensor (VIB 6.631) and trigger stand (VIB 6.632). 	
5148337	VIB 5.387-HW (VXP II sensor set for balancing with one channel)	This set comprises 10 mm reflective tape (VIB 3.306), magnetic holder (VIB 3.420), 2.9 m trigger cable (VIB 5.432-2.9), 2.9 m CLD sensor cable (VIB 5.437-2.9), industrial accelerometer for low speed machines (VIB 6.147), laser trigger sensor (VIB 6.631) and trigger stand (VIB 6.632). 	

## TECHNICAL INFORMATION

### Technical data

Parameter	Technical data VIBXPERT II instrument (VIB 5.310)
<b>INPUT</b>	
<b>Analog, Vibration, 2x</b>	Voltage (AC/DC, $\pm 30$ V max.) Current (AC/DC, $\pm 30$ mA max.) IEPE-type accelerometer (2 mA, 24 V max.) Current Linedrive (CLD) accelerometer (10 V, 10 mA max.)
<b>Frequency range</b>	DC ... 51.2 kHz (Acceleration from 0.5 Hz)
<b>Dynamic range</b>	96 dB (measurement) / 136 dB (total)
<b>Sampling frequency</b>	up to 131 kHz per channel
<b>Impedance</b>	90 kOhm, with cable VIB 5.433
<b>Analog, Temperature, 1x</b>	Thermocouple (type K)
<b>Digital, Pulse/ Tacho, 1x</b>	RPM, Trigger, Keyphaser with pulse and AC signals: 0 V ... +26 V or -26 V ... 0 V
<b>Max. input voltage</b>	$\pm 26$ V

Parameter	Technical data VIBXPert II instrument (VIB 5.310)
<b>Switching threshold for 0 V ...+26 V signal</b>	max. 2.5 V rising, min. 0.6 V falling
<b>Switching threshold for -26 V ...0 V signal</b>	min. -8 V rising, max. -10 V falling
<b>Pulse width</b>	< 0.1 ms
<b>OUTPUT</b>	
<b>Stroboscope control</b>	TTL
<b>Frequency range</b>	0 - 500 Hz
<b>Resolution</b>	0.05 Hz
<b>Signal-Out</b>	Connection for headphones to listen to the analog input signal; signal processing (oscilloscope)
<b>Frequency range</b>	0.5 Hz - 40 kHz
<b>Output impedance</b>	100 Ohm
<b>MEASUREMENT RANGE / ACCURACY</b>	
<b>Vibration acceleration</b>	depends on the sensor connected
<b>Shock pulse</b>	-10 ...80 dBsv / $\pm$ 3dBsv
<b>RPM</b>	10 ... 200 000 min <sup>-1</sup> / $\pm$ 0.1‰ or $\pm$ 1 min <sup>-1</sup> (the lower accuracy is applicable)
<b>Temperature, type K</b>	-50 ... +1000°C / 1% or $\pm$ 1°C (the lower accuracy is applicable)
<b>Standards fulfilled</b>	Frequency response acc to ISO 2954
<b>DISPLAY</b>	
<b>Type</b>	TFT-LCD, backlit
<b>Pixel area</b>	116 x 87 mm
<b>Resolution</b>	VGA (640 x 480 pixel) with 140 ppi
<b>Color depth</b>	18 bit (262144 colors)
<b>POWER SUPPLY</b>	
<b>Battery type</b>	Li Ion rechargeable battery pack (7.3V / 5.3Ah - 38.7 Wh)
<b>Charging time</b>	< 5 hours in the instrument
<b>Charger, input</b>	110-240 V / 50-60 Hz
<b>Charging temperature</b>	0°C ... +50°C [ 32 °F ... 122°F]
<b>COMPUTER</b>	
<b>Processor</b>	Marvell PXA320 806 MHz
<b>Keyboard</b>	1 navigation pad and 7 keys (Zoom, Escape, Function, Help, Menu, On/Off); Keyboard illumination controlled by ambient light.
<b>Memory</b>	Internal: 128 MB DDR RAM; Compact Flash: 2 GB to 8 GB (interchangeable)
<b>Serial interface</b>	RS 232, <115 kBaud
<b>USB interface</b>	USB 2.0
<b>Ethernet interface</b>	100 Mbit (100Base T), 10 Mbit (10Base T)
<b>ENVIRONMENT / GENERAL</b>	
<b>Connectors</b>	Analog / Digital channels: MiniSnap socket Thermocouple (type K): QLA socket; all compatible to VIBSCANNER
<b>Housing</b>	ABS plastics

Parameter	Technical data VIBXPert II instrument (VIB 5.310)
<b>Dimensions</b>	186 x 162 x 52 mm (LxWxH), [ 7 5/16" x 6 3/8" x 2 1/16" ]
<b>Weight</b>	approx. 1.1 kg [39 oz]
<b>Environmental protection</b>	IP65, dust and splash-proofed
<b>Temperature range</b>	-10°C ... +60°C (Operation), [ 14 °F ... 140°F] -20°C ... +60°C (Storage), [ -4 °F ... 140°F]

### Standard firmware features

Parameter	1 channel/ 2 channels (VIB 5.311 / VIB 5.311-CH2)	'E-Registration' (VIB 5.318-E)
<b>OPERATING MODES</b>		
<b>Machine templates</b>	Machine-specific templates for repetitive measurement tasks used for acceptance tests or service measurements.	---
<b>Route</b>	<ul style="list-style-type: none"> <li>• Set of measurement tasks for machine condition monitoring and diagnosis</li> <li>• Route guidance via tree / list view or machine graphics</li> <li>• Optimizer levels, TrendingSpectrum, 'Near location' mode for rapid data collection</li> </ul>	
<b>Multimode, Characteristic Overall Values</b>	<ul style="list-style-type: none"> <li>• Overall Vibration (Acceleration, Velocity, Displacement)</li> <li>• Current, Voltage (AC / DC)</li> <li>• Shock pulse (bearing condition)</li> <li>• Temperature</li> <li>• Rotational speed</li> </ul>	

Parameter	1 channel/ 2 channels (VIB 5.311 / VIB 5.311-CH2)	'E-Registration' (VIB 5.318-E)
<b>Multimode, Signals</b>	<ul style="list-style-type: none"> <li>• Amplitude spectrum for acceleration, velocity, displacement, current, voltage</li> <li>• Envelope spectrum for acceleration, velocity</li> <li>• Time waveform for acceleration, velocity, displacement, current, voltage</li> <li>• Phase measurement (polar diagram)</li> <li>• Impact test w/o recording of the exciting force</li> <li>• Run-up/ Coast-down analysis for acceptance checks and for the evaluation of resonances; phase over RPM (Bode or Nyquist diagram); overall value over RPM (RMS and either 0-p, p-p or crest factor).</li> </ul> <p>with 2-channel firmware only (VIB 5.311-CH2):</p> <ul style="list-style-type: none"> <li>• 2-channel measurements with trigger</li> <li>• Orbit (filtered / unfiltered)</li> <li>• Cepstrum</li> <li>• Cross channel phase measurement</li> <li>• Impact test for natural frequency analysis on a shutdown or running machine*</li> <li>• ODS - Operation deflecting shape analysis*</li> </ul> <p>* requires optional firmware module VIB 5.319-ODS</p>	<ul style="list-style-type: none"> <li>• Amplitude spectrum for acceleration, velocity, displacement, current, voltage</li> <li>• Envelope spectrum for acceleration, velocity</li> <li>• Time waveform for acceleration, velocity, displacement, current, voltage</li> </ul>
<b>ANALYSIS FUNCTIONS</b>		
<b>Cursor</b>	single, delta, harmonics, sub harmonics, sideband cursor	
<b>Frequency markers</b>	Fixed and RPM-variable characteristic frequencies for machines, roller bearings and gearboxes can be displayed in 'Template' and 'Route' mode	
<b>Alarm bands</b>	Narrow band monitoring of damage frequencies (route mode only)	
<b>Max 10 values</b>	List of the 10 highest amplitudes in the spectrum	
<b>Results display</b>	<ul style="list-style-type: none"> <li>• Linear scaling, Logarithmic scaling (Y axis)</li> <li>• Trend, Cascade diagram (waterfall), Polar plot</li> <li>• Order scaling for amplitude / envelope spectrum</li> <li>• Sound spectrum (octave / third octave bars)</li> </ul>	
<b>MEASUREMENT FUNCTIONS</b>		
<b>Multi Meas. tasks</b>	Combination of several measurements in one task.	
<b>Averaging</b>	<ul style="list-style-type: none"> <li>• none (not for temperature),</li> <li>• linear (not for time waveform),</li> <li>• peak hold (not for time waveform and temperature),</li> <li>• exponential (not for time waveform &amp; temperature),</li> <li>• time-synchronous (time waveform, spectrum, balancing)</li> </ul>	



Parameter	1 channel/ 2 channels (VIB 5.311 / VIB 5.311-CH2)	'E-Registration' (VIB 5.318-E)
<b>Trigger modes</b>	<ul style="list-style-type: none"> <li>• Free running, external (time-synchronous), internal</li> <li>• Amplitude, Edge, Pre and post triggered.</li> </ul>	
<b>FFT</b>	<ul style="list-style-type: none"> <li>• Fmin: between 0.5 Hz and 10 Hz programmable</li> <li>• Fmax: between 200 Hz and 51.2 kHz programmable</li> <li>• Lines: 400, 800, 1600, 3200, 6400, 12800, 25600, 51200, 102400</li> <li>• Window: Rectangular, Hanning, Hamming, Blackman, Bartlett, Flattop, Kaiser</li> </ul>	


### Optional firmware features

Parameter	Optional firmware modules
<b>RECORDING - VIB 5.315-REC</b>	
<b>Short-term recording</b>	<ul style="list-style-type: none"> <li>• Characteristic overall values, phase, spectrum and time waveform</li> <li>• Pre- and post history</li> </ul>
<b>Start / stop triggering</b>	time, rpm, threshold, manual
<b>Recording duration</b>	approx. 10 minutes for time waveform with 512 Hz sampling rate
<b>Time waveform recorder</b>	Continuous long-term signal recording.
<b>Recording duration</b>	approx. 132 hours with 512 Hz sampling rate and 2 GB CF card
<b>Requirements</b>	Use of the time waveform recorder requires registration of either the "E-Registration" firmware (VIB 5.318-E) or the 1-channel firmware (VIB 5.311). The software module "VIBXPERT utility - Advanced file export - VIB 8.984" is required for data export.
<b>BALANCING - VIB 5.316-BAL</b>	
<b>Meas. quantities</b>	Vibration velocity, acceleration, displacement
<b>Balancing modes</b>	One-plane balancing with vibration minimization in the second plane Balancing in two planes under operating conditions
<b>RPM range</b>	30 to 199.000 min <sup>-1</sup>
<b>Correction type</b>	Fixed location, Fixed mass, Tape measure, Free correction
<b>Operation</b>	Graphical user interface with machine icons and on-screen instructions
<b>Additional measurement tasks</b>	Diagnosis measurements for detecting an imbalance (characteristic overall value, spectrum, time waveform, phase)
<b>Add. averaging type</b>	Unlimited averaging if the imbalance pointer is unstable
<b>ODS / MODALANALYSIS - VIB 5.319-ODS</b>	
<b>Bump test with modal hammer</b>	Analysis of operation-critical mode shapes, Visualization of the dynamic behavior of a structure
<b>Results display</b>	Transmission function, Coherence function
<b>Add. averaging type</b>	Negative averaging for measurements on a running machine
<b>ODS</b>	Structure analysis on running machine
<b>Requirements</b>	Standard firmware "1-channel" and "2 channels " must be registered; Use the software module "VIBXPERT utility for data export.

## Balancer firmware features

Parameter	Balancer firmware (VIB 5.317-B)
<b>OPERATING MODES</b>	
<b>Multimode, Characteristic Overall Values</b>	<ul style="list-style-type: none"> <li>Vibration (Acceleration, Velocity, Displacement)</li> <li>Temperature</li> <li>Overall value for user-defined quantity (AC)</li> </ul>
<b>Multimode, Signals</b>	<ul style="list-style-type: none"> <li>Amplitude spectrum w/ fixed parameters for accel., velocity, displacement</li> <li>Run-up/ Coast-down analysis for acceptance checks and for the evaluation of resonances; phase over RPM (Bode or Nyquist diagram); overall value over RPM (RMS and either 0-p, p-p or crest factor)</li> <li>Vibration pointer (phase - speed) with recording function for the evaluation and documentation of the time response, the speed dependency of vibrations and for the quick evaluation of the phase reference of measurement points.</li> <li>Time waveform for acceleration, velocity, displacement</li> <li>Time waveform for user-defined quantity (AC)</li> <li>Phase measurement w/ recording</li> <li>Impact test w/o recording of the exciting force, 1 channel</li> <li>Amplitude spectrum w/ fixed parameters for user-defined quantity (AC)</li> <li>Envelope spectrum of acceleration (fmax.: 800 Hz / HP: 10kHz) for bearing analysis and analysis of shock-excited vibrations.</li> </ul>
<b>Balancing</b>	<ul style="list-style-type: none"> <li>One-plane balancing; optional: vibration minimization in the second plane</li> <li>Balancing in two planes under operating conditions</li> <li>Correction type: Fixed location, Fixed mass, Tape measure, Free correction</li> <li>Calculation of balancing grade and residual centrifugal force</li> <li>Balancing speed: 30-199,000 1/min</li> <li>Balancing report with selectable options</li> </ul>
<b>ANALYSIS FUNCTIONS</b>	
<b>Cursor</b>	single, delta, harmonics, sub harmonics, sideband cursor
<b>Max 10 values</b>	List of the 10 highest amplitudes in the spectrum
<b>Results display</b>	<ul style="list-style-type: none"> <li>Linear scaling, Logarithmic scaling (Y axis)</li> <li>Trend, Cascade diagram (waterfall), Polar plot</li> <li>Order scaling for amplitude / envelope spectrum</li> </ul>
<b>MEASUREMENT FUNCTIONS</b>	
<b>Averaging</b>	<ul style="list-style-type: none"> <li>none (not for temperature),</li> <li>linear (not for time waveform),</li> <li>peak hold (not for time waveform and temperature),</li> <li>exponential (not for time waveform &amp; temperature),</li> <li>time-synchronous (time waveform, spectrum, balancing)</li> <li>Unlimited averaging if the imbalance pointer is unstable</li> </ul>
<b>Trigger modes</b>	<ul style="list-style-type: none"> <li>Free running, external (time-synchronous), internal</li> <li>Amplitude, Edge, Pre and post triggered.</li> </ul>
<b>FFT</b>	<ul style="list-style-type: none"> <li>Fmin: 1 / 2 / 10 Hz, selectable acc. to meas. quantity</li> <li>Fmax: 0,2 / 0,4 / 0,8 / 1,6 / 12,8 kHz, selectable acc. to meas. quantity</li> <li>Lines: 800 / 1600 / 3200 / 6400, selectable acc. to meas. quantity</li> <li>Window: Hanning</li> </ul>

# VIBSCANNER 2 / VIBSCANNER 2 EX – Data acquisition ingeniously simple

VIBSCANNER 2 is the new PRÜFTECHNIK data collector for preventive machine condition monitoring. The handy device convinces with a simple intuitive operation and very short measuring times. And is also available in an intrinsically safe version (VIBSCANNER 2 EX ) .



## Applications



- Data acquisition with guided routine measurement tasks.

## Features

- Intuitive operation
- Fast measurement and signal processing
- Comprehensive data acquisition for maximum status information
- Automatic identification of measurement location (RFID, VIBCODE)
- Shockproof and waterproof housing (IP65)
- Speed determination without tachometer
- Triaxial accelerometer

## Ordering information

VIBSCANNER 2 is available in the following variants.

Item No.	Variant
VIB 5.210	VIBSCANNER 2, Data Collector
VIB 5.212	VIBSCANNER 2, Triaxial
VIB 5.214	VIBSCANNER 2, VIBCODE
VIB 5.212 EX	VIBSCANNER 2 EX, Triaxial 
VIB 5.210 EX	VIBSCANNER 2 EX, Data Collector 

The items delivered within the box for standard variants are shown in the following overview.


## Items in the box


Item No.	CONTENT		Data	Triaxial	VIBCODE
	Description	Details	VIB 5.210	VIB 5.212	VIB 5.214
VIB 5.200	VIBSCANNER 2 instrument incl. battery	p. 30	✓	✓	✓
VIB 2.581.G	VIBSCANNER 2 inspection certificate	---	✓	✓	✓
VIB 5.256	VIBSCANNER 2 pouch	p. 37	✓	✓	✓
VIB 5.228	VIBSCANNER 2 case	p. 34	✓	✓	✓

CONTENT			Data	Triaxial	VIBCODE
Item No.	Description	Details	VIB 5.210	VIB 5.212	VIB 5.214
ALI 3.952	Micro USB cable		✓	✓	✓
ALI 50.651	Power supply / Charger	p. 227	✓	✓	✓
ALI 50.628-25	RFID transponder / tags - 25 pieces		✓	✓	✓
VIB 5.239	VIBSCANNER 2 safety release cable	p. 147	✓	✓	✓
LIT 52.100	VIBSCANNER 2 short instructions	---	✓	✓	✓
VIB 6.142 R	Mobile Industrial accelerometer, standard version,	p. 67	✓	✗	✗
VIB 3.420	Magnetic adapter for curved surfaces	p. 112	✓	✗	✗
VIB 5.236	Sensor cable for CLD-type accelerometer, TNC connector, spiralized	p. 147	✓	✗	✓
VIB 6.655	Triaxial accelerometer for mobile applications	p. 84	✗	✓	✗
VIB 6.656	Magnetic holder for Triaxial accelerometer VIB 6.655	p. 114	✗	✓	✗
VIB 5.237	Sensor cable for triaxial accelerometer, 4P Mini-MIL connector, spiralized	p. 147	✗	✓	✗
VIB 8.660	VIBCODE accelerometer without cable	p. 82	✗	✗	✓

The items delivered within the box for intrinsically safe variants are shown in the following overview.

#### Items in the box

 CONTENT			Data	Triaxial
Item No.	Description	Details	VIB 5.210 EX	VIB 5.212 EX
VIB 5.200 EX	VIBSCANNER 2 EX instrument incl. battery	p. 30	✓	✓
VIB 2.581.G	VIBSCANNER 2 inspection certificate	---	✓	✓
VIB 5.256 EX	VIBSCANNER 2 EX pouch	p. 38	✓	✓
VIB 5.228 EX	VIBSCANNER 2 EX case	p. 35	✓	✓
ALI 3.952	Micro USB cable		✓	✓
ALI 50.651	Power supply / Charger	p. 227	✓	✓
ALI 50.628 EX0-25	RFID transponder / tags - 25 pieces		✓	✓
VIB 5.239	VIBSCANNER 2 safety release cable	p. 147	✓	✓
LIT 52.100	VIBSCANNER 2 short instructions	---	✓	✓
VIB 6.142 EX0	Mobile Industrial accelerometer, intrinsically safe version	p. 67	✓	✗
VIB 3.420	Magnetic adapter for curved surfaces	p. 112	✓	✗

 CONTENT			Data	Triaxial
Item No.	Description	Details	VIB 5.210 EX	VIB 5.212 EX
VIB 5.236	Sensor cable for CLD-type accelerometer, TNC connector, spiralized	p. 147	✓	✗
VIB 6.658 EX0	Intrinsically safe triaxial accelerometer	p. 86	✗	✓
VIB 6.656	Magnetic holder for triaxial accelerometer	p. 114	✗	✓
VIB 5.237	Sensor cable for triaxial accelerometer, 4P Mini-MIL connector, spiralized	p. 147	✗	✓

**Note:** The items in the box for all variants are fixed.

Optional items may be ordered for either variant:

### Optional accessories

Item No.	Reference	Description- optional accessories	Details
<b>OMNITREND Center PC software</b>			
5347050	VIB 8.200-KEY	OMNITREND Center Client Server	p. 190
5139600 / 5139617	VIB 8.201 / 8.202	Floating user licenses: 1 / 5	p. 190
5139621 / 5139639	VIB 8.203 / 8.204	Fix user licenses: 1 / 5	p. 190
5139642	VIB 8.205	10 additional database licenses	p. 190
5347061	VIB 8.210-KEY	OMNITREND Center single user	p. 190
<b>Cables and connection adapters</b>			
5158435	VIB 5.222	Sensor cable for IEPE-type accelerometer, MIL connector, spiralized	p. 147
5158447	VIB 5.234	Sensor cable for measuring low voltage signals with VIBSCANNER 2, spiralized	p. 147
5158473	VIB 5.238	Sensor cable for IEPE-type accelerometer, BNC connector, spiralized	p. 147

## TECHNICAL INFORMATION

### Technical data

Parameter	VIBSCANNER 2
	<b>Measurement channels</b>
<b>Number</b>	3 synchronous analog channels (X/Y/Z)
<b>Z channel (0 ... 50 kHz)</b>	-20 .. +20 V, input impedance: 78 kOhm IEPE Linedrive
<b>X/Y channel (0 ... 10 kHz)</b>	-20 .. +20 V, input impedance: 78 kOhm IEPE
<b>Dynamic range</b>	109.5 dB (total)
<b>Sampling rate</b>	up to 131 kHz per channel
<b>Signal processing</b>	3 x 24 bit ADCs
<b>Measuring range / Accuracy</b>	Vibration acceleration: dependent on used sensor Shock pulse: -10 dBsv to 80 dBsv +/- 2 dBsv
<b>Fulfilled standard</b>	DIN ISO 2954:2012 (2-1 kHz, 10 Hz -1 kHz, 10-10 KHz)
	<b>Display</b>
<b>Type</b>	Capacitive touchscreen Optically bonded for high contrast and increased shock resistance
<b>Active area</b>	95 x 54 mm [3 3/4" x 2 1/8"]
<b>Size</b>	10.9 cm [4 1/3"]
<b>Color depth</b>	16 million colors
<b>Viewing angle</b>	< 140°
<b>Operation</b>	Multi touch – gesture control Glove-compatible
<b>Illumination</b>	Background lighting, adjustable
<b>Ambient light sensor</b>	Yes
	<b>Supply</b>
<b>Type</b>	Li ion rechargeable battery
<b>Rated voltage</b>	7.2 V Intrinsically safe version: 7.3 V
<b>Energy density</b>	72 Wh Intrinsically safe version: 50 Wh
<b>Charge time, typical</b>	5.0 h (0 ... 100 % @ 25 °C / 77 °F); Intrinsically safe version: 3.5 h 3.5 h (0 ... 80 % @ 25 °C / 77 °F); Intrinsically safe version: 2.5 h
<b>Charging temperature</b>	10 °C to 40 °C (50 °F to 104 °F)
<b>Operating time, typical</b>	12 h (continuous operation, rechargeable battery 100 %); Intrinsically safe version: 10 h 6 h (continuous operation, rechargeable battery 50 %); Intrinsically safe version: 5 h
<b>Power adapter</b>	100-240 V~, 50-60 Hz (input) 12 V 3 A (output)

Parameter	VIBSCANNER 2
<b>Energy saving mode</b>	Yes
	<b>Computer</b>
<b>Processor</b>	ARM A9 - Quadcore 1 GHz
<b>Operating elements</b>	Touchscreen, ON/OFF key, Enter key
<b>Memory</b>	microSD card, 32 GB for measurement data, permanently installed 2 GB RAM
<b>USB</b>	1 x USB 2.0, device interface
<b>RFID</b>	RFID reader module for PRÜFTECHNIK tags (transponder) ALI 50.628-25; Intrinsically safe version: ALI 50.628 EX025 Complies with ISO 14443a and ISO 15693 Reading distance: 2 to 3 cm (13/16" to 1 3/16")
<b>WiFi</b>	IEEE 802.11a/b/g/n/ac Throughput: < 200 Mbps Security: WPA2
<b>Stroboscope</b>	Frequency range: 0.1 – 1000 Hz Resolution: 0.06 1/min. LEDs: Risk group 1 per IEC 62471
<b>LED</b>	1x RGB LED (display for battery status and charging process)
	<b>Environment / Mechanical system</b>
<b>Connections</b>	Socket for power adapter Micro USB for data cable Plug-in connector (8-pole) for signal cable
<b>Housing</b>	2-component housing: PC and ABS Sheath: TPE, black
<b>Dimensions</b>	203 x 143 x 76mm (LxWxH) [8 x 5 5/8 x 3"]
<b>Weight</b>	approx. 1.0 kg (35.3 oz)
<b>Degree of protection</b>	IP65, dust-proof and spray water-protected
<b>Temperature range</b>	Operation: -10 °C to 50 °C (14 °F to 122°F); Intrinsically safe version: 0 °C to 50 °C (32 °F to 122°F) Storage: -20 °C to 60 °C (-4 °F to 140°F)
<b>Air humidity</b>	0 ... 90 %, non-condensing
<b>Certifications</b>	CE, RoHS, FCC, FCC/IC Intrinsically safe version: CE, RoHS, FCC, FCC/IC NEC 500/505, CEC Annex J18, CEC sect. 18



## Firmware features

Parameter	Standard firmware (VIB 5.283-FM)
<b>Route</b>	<ul style="list-style-type: none"> <li>• Set of measurement tasks for machine condition monitoring and diagnosis.</li> <li>• Automatic identification of the measurement location using RFID transponder tags or VIBCODE sensor system.</li> <li>• Determining the rotational speed without tachometer via evaluation of the measured vibration signal. Verification of the speed value via integrated stroboscope.</li> </ul>
<b>Measuring parameters and signals</b>	<ul style="list-style-type: none"> <li>• Vibration acceleration, velocity, displacement</li> <li>• Shock pulse (bearing condition)</li> <li>• Amplitude Trending Spectrum for machine diagnosis</li> <li>• Envelope Trending Spectrum for bearing condition diagnosis and analysis of shock-excited vibration</li> <li>• Time waveform</li> </ul>
<b>Process parameters and visual inspection</b>	<ul style="list-style-type: none"> <li>• Low-voltage signal (AC/DC: <math>\pm 20</math> V) as user-defined measurement task</li> <li>• Manual input of reading values</li> <li>• Checklists for visual inspection tasks</li> </ul>
<b>Averaging</b>	linear, exponential, peak-hold
<b>Alarm bands</b>	Monitoring of narrow band characteristic defect frequencies
<b>FFT</b>	<ul style="list-style-type: none"> <li>• <math>F_{\min}</math>: between 0.5 Hz and 10 Hz programmable</li> <li>• <math>F_{\max}</math>: between 100 Hz and 51.2 kHz programmable</li> <li>• Lines: 400, 800, 1600, 3200, 6400, 12800, 25600</li> <li>• Window: Rectangular, Hanning, Hamming, Flattop, Kaiser</li> </ul>
<b>SETUP &amp; EVALUATION</b>	
<b>Units</b>	ISO and US units, selectable
<b>Comments</b>	Given events with editable comments
<b>OPERATION</b>	
<b>User interface</b>	<ul style="list-style-type: none"> <li>• Touchscreen with gesture control</li> <li>• User guidance via graphical interface with realistic machine images and display of the measurement location position.</li> <li>• Online help</li> </ul>
<b>Languages</b>	German, English, French, Spanish, Italian, Portuguese, Dutch, Polish, Turkish, Russian, Japanese, Chinese



## Spare parts for portable vibration devices

<b>Case for VIBSCANNER 2</b> .....	<b>34</b>
<b>Case for VIBSCANNER 2 EX</b> .....	<b>35</b>
<b>Wheeled case for VIBXPERT II</b> .....	<b>36</b>
<b>Carrying pouch for VIBSCANNER 2</b> .....	<b>37</b>
<b>Carrying pouch for VIBSCANNER 2 EX</b> .....	<b>38</b>
<b>Carrying pouch with accessories for VIBXPERT II</b> .....	<b>39</b>
<b>Charger for VIBXPERT II</b> .....	<b>40</b>
<b>Rechargeable battery for VIBXPERT II</b> .....	<b>41</b>

## Case for VIBSCANNER 2

This robust case is intended for storage and transportation of the measuring equipment. The unbreakable hard shells and shock absorbing insert foam ensure safe protection of the components.



### Features

- Lightweight strong HPX® resin
- Watertight
- Meets Carry-on regulations
- Vortex® valve
- Padlockable hasp
- Lifetime guarantee
- Weight (empty): 2.7 kg (6 lb)
- Dimensions: 411 x 322 x 168 mm  
[ 16 3/16" x 12 11/16" x 6 5/8" ]

### Ordering information

Item No.	Description
VIB 5.228	VIBSCANNER 2 ruggedized case

## Case for VIBSCANNER 2 EX

This robust case is intended for storage and transportation of the measuring equipment. The unbreakable hard shells and shock absorbing insert foam ensure safe protection of the components.



### Features

- Lightweight strong HPX® resin
- Watertight
- Meets Carry-on regulations
- Vortex® valve
- Padlockable hasp
- Lifetime guarantee
- Weight (empty): 2.7 kg (6 lb)
- Dimensions: 411 x 322 x 168 mm [ 16 3/16" x 12 11/16" x 6 5/8" ]

### Ordering information

Item No.	Description
VIB 5.228 EX	VIBSCANNER 2 EX ruggedized case

## Wheeled case for VIBXPERT II

This robust wheeled case is intended for storage and transportation of the measuring equipment. The unbreakable hard shells and shock absorbing insert foam ensure safe protection of the components.



Wheeled case for VIBXPERT II.

### Features

- Lightweight strong HPX® resin
- Watertight
- Meets Carry-on regulations
- Vortex® valve
- Padlockable hasp
- Lifetime guarantee
- In-line wheels
- Telescopic pull-out handle
- Weight (empty): 5.8 kg (12.8 lb)
- Dimensions: 551 x 358 x 226 mm [ 21 11/16" x 14 1/8" x 8 7/8" ]

### Ordering information

Item No.	Description
VIB 5.327	Wheeled case for VIBXPERT II

## Carrying pouch for VIBSCANNER 2

The robust carrying pouch protects the instrument in an industrial environment. The carrying strap and the hand strap can be adjusted continuously via Velcro fastener.



### Features

- Nylon blended fabric
- Velcro fastener
- Sturdy
- Washable

### Ordering information

Item No.	Description
VIB 5.256	VIBSCANNER 2 pouch

## Carrying pouch for VIBSCANNER 2 EX

The robust carrying pouch protects the instrument in an industrial environment. The leather carrying strap has a wide shoulder pad that increases carrying comfort while on long routes.



### Features

- Genuine leather
- Wide shoulder pad
- Sturdy
- Cleanable

**Note:** The device is not included with the pouch.

### Ordering information

Item No.	Description
VIB 5.256 EX	VIBSCANNER 2 EX pouch

## Carrying pouch with accessories for VIBXPert II

The robust carrying pouch features a side pocket for sensors, cables, and tools. The carrying strap and hand strap can be adjusted continuously via Velcro fastener.



### Features

- Nylon blended fabric
- Velcro fastener
- Sturdy
- Washable

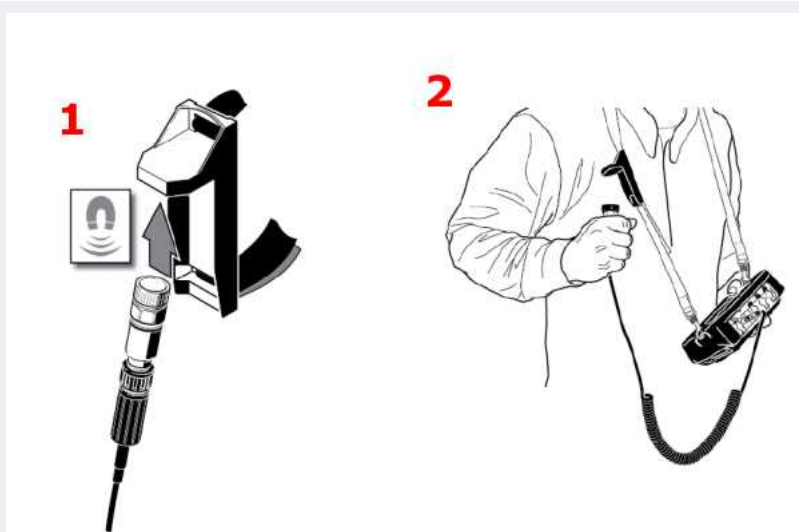
Carrying pouch (A) with shoulder strap (B) and hand strap (C).

### Ordering information

Item No.	Description
VIB 5.356	VIBXPert II carrying pouch
VIB 5.354-CL	Sensor clip for VIBXPert pouch

### Application example

#### Sensor clip for VIBXPert pouch



- 1: Sensor connects magnetically to the sensor clip.
- 2: Sensor clip is a practical sensor holder between the measurements.

## Charger for VIBXPART II

Using this charger, the measuring device can be operated with mains power (e.g., in the office) or the rechargeable battery for VIBXPART-II can be charged, either in the measuring device or in the charging station available as accessory item.



### Features

- Protection class II
- Output: 12 V / 3 A
- Five international plug adapters:
  - North America, Japan
  - Australia
  - UK
  - EU
  - China

Charger for VIBXPART II including plug adapter.

### Ordering information

Item No.	Description
VIB 5.320-INT	Charger for VIBXPART II, international

## TECHNICAL INFORMATION

### Technical data

Parameter	Charger for VIBXPART II - VIB 5.320-INT
Input	100 - 240 VAC / 50 - 60 Hz / 1.0 A
Output	12 VDC / 3.0 A / 36 W
Connection on measuring device	Analog channel A or B
Protection class	II / IP 52



## Rechargeable battery for VIBXPART II

The powerful rechargeable Li-ion battery supplies VIBXPART II on your daily measurement route. Intelligent power saving functions in the measuring device preserve rechargeable battery reserves and ensure long operating times. The rechargeable battery can be charged in the measuring device or in the charging station available as accessory item.



Lithium-ion rechargeable battery for VIBXPART II.

### Features

- Operating time typically 8 hours
- Lithium ion cells
- Charge time < 5 hours

### Ordering information

Item No.	Description
VIB 5.325	VIBXPART II rechargeable battery

## TECHNICAL INFORMATION

### Technical data

Parameter	VIBXPART II rechargeable battery - VIB 5.325
Type	Li ion rechargeable battery
Rated voltage	7.3 V
Rated capacitance	5.3 Ah
Rated output	38.7 Wh
Charge temperature range	0 °C ... + 50 °C [32 ... 122 °F]
Charge time	< 5 hours

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## Stationary systems (Vibration)

<b>VIBGUARD – Simultaneous monitoring and diagnosis</b> .....	<b>44</b>
<b>VIBGUARD compact – industrial asset monitoring</b> .....	<b>50</b>
<b>VIBREX – Continuous monitoring of one or two locations</b> .....	<b>52</b>

# VIBGUARD – Simultaneous monitoring and diagnosis

VIBGUARD is a condition monitoring system for monitoring and diagnosis of operating conditions on machines with rotating components. The permanently installed system works continuously and autonomously, and records up to 20 measurement channels simultaneously.



## Features

- Ideal for machines with critical parameters and highly dynamic processes
- Synchronous quick scanning of up to 20 channels
- Up to 6 operation states taken into account
- Variants for voltage and current driven accelerometers (IEPE, CLD) as well as process signals (voltage)
- Mounting with protective housing or on DIN rail inside a switching cabinet
- Intelligent data reduction

## Ordering information

VIBGUARD is available in many variants differentiated by the following features:

- **Channel distribution / Type of signal:** CLD; IEPE; Voltage
- **Mounting:** DIN rail or protective housing 'LH' (little housing) or 'SDH' (standard housing)

The following table shows the corresponding **item numbers**.

Channel distribution / Type of signal	Mounting		
	DIN rail	Protective housing 'LH'	Protective housing 'SDH'
<b>16xU + 4xU/I</b>	VIB 7.800-PS	---	VIB 7.800-SDH
<b>16xIEPE + 4xU/I</b>	VIB 7.810-PS	VIB 7.810-LH	VIB 7.810-SDH
<b>12xIEPE + 4xU/I</b>	VIB 7.811-PS	---	VIB 7.811-SDH
<b>16xCLD + 4xU/I</b>	VIB 7.820-PS	---	VIB 7.820-SDH

## Scope of supply

Item No.	Description	Details
<b>VIB 7.800...7.820</b>	VIBGUARD system module; Channel distribution / Type signal (variable)	p. 48
---	DIN rail OR protective housing 'LH' OR protective housing 'SDH'	Dimensions: 200 x 300 mm (LH); 380 x 380 mm (SDH)
<b>VIB 5.965-2,5</b>	VIBGUARD switch-mode power supply	
<b>LIT 78.220..223</b> <b>LIT 78.23x</b>	Instructions (installation, operation, commissioning, maintenance) Protocols (x= 0,1,3)	

Optional items may be ordered for any variant.

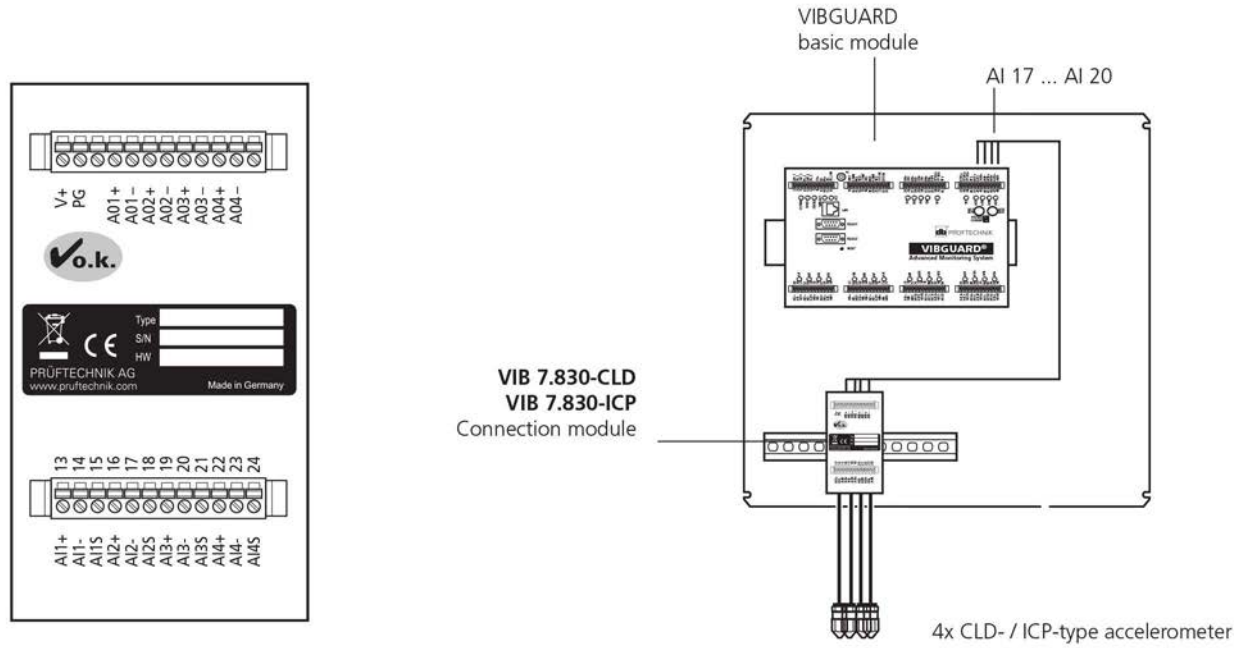
### Optional accessories

Item No.	Description	Hint
<b>VIB 7.830-CLD</b>	VIBGUARD connection module for 4 additional CLD-type accelerometers	These modules are used to connect up to four accelerometers on the four current/voltage analog inputs (4xU/I). The modules are universal and can be used with any VIBGUARD variant in any combination. p. 46
<b>VIB 7.830-ICP</b>	VIBGUARD connection module for 4 additional IEPE (ICP)-type accelerometers	
<b>VIB 7.835</b>	DC-DC converter	required when using an external 24 V DC supply p. 46

## Connection modules for VIBGUARD (4 x CLD / 4 x ICP)

VIB 7.830-CLD : VIBGUARD connection module for 4 additional CLD-type accelerometers

VIB 7.830-ICP : VIBGUARD connection module for 4 additional ICP-type accelerometers



### Terminal assignment

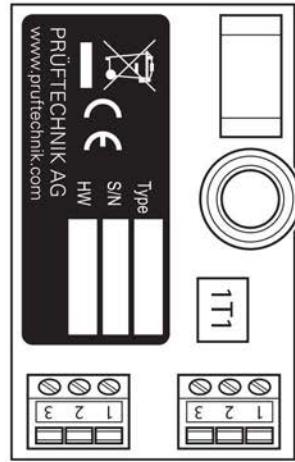
TERM	Function	TERM	Function		
VIB 7.830-CLD / VIB 7.830-ICP	1	V+	VIB 7.830-CLD / VIB 7.830-ICP	13	AI1+
	2	PG		14	AI1-
	3	nc		15	AI1S
	4	nc		16	AI2+
	5	AO1+		17	AI2-
	6	AO1-		18	AI2S
	7	AO2+		19	AI3+
	8	AO2-		20	AI3-
	9	AO3+		21	AI3S
	10	AO3-		22	AI4+
	11	AO4+		23	AI4-
	12	AO4-		24	AI4S

V+ Supply voltage 24VDC (+10V ...+30V)  
 PG Power Ground (0V)  
 nc not connected  
 AO Sensor signal  
 AI Sensor connection  
 AI\_S Shield (insulated on the sensor side)

### Technical data

PARAMETER	VIB 7.830-CLD	VIB 7.830-ICP	
Electrical	Inputs	4 analog inputs ( $U_0$ : 10 V; $I_{max}$ : 9.5 mA)	4 analog inputs ( $U_0$ : 22.5 V; $I_{const}$ : 4.5 mA)
	Outputs	4 analog sensor signals outputs (impedance-converted & rescaled: 1mV/1 $\mu$ A)	4 analog sensor signal outputs (impedance-converted)
	Supply	+24 VDC (+10 V...+30 V)	
	Power input	1150 mW (max 1850 mW)	1250 mW (max 1400 mW)
	Insulation	Module supply and sensor supply are electrically isolated	
Mechanical	Temperature range	-20 °C...+70 °C	
	Terminals	Spring-loaded connection (0.25mm <sup>2</sup> ..1.5mm <sup>2</sup> )	
	Housing	Aluminum housing IP20 for TS35 top hat rail mounting	
	Dimensions	66 x 105 x 48 mm	
Weight	220 g		

## VIB 7.835: DC-DC converter for 24V power supply



### Application

The DC-DC converter converts DC voltage from an external 24V supply into a 24V DC voltage, which is virtually free of noise. The converter is installed by default when VIBGUARD is supplied with 24V provided by the customer.

### Terminal assignment

TERM	Function	
VIB 7.835	1	VIN+
	2	VIN-
	3	nc
	4	VOUT+
	5	DNC
	6	VOUT-

VIN+ Input voltage +24VDC  
 VIN- Input voltage 0V  
 nc not connected  
 VOUT+ Output voltage +24VDC  
 DNC DO NOT connect!  
 VOUT- Output voltage 0V

### Technical data

PARAMETER	VIB 7.835	
Electrical	Output voltage	+ 24 VDC
	Output current	max. 800 mA; short-circuit protection
	Input voltage	+24VDC (+18V...+30V)
	Input current on VIN	+24VDC max +950 mA; fuse T2A
	Insulation	Input and Output are electrically isolated
Mechanical	Temperature range	-20 °C...+70 °C
	Terminals	Screw terminals (0.25mm <sup>2</sup> ...2.5mm <sup>2</sup> )
	Housing	Plastic housing IP20 for TS35 and TS15 top hat rail mounting
	Dimensions	45 x 77.5 x 46 mm
Weight	95g	

## TECHNICAL INFORMATION

### Technical data

	VIB 7.800	VIB 7.810	VIB 7.811	VIB 7.820
<b>INPUTS AND OUTPUTS</b>				
<b>Analog IN</b>	20 synchronous channels: 16 x vibration, 4 x process parameter		16 synch. channels: 12x vibration 4 x process	20 synchronous channels: 16 x vibration, 4 x process parameter
<b>Signal type, Ch. variations</b>	16 x U, 4 x U/I	16 x U (IEPE), 4 x U/I	12 x U (IEPE), 4 x U/I	16 x I (CLD), 4 x U/I
<b>Sensor type</b>	Sensor w/ current or voltage output, Displacement sensor	IEPE-type sensor, Sensor w/ current or voltage output, Displacement sensor		CLD-type sensor, Sensor w/ current or voltage output, Displacement sensor
<b>Digital IN</b>	4 optocoupler inputs 0-30V, Threshold 3V			
<b>Tacho-Puls IN</b>	2 frequency inputs ±30V DC and AC. Threshold ±30V DC (default 2.5V)			
<b>Digital OUT</b>	3 relay changeover contacts, 30VDC/30VAC/2A			
<b>System OK OUT</b>	Relais NC, 30VDC/30VAC/2A			
<b>Ethernet</b>	Data rate: 100 MBit, half duplex			
<b>Serial ports</b>	2x RS232, 115200 baud			
<b>Services</b>	Modbus-TCP, Modbus RTU (RS232)			
<b>LED indicators</b>	20x Analog-IN (VIB 7.811: 16x Analog-IN), 1x System, 2x Status, 2x Ethernet, 4x Digital-IN, 2x Tacho-IN			
<b>MEASUREMENT</b>				
<b>Dynamic range</b>	110 dB @ 24 bit			
<b>Sampling rate</b>	131 kHz / 50 kHz band width			
<b>FFT lines</b>	6400 (Standard), 102400 (Analysis)			
<b>Meas. range, process channels</b>	± 24V or 4-20 mA, ±20mA			
<b>Meas. range, vibration channels</b>	± 24V	---	---	---
<b>GENERAL</b>				
<b>Ambient temperature</b>	Operation: -20°C ... +70°C (-4°F ... + 158°F) Storage: -40°C ... +80°C (-40°F ... + 176°F)			
<b>Relative humidity</b>	max. 95 % (at 25°C [77°F], no condensation)			
<b>System supply</b>	24±6 VDC / 0.5 A			
<b>Sensor supply</b>	Current (CLD = Current Linedrive), Voltage (IEPE)			
<b>Memory capacity</b>	Flash: 2 GB, RAM: 128 MB			
<b>Case material</b>	Aluminum			
<b>Weight</b>	approx. 1.2 kg (2.65 lb)			
<b>Env. protection</b>	IP 20			



### **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. VIBGUARD basic unit must be installed outside the hazardous area.

# VIBGUARD compact – industrial asset monitoring

VIBGUARD compact is the 6-channel version of the VIBGUARD CMS and ideal for continuous diagnostic monitoring of complex individual industrial assets.



## Features

- 6 fully synchronous measuring channels for continuous data acquisition
- Monitors up to 6 operating conditions
- Stores data trends with adjustable data reduction and Intelligent Event Recording
- Specially for individual assets with high asset value, complex drives, and variable operating conditions
- Wi-Fi Ready Solution

## Ordering information

Item No.	Description
<b>VIB 7.900-PS</b>	VIBGUARD compact, system module, incl power supply; mounted on DIN rail
<b>VIB 7.900-LH</b>	VIBGUARD compact, system module, incl power supply; mounted in protective housing

Items delivered in the box for any given variant is derived from the overview below.

## Scope of supply

CONTENT- VIB 7.900-PS		
Item No.	Description	Details
<b>VIB 7.900</b>	VIBGUARD compact system module	p. 51
---	Power supply, PE clamp, DIN rail	mounted on DIN rail
<b>LIT 79.210</b>	Operating instructions	

CONTENT - VIB 7.900-LH		
Item No.	Description	Details
<b>VIB 7.900</b>	VIBGUARD compact system module	p. 51
---	Power supply, PE clamp, DIN rail	mounted on DIN rail
---	Protective housing	includes DIN rail and mounted components
<b>LIT 79.210</b>	Operating instructions	

## TECHNICAL INFORMATION

### Technical data - VIBGUARD compact system module

Parameter	VIB 7.900
<b>INPUTS AND OUTPUTS</b>	
<b>Analog inputs</b>	6 synchronous channels
<b>Type of signal, channel distribution</b>	6 x U / IEPE (ICP), selectable
<b>Type of sensor</b>	IEPE sensor; Sensor with voltage output
<b>Tacho / pulse input</b>	Frequency input: $\pm 30V$ ; Threshold $\pm 30V$ DC (default 2.5V)
<b>Tacho / pulse output</b>	Sensor voltage supply
<b>Digital inputs</b>	Optocoupler input: -3V to +30V, switching thresholds 6.5V to 8.5V DIN EN 61131-2 operating range DC 24V type I and II
<b>Digital outputs</b>	Relay turnkey: 30V DC / 30V AC / 2A DIN EN 61131-2 utilization category AC15 and DC13
<b>System OK output</b>	Relay opener: 30V DC / 30V AC / 2A DIN EN 61131-2 utilization category AC15 and DC13
<b>Ethernet</b>	Data rate: 100 MBit, half duplex
<b>Serial interface</b>	RS232, 115200 baud
<b>Services</b>	Modbus-TCP
<b>LED indicators</b>	6x analog IN, 1x tachometer IN, 1x system, 1x event, 2x Ethernet, 1x digital IN, 1x system OK, 1x digital OUT
<b>MEASUREMENT</b>	
<b>Dynamic range</b>	110 dB @ 24 bit
<b>Sampling rate</b>	131 kHz / 50 kHz range
<b>FFT lines</b>	6400 (default), 102400 (analysis)
<b>Measuring range</b>	$\pm 24V$
<b>GENERAL</b>	
<b>Ambient temperature</b>	Operation: -20°C ... +70°C [ -4 °F ... + 158 °F] Storage: -40°C ... +80°C [ -40 °F ... + 176 °F]
<b>Relative humidity</b>	max. 95 % (25°C [77°F], no condensation)
<b>System supply</b>	24 $\pm$ 6 VDC / 0.25 A
<b>Memory</b>	Flash: 2 GB, RAM: 256 MB
<b>Housing material</b>	Aluminum
<b>Weight</b>	approx. 0.7 kg [ 24,7 oz ]
<b>Protection class</b>	IP 20

### 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. VIBGUARD must be installed outside the hazardous area.

## VIBREX – Continuous monitoring of one or two locations

VIBREX is a modular vibration and bearing condition monitoring system for machines that run under almost constant operating conditions.



### Features

- Machine vibration and bearing condition monitoring
- One or two measurement channels
- Straightforward installation and commissioning
- Analog level outputs (4 – 20 mA)
- Relay outputs
- Signal outputs (mV)
- Sensors and safety barrier for explosive atmospheres

### Ordering information

VIBREX is available in application-dependent variants.

Item No.	Variant
<b>VIB 5.761 V</b>	VIBREX vibration monitor, 1 channel, mV output, standard machines > 600 rpm
<b>VIB 5.761 VIP</b>	VIBREX vibration monitor, 1 channel, mV output, standard machines > 600 rpm, incl. high-temperature industrial accelerometer
<b>VIB 5.762 V</b>	VIBREX vibration monitor, 2 channels, mV output, standard machines > 600 rpm
<b>VIB 5.762 VIP</b>	VIBREX vibration monitor, 2 channels, mV output, standard machines > 600 rpm, incl. high-temperature industrial accelerometer
<b>VIB 5.763 B</b>	VIBREX bearing condition monitor, 1 channel, mV output, standard machines > 600 rpm
<b>VIB 5.764 B</b>	VIBREX bearing condition monitor, 2 channels, mV output, standard machines > 600 rpm
<b>VIB 5.765 VB</b>	VIBREX combined vibration and bearing condition monitor, 1 channel, mV output, standard machines > 600 rpm
<b>VIB 5.767 L</b>	VIBREX vibration monitor, 1 channel, mV output, very low-speed machines > 60 rpm
<b>VIB 5.768 L</b>	VIBREX vibration monitor, 2 channels, mV output, very low-speed machines > 60 rpm
<b>VIB 5.767 ML</b>	VIBREX vibration monitor, 1 channel, mV output, low-speed machines > 120 rpm
<b>VIB 5.768 ML</b>	VIBREX vibration monitor, 2 channels, mV output, low-speed machines > 120 rpm
<b>VIB 5.767 G</b>	VIBREX vibration monitor, 1 channel, mV output, gearbox
<b>VIB 5.768 G</b>	VIBREX vibration monitor, 2 channels, mV output, gearbox
<b>VIB 5.767 MLB</b>	VIBREX combined vibration and bearing condition monitor, 2 channels, mV output, low-speed machines > 120 rpm

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

#### Scope of delivery - VIB 5.761 V, VIB 5.761 VIP, VIB 5.762 V, VIB 5.762 VIP

Item No.	CONTENTS Description	Details	VIB 5.761 ...		VIB 5.762 ...	
			V	VIP	V	VIP
VIB 5.752	Basic unit incl. mounting kit p. 55	p. 55	✓	✓	✓	✓
VIB 5.755 I	Evaluation module for vibration monitoring according to ISO 10816-3, 10 Hz – 1 kHz	p. 56	✓	✓	✓, 2x	✓, 2x
VIB 5.754	Empty module	---	✓	✓	✗	✗
VIB 6.125 RIP	High-temperature industrial accelerometer, permanent installation, for IP 68 option	p. 70	✗	✓	✗	✓, 2x
VIB 5.775-5	Connection cable 5 m (196 7/8")	p. 156	✗	✓	✗	✓, 2x
VIB 9.610	VIBREX operating manual	---	✓	✓	✓	✓
VIB 9.831	Operating manual for accelerometers	---	✗	✓	✗	✓

#### Scope of delivery - VIB 5.763 B, VIB 5.764 B, VIB 5.765 VB

Item No.	CONTENTS Description	Details	VIB	VIB	VIB
			5.763 B	5.764 B	5.765 VB
VIB 5.752	Basic unit incl. mounting kit (p. 55)	p. 55	✓	✓	✓
VIB 5.755 I	Evaluation module for vibration monitoring according to ISO 10816-3, 10 Hz – 1 kHz	p. 56	✗	✗	✓
VIB 5.756 I	Evaluation module for bearing monitoring	p. 56	✓	✓, 2x	✓
VIB 5.754	Empty module	---	✓	✗	✗
VIB 9.610	VIBREX operating manual	---	✓	✓	✓

#### Scope of delivery - VIB 5.767 L, VIB 5.767 ML, VIB 5.768 L, VIB 5.768 ML

Item No.	CONTENTS Description	Details	VIB 5.767 ...		VIB 5.768 ...	
			L	ML	L	ML
VIB 5.752	Basic unit incl. mounting kit (p. 55)	p. 55	✓	✓	✓	✓
VIB 5.755 L	Evaluation module for vibration monitoring on very low-speed machines, 1 Hz – 1 kHz	p. 56	✓	✗	✓, 2x	✗
VIB 5.755 ML	Evaluation module for vibration monitoring on low-speed machines, 2 Hz – 1 kHz	p. 56	✗	✓	✗	✓, 2x
VIB 5.754	Empty module	---	✓	✓	✗	✗
VIB 9.610	VIBREX operating manual	---	✓	✓	✓	✓

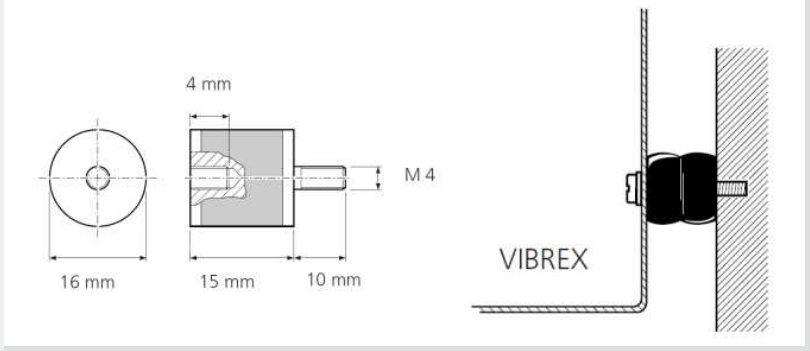
### Scope of delivery - VIB 5.767 G, VIB 5.767 MLB, VIB 5.768 G

Item No.	CONTENTS Description	Details	VIB 5.767 ...		VIB 5.768
			G	MLB	G
VIB 5.752	Basic unit incl. mounting kit (p. 55)	p. 55	✓	✓	✓
VIB 5.757 G	Evaluation module for vibration monitoring on gearboxes, 2 Hz – 20 kHz	p. 56	✓	✗	✓, 2x
VIB 5.755 ML	Evaluation module for vibration monitoring on low-speed machines, 2 Hz – 1 kHz	p. 56	✗	✓	✗
VIB 5.756 I	Evaluation module for bearing monitoring	p. 56	✗	✓	✗
VIB 5.754	Empty module	---	✓	✗	✗
VIB 9.610	VIBREX operating manual	---	✓	✓	✓

**Note:** The items in the box for the variants are fixed. Connection cables and sensors are not included in the scope of delivery, except in the variants VIB 5.761 VIP and VIB 5.762 VIP. A selection of suitable sensors can be found in the following section.

### Sensors and installation material for VIBREX

Item No.	Description	Note	Details
<b>Sensors</b>			
VIB 6.122 R	Industrial accelerometer, permanent installation, standard		p. 64
VIB 6.125 R	Industrial accelerometer, permanent installation, standard, high temperature		p. 64
VIB 6.122 EX0	Industrial accelerometer, permanent installation, intrinsically safe	Limiting device is necessary	p. 64
VIB 6.127	Industrial accelerometer for low-speed machines, permanent installation	Bearing condition evaluation and pump cavitation are not possible	p. 64
VIB 6.127 EX0	Industrial accelerometer for low-speed machines, permanent installation, intrinsically safe	Bearing condition evaluation and pump cavitation are not possible; limiting device is necessary	p. 64
<b>Installation material</b>			
VIB 3.550	Limiting device for CLD-type accelerometers with intrinsic safety	1 per measurement channel	p. 174
VIB 6.770/13	Junction box for the extension of coaxial and tri-axial cables; TNC to M20 threaded joints		p. 176
VIB 3.431	Adhesive adapter, M8 on the adhesive mount		p. 112

Item No.	Description	Note	Details
---	<p>Mounting kit for a vibration-free mounting of the basic unit, included in the standard scope of delivery</p> <p><b>Content</b></p> <ul style="list-style-type: none"> <li>• Vibration dampers, 4 pieces</li> <li>• Hex socket head cap screws M4x8, 4 pieces</li> <li>• Hex nuts DIN 934, 4 pieces</li> <li>• Spring washers DIN 127 B, 4 pieces</li> <li>• Flat washers DIN 125 A, 4 pieces</li> </ul>  <p>Vibration dampers for a vibration-free mounting of the basic unit</p>		
<b>NOTE:</b>	Other cables for VIBREX can be found in p. 156 and p. 157		

## TECHNICAL INFORMATION

### Technical data, VIBREX basic unit

Parameter	VIBREX basic unit
<b>INTERFACES</b>	
<b>Slots</b>	1 or 2 modules
<b>Inputs</b>	2 x CLD accelerometer Mains supply 115 / 230 VAC DC source 24VDC
<b>Outputs / module</b>	1 alarm relay 1 OK relay for self monitoring / warnung 1 analog level output (4 – 20 mA) 1 voltage output (mV) for signal analysis
<b>Switching power</b>	Maximum 3 A @ 250 V AC
<b>Operating modes</b>	Combined bearing condition / vibration monitoring (1 or 2 channels); Bearing condition only or vibration monitoring only (1 or 2 channels)
<b>ELECTRICAL</b>	
<b>Power supply</b>	AC: 115V/230V, 6VA switchable; 50/60 Hz, 10-15% (IEC 93) DC: 24V, <300 mA, 10-15% (IEC 93)
<b>Overload protection</b>	Thermal fuse in transformer and resistance fuse (160 mA slow-acting)
<b>Signal output (mV)</b>	Direct sensor signal (buffered, 100 Ohm)
<b>Transmission</b>	1.0 mV <sub>eff.</sub> /ms <sup>-2</sup> (=10 mV/g) for sensors with a sensitivity of 1 µA/ms <sup>-2</sup> 5.35 mV <sub>eff.</sub> /ms <sup>-2</sup> (=52 mV/g) for sensors with a sensitivity of 5.35 µA/ms <sup>-2</sup>
<b>Frequency response</b>	= Frequency response sensor
<b>ENVIRONMENT</b>	

Parameter	VIBREX basic unit
Operating temperature	-10 °C to 60 °C (14 °F to 140 °F)
Environmental protection	IP 65
Vibration limit	< 50 m/s <sup>2</sup> (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 evaluation 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
<b>MEASUREMENT</b>					
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 <sup>-2</sup>
<b>ELECTRICAL</b>					
Operating voltage	18 – 30 V DC				
Maximum current	approx. 35 mA				
Output	4-20 mA, analog — with basic unit				
<b>SETTINGS</b>					
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<sup>-2</sup>

\*\* Sensitivity: 5,35 µA/ms<sup>-2</sup>



# Sensors

## Overview: Sensors for portable vibration devices

Which sensors can be operated with which instrument? You can find the answer in the following overviews:

### Vibration measurement

Item No.	Sensor	Portable Instrument				Connection to meas. location
		VSC 2	VSC 2 EX	VXP II	VXP EX	
VIB 6.142 R	Industrial, Standard	✓	✗	✓	✗	e.g. Magnetic adapter VIB 3.420
VIB 6.142 EX0	Industrial, Standard, EX	✗	✓	✗	✓	e.g. Magnetic adapter VIB 3.420
VIB 6.147	Industrial, low-speed	✓	✗	✓	✗	e.g. Magnetic adapter VIB 3.420
VIB 8.660	VIBCODE	✓	✗	✓	✗	VIBCODE stud (bayoneted fitting)
VIB 6.655	Triaxial, IEPE	✓	✗	✓	✗	Magnetic adapter VIB 6.656
VIB 6.658 EX0	Triaxial EX, IEPE	✗	✓	✗	✗	Magnetic adapter VIB 6.656
VIB 6.172	Monoaxial, IEPE	✓	✗	✓	✗	Magnetic adapter VIB 3.423
VIB 8.666	Quick fit accelerometer	✓	✗	✓	✗	Measurement stud (bayoneted fitting)
VIB 5.731 / 5	VIBROTECTOR	✗	✗	✓	✗	Threaded mount

VSC = VIBSCANNER / VXP = VIBXPART

### Process parameter

Item No.	Sensor	Portable Instrument		Connection to meas. location
		VXP II	VXP EX	
VIB 6.631	Laser trigger / RPM sensor	✓	✗	Optical, reflected laser beam
VIB 6.631 EX	Laser trigger / RPM sensor, EX	✗	✓	Optical, reflected laser beam
VIB 6.672	LED stroboscope (RPM, Phase)	✓	✗	Optical, reflected flash light
VIB 8.608	Temperature handheld probe	✓	✓	Manual contact
VIB 6.640	Inductive proximity sensor	✓	✗	Inductive

VSC = VIBSCANNER / VXP = VIBXPART

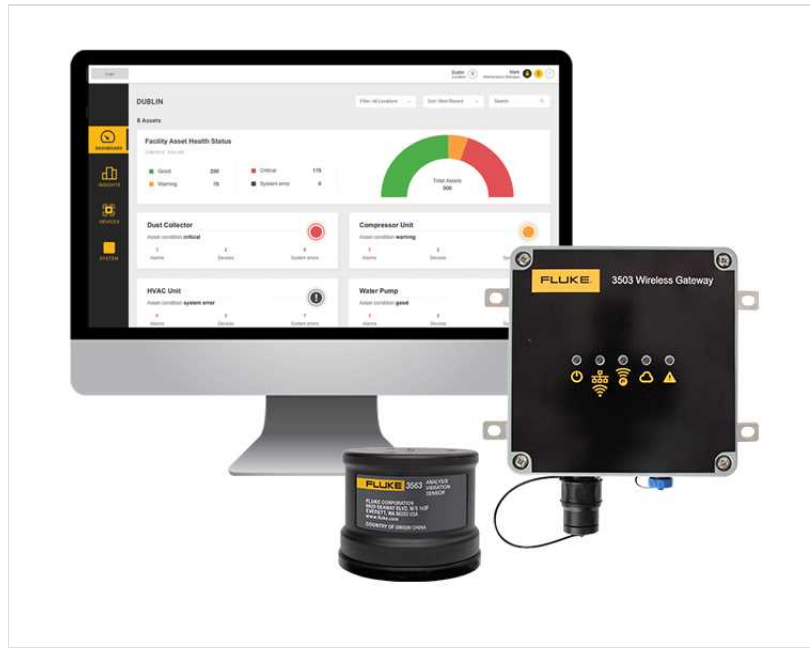
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## Vibration sensors

<b>Fluke 3563 sensor – wireless vibration sensor for machine fault analysis</b> .....	<b>60</b>
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# Fluke 3563 sensor – wireless vibration sensor for machine fault analysis

The Fluke 3563 Analysis Vibration Sensor combines a piezoelectric high-frequency sensor with cloud based software that enables maintenance teams track and analyze asset vibration readings continuously. It is used to monitor an extensive portfolio of production-critical assets.



## Main features

- Long battery life
- User-friendly experience
- Insightful analysis of both banded overall values and narrowband values using eMaint condition monitoring
- Wireless and scalable

## Order information

NOTE: eMaint condition monitoring subscription license must be ordered and paid for separately for each sensor. Licenses can be purchased for Core or Advanced Analysis.

Item No.	Description
5280068	Analysis Vibration Sensor 16KIT
5280093	Analysis Vibration Sensor 8PK
5280158	Wireless Gateway
5280173	Analysis Vibration Sensor Screw Mount Plate 8PK
5280213	Analysis Vibration Sensor Epoxy Mount Plate 8PK

The items delivered within each respective box are shown in the overview that follows.

## Items in 5280068

CONTENT – 5280068		
Item No.	Description	Quantity
5300490	3563 Analysis Vibration Sensor	16
5300503	3503 Wireless Gateway	2
5301214	Power adapter pack (for Gateway)	2
5292465	Getting started manual	1

### Items in 5280093

CONTENT – 5280093		
Item No.	Description	Quantity
5300490	3563 Analysis Vibration Sensor	8
5292465	Getting started manual	1

### Items in 5280173

CONTENT – 5280173		
Item No.	Description	Quantity
5281445	Screw mounting adapter M8 stud	8
5281530	Wrench (key)	1

### Items in 5280213

CONTENT – 5280213		
Item No.	Description	Quantity
5281450	Adhesive mounting adapter M4 pin	8

### eMaint condition monitoring subscription

The annual subscriptions are be purchased for every individual sensor.

Item No.	Reference	Description	Quantity
5383051	FLK-3603	Analysis Vibration Sensor software subscription – CORE	1 sensor per year
5383060	FLK-3603/ADV	Analysis Vibration Sensor software subscription - ADVANCED	1 sensor per year

NOTE: All sensors in any one company account (tenant) must possess the same license level. Core and Advanced licenses cannot be mixed between sensors in one company account (tenant).

## TECHNICAL INFORMATION

### 3563 Analysis Vibration Sensor

Technical data		
<b>DYNAMIC PERFORMANCE</b>		
<b>Sensing elements</b>	XY Z	MEMS Shear mode piezo
<b>Measurement range</b>	XY Z	±16 g, peak ±50 g, peak
<b>Machine surface temperature</b>	-20 °C to 85 °C (-4 °F to 185 °F)	
<b>Amplitude linearity</b>	XY Z	±5% ±10%
<b>Frequency range ±3dB</b>	XY Z	2 Hz to 1 kHz 2 Hz to 10 kHz
<b>Resonance frequency</b>	XY Z	>4 kHz >25 kHz
<b>Integrated temperature sensor</b>	-20 °C to 120 °C (-4 °F to 248 °F)	
<b>Temperature sensitivity</b>	XY Z	<0.05 %/K @ 159 Hz <0.25 %/K @ 159 Hz
<b>Transverse sensitivity</b>	<5 % at 16 Hz	
<b>Base strain sensitivity</b>	<0.025 ms <sup>-2</sup> /μm/m	
<b>ENVIRONMENTAL</b>		
<b>Temperature range</b>	Operation: -20 °C to 85 °C (-4°F to 185 °F) Storage: -20 °C to 85 °C (-4 °F to 185 °F)	
<b>Environmental protection</b>	IP67	
<b>Shock limit</b>	5000 g peak	
<b>Drop test</b>	2 m	
<b>ELECTRICAL</b>		
<b>Power supply</b>	6 x 3.6 V 1/2 AA Li-SOCI 2 battery	
<b>Sampling rate</b>	up to 62500 Samples / sec.	
<b>AD conversion</b>	24 bit	
<b>WIRELESS COMMUNICATION</b>		
<b>Radio frequency</b>	2.4 GHz ISM band according to IEEE 802.15.4	
<b>Protocol</b>	Low energy wireless protocol	
<b>Transmission distance</b>	Up to 100 m (330 ft) direct line of sight	
<b>MECHANICAL</b>		
<b>Weight</b>	200 g (10.6 oz.) including batteries 145 g (5.1 oz.) without batteries	
<b>Mounting</b>	Screw mounting, M8 thread Adhesive mounting	
<b>Dimensions (Diameter x Height)</b>	68 x 53.4 mm (2 43/64" x 2 7/64")	

## 3503 Wireless Gateway

Technical data	
<b>Dimensions</b>	160 x 160 x 90 mm (6 19/64 x 6 19/64 x 3 35/64 in) (LxWxD)
<b>Weight</b>	948 g (2.1 lb)
<b>Housing</b>	Polycarbonate
<b>Environmental protection</b>	IP67 Relative humidity: 10% to 90% (non-condensing)
<b>Temperature range</b>	Operating: -20 °C to 60 °C ( -4 °F to 140 °F) Storage: -40 °C to 80 °C ( -40 °F to 176 °F)
<b>Power supply</b>	24 V DC or Power over Ethernet (PoE) — PoE 802.3af
<b>Radio frequency</b>	2.4 GHz ISM band according to IEEE 802.15.4
<b>Ethernet</b>	RJ45 connector with PoE
<b>Status LEDs</b>	5 status LEDs
<b>Sensors supported</b>	20 (dependent on environmental conditions)

## Industrial CLD accelerometers for permanent installation

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



### 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, Zones 0, 1, 20
- $T_{\max.}$  : 135°C (275°F)
- Rigid mounting using threaded screws
- Current Line Drive (CLD) output for long cable use
- Immune to interference (Tandem-Piezo)

Industrial accelerometers for permanent installation

### Ordering information

Item No.	Reference	Industrial accelerometers for permanent installation
5245594	VIB 6.122 EX0	Standard, intrinsically safe, hazardous areas Zones 0 and 20
5149326	VIB 6.122 R	Standard
5149344	VIB 6.125 R	Standard, high temperature
5245608	VIB 6.125 EX0	Standard, chemical resistant, intrinsically safe, hazardous areas Zones 0 and 20
5149367	VIB 6.127*	Low speed
5245613	VIB 6.127 EX0	Low speed, intrinsically safe, hazardous areas Zones 0 and 20

\* Not suitable for shock pulse measurement and pump cavitation.

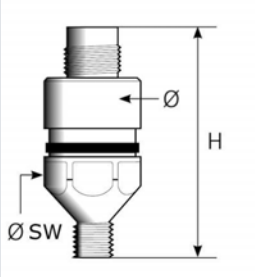
### Accessories

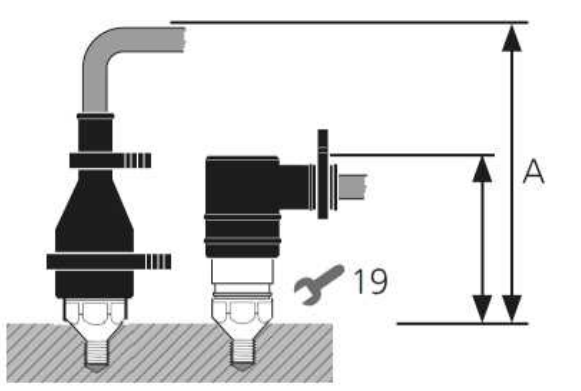
Item No.	Description / Group
Miscellaneous	"Mounting adapters for vibration sensors", p. 112
Miscellaneous	"Dust caps for industrial CLD accelerometers", p. 117
Miscellaneous	"Tools for installation of accelerometers", p. 127
VIB 3.550	"Intrinsic safety barriers", p. 174



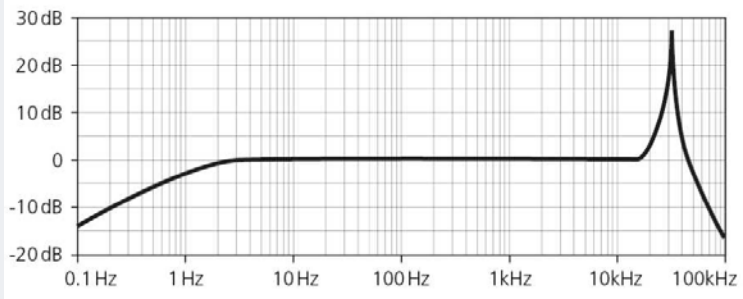
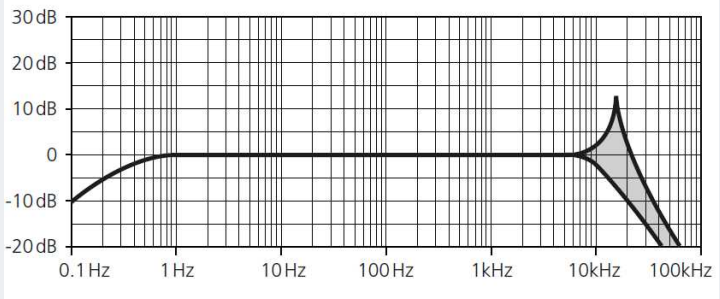
## TECHNICAL INFORMATION

### Technical data - VIB 6.12...

Parameter	VIB 6.122 R	VIB 6.125 R	VIB 6.127
<b>MEASUREMENT</b>			
<b>Signaling system</b>	Current Line Drive, 3.5 mA static current with superimposed AC signal		
<b>Transmission factor</b>	1.0 $\mu\text{A}/\text{ms}^{-2} \pm 3\%$ (Ref.: 159 Hz; 25 °C /77 °F)		5.35 $\mu\text{A}/\text{ms}^{-2} \pm 4\%$ (Ref.: 159 Hz; 25 °C/77 °F)
<b>Frequency range <math>\pm 5\%</math></b>	2.5 Hz to 13 kHz		1 Hz to 3 kHz
<b>Frequency range <math>\pm 10\%</math></b>	1.6 Hz to 17 kHz		0.7 Hz to 8 kHz
<b>Frequency range <math>\pm 3\text{dB}</math></b>	1 Hz to 20 kHz		0.3 Hz to 10 kHz
<b>Resonance frequency</b>	36 kHz		17 kHz; > 20 dB damped
<b>Linearity range, <math>\pm 10\%</math></b>	$\pm 961 \text{ ms}^{-2}$		$\pm 450 \text{ ms}^{-2}$
<b>Temperature range; Cable VIB 90093</b>	-40 °C to 100 °C (-40 °F to 212 °F)	-40 °C to 125 °C (-40 °F to 257 °F) / (135 °C (275 °F) w/ cable VIB 90007)	-40 °C to 100 °C (-40 °F to 212 °F)
<b>ELECTRICAL</b>			
<b>Power supply</b>	> 10 mA / 7-18 VDC		
<b>Transverse sensitivity</b>	< 5%		
<b>Temperature sensitivity</b>	0.17 %/K		0.13 %/K
<b>Magnetic field sensitivity</b>	< 5 $\text{ms}^{-2}/\text{T}$ (at 50 Hz)		< 1 $\text{ms}^{-2}/\text{T}$ (at 50 Hz)
<b>Base strain sensitivity</b>	< 0.1 $\text{ms}^{-2}/\mu\text{m}/\text{m}$		
<b>Electrical noise, rms</b>	< 0.01 $\text{ms}^{-2}$ from 2 Hz		< 0.002 $\text{ms}^{-2}$ from 2 Hz
<b>Output impedance</b>	> 1 MOhm		> 300 kOhm
<b>Insulation</b>	> 10 <sup>9</sup> MOhm		
<b>MECHANICAL</b>			
<b>Case material</b>	Stainless steel VA 1.4305		
<b>Environmental protection</b>	IP 65 with cable connector locked		
<b>Cable connection</b>	TNC socket		
<b>Mounting</b>	M8 thread		
<b>Shock limit</b>	< 250 $\text{kms}^{-2}$		< 50 $\text{kms}^{-2}$
<b>Weight</b>	40 g (1.4 oz)		43 g (1.5 oz)
<b>Dimensions</b>	H: 46 mm (1 13/16" ) Ø: 19 mm ( 3/4" ) ØSW: 19 mm ( 3/4" )		H: 49 mm (1 15/16" ) Ø: 19 mm ( 3/4" ) ØSW: 19 mm ( 3/4" )
			

Parameter	VIB 6.122 R	VIB 6.125 R	VIB 6.127
<b>Mounting height A, straight / angled TNC plug</b> 	A > 115 mm / 55 mm ( 4.53" / 2.2")		A > 120 mm / 60 mm (4.72" / 2.36")

### Frequency response

1 Hz - 20 kHz	0.3 Hz - 10 kHz
	
Type: <ul style="list-style-type: none"> <li>VIB 6.122 R, VIB 6.122 EX0</li> <li>VIB 6.125</li> </ul>	Type: <ul style="list-style-type: none"> <li>VIB 6.127, VIB 6.127 EX0</li> </ul>

### Intrinsic safety details

	VIB 6.12..DEX	VIB 6.12..EX0
<b>ATEX</b>	Marking: II 2G Ex ib IIC T4 ; II 2D Ex ib IIIB T <sub>5</sub> 187°C	Marking: II 1G Ex ia IIC T4 Ga ; II 1D Ex ia IIIC T135°C Da
<b>IECEX</b>		Marking: II 1G Ex ia IIC T4 Ga ; II 1D Ex ia IIIC T135°C Da
<b>CSA</b>		Marking: Ex ia IIC T4 Ga ; Ex ia IIIC T135°C Da
Temperature range	-30 °C to +80 °C (-22 °F to 176 °F)	-40 °C to 80 °C (-40 °F to 176 °F)

## Mobile industrial CLD accelerometer

This sensor is intended for vibration measurement on machinery within industrial environments using a portable data collector. Optional magnetic adapters for mounting at the measurement points are available.



### Features

- 3-in-1 sensor: housing vibration, shock pulse (condition of roller bearings), cavitation
- Intrinsic safety, Zone 0, 1, 20
- $f_{\min}$ : 0.3 Hz – ideal for machines running at low speeds
- Rigid mounting using threaded screws
- Current Line Drive (CLD) output for long cable use
- Immune to interference (Tandem-Piezo)

Industrial accelerometer for mobile data collection

### Ordering information

Item No.	Reference	Industrial accelerometer for mobile data collection
5149479	VIB 6.142 R	Standard, mobile
5245636	VIB 6.142 EXO	Standard, mobile, intrinsically safe, hazardous areas Zones 0 and 20
5149507	VIB 6.147	Low speed, mobile

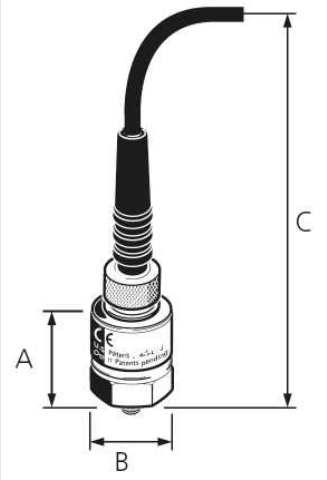
### Accessories

Item No.	Reference	Description / Group
	Miscellaneous	"Mounting adapters for vibration sensors", p. 112
5147415	VIB 3.550	"Intrinsic safety barriers", p. 174

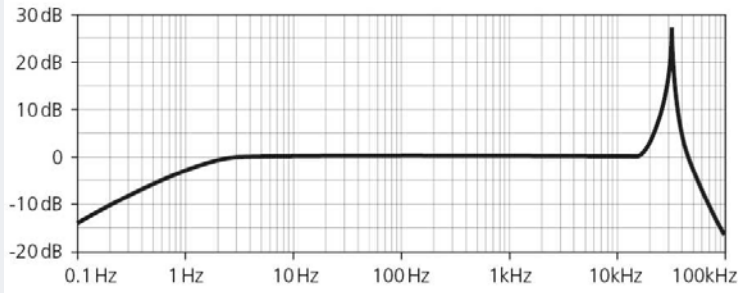
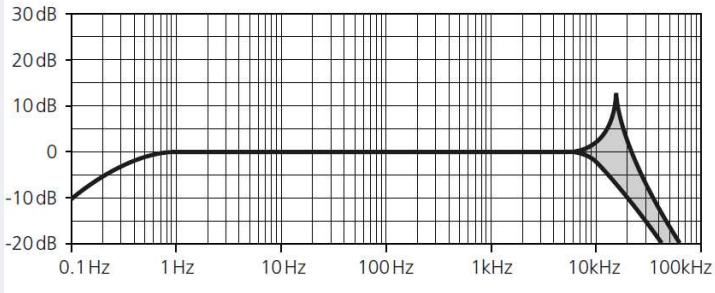
## TECHNICAL INFORMATION

### Technical data - VIB 6.14x (mobile)

Parameter	VIB 6.142	VIB 6.147
<b>MEASUREMENT</b>		
<b>Signaling system</b>	Current Line Drive, 3.5 mA static current with superimposed AC signal	
<b>Transmission factor</b>	1,0 $\mu\text{A}/\text{ms}^{-2} \pm 3\%$ (Ref.: 159 Hz; 25 °C)	5,35 $\mu\text{A}/\text{ms}^{-2} \pm 4\%$ (Ref.: 159 Hz; 25 °C)
<b>Frequency range, <math>\pm 5\%</math></b>	2.5 Hz to 13 kHz	1 Hz to 3 kHz
<b>Frequency range, <math>\pm 10\%</math></b>	1.6 Hz to 17 kHz	0.7 Hz to 8 kHz
<b>Frequency range, <math>\pm 3\text{dB}</math></b>	1 Hz to 20 kHz	0.3 Hz to 10 kHz
<b>Resonance frequency</b>	36 kHz	17 kHz; > 20dB damped
<b>Linearity range, <math>\pm 10\%</math></b>	$\pm 961 \text{ ms}^{-2}$	$\pm 450 \text{ ms}^{-2}$
<b>Temperature range</b>	-40 °C to 100 °C (-40 °F to 212 °F)	
<b>ELECTRICAL</b>		
<b>Power supply</b>	> 10 mA / 7-18 VDC	
<b>Transverse sensitivity</b>	< 5% at 10 kHz	
<b>Temperature transient sensitivity</b>	< 0.05 $\text{ms}^{-2}/\text{K}$	< 0.01 $\text{ms}^{-2}/\text{K}$
<b>Magnetic field sensitivity</b>	< 5 $\text{ms}^{-2}/\text{T}$ (at 50 Hz)	< 1 $\text{ms}^{-2}/\text{T}$ (at 50 Hz)
<b>Base strain sensitivity</b>	< 0.1 $\text{ms}^{-2}/\mu\text{m}/\text{m}$	
<b>Electrical noise, rms</b>	< 0.01 $\text{ms}^{-2}$ from 2 Hz	< 0.002 $\text{ms}^{-2}$ from 2 Hz
<b>Output impedance</b>	> 1 MOhm	> 300 kOhm
<b>Insulation</b>	> $10^9$ MOhm	
<b>MECHANICAL</b>		
<b>Case material</b>	Stainless steel VA 1.4305	
<b>Environmental protection</b>	IP 65 with cable connector locked	
<b>Cable connection</b>	TNC socket	
<b>Mounting</b>	Magnetic holder / M5 thread	
<b>Shock limit</b>	< 250 $\text{kms}^{-2}$	< 50 $\text{kms}^{-2}$
<b>Weight</b>	39 g	38 g

Parameter	VIB 6.142	VIB 6.147
<b>Dimensions</b> 	A = 40 mm / B = 21 mm / C = 120 mm (A = 1.6" / B = 0.8" / C = 4.7")	A = 45 mm / B = 21 mm / C = 125 mm (A = 1.8" / B = 0.8" / C = 4.9")

### Frequency response

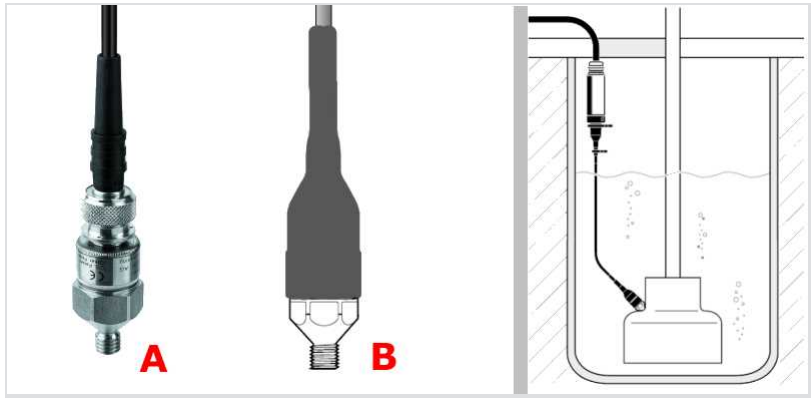
1 Hz - 20 kHz	0.3 Hz - 10 kHz
	
Type: <ul style="list-style-type: none"> <li>VIB 6.142 R, VIB 6.142 EX0 (screwed or adhesive mounting)*</li> <li>* Linear frequency range limitation:               <ul style="list-style-type: none"> <li>- Magnetic adapter: &lt; 5 to 20 kHz</li> <li>- Probe tip: &lt; 1 kHz</li> </ul> </li> </ul>	Type: <ul style="list-style-type: none"> <li>VIB 6.147 (screwed or adhesive mounting)*</li> <li>* Linear frequency range limitation:               <ul style="list-style-type: none"> <li>- Magnetic adapter: &lt; 5 kHz</li> <li>- Probe tip: &lt; 1 kHz</li> </ul> </li> </ul>

### Intrinsic safety details

	VIB 6.142 DEX	VIB 6.142 EX0
<b>ATEX</b>	Marking : II 2G Ex ib IIC T4 ; Dust: II 2D Ex ib IIIB T <sub>5</sub> 187°C	Marking: II 1G Ex ia IIC T4 Ga; II 1D Ex ia IIIC T135°C Da
<b>IECEX</b>		Marking: Ex ia IIC T4 Ga; Ex ia IIIC T135°C Da
<b>CSA</b>		Marking: Ex ia IIC T4 Ga; Ex ia IIIC T135°C Da; Class I, Division 1, Groups A, B, C and D T4; Class II, Division 1, Groups E, F and G T135°C; Class III, Division 1 T135°C
Temperature range	-30 °C to 80 °C (-22 °F to 176 °F)	-40°C to +100°C [-40°F to + 212°F] at Pi = 300mW -40°C to + 80°C [-40°F to +176°F] at Pi = 500 mW -40°C to +100°C [-40°F to +212°F] at Pi = 500 mW for dust atmospheres

# 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, Zones 0, 1, 20
- $f_{min}$ : 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

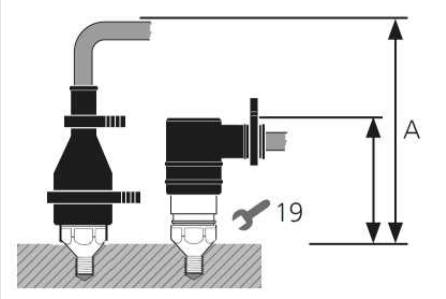
Item No.	Reference	Industrial accelerometer for use in liquid media
5149359	VIB 6.125 RIP	Standard machinery, high temperature, IP 68 option

## Accessories

Item No.	Reference	Description / Group
Miscellaneous		"Mounting adapters for vibration sensors", p. 112
Miscellaneous		"Dust caps for industrial CLD accelerometers", p. 117
Miscellaneous		"Tools for installation of accelerometers", p. 127
Miscellaneous		"IP68 option for industrial accelerometers", p. 110
5147415	VIB 3.550	"Intrinsic safety barriers", p. 174

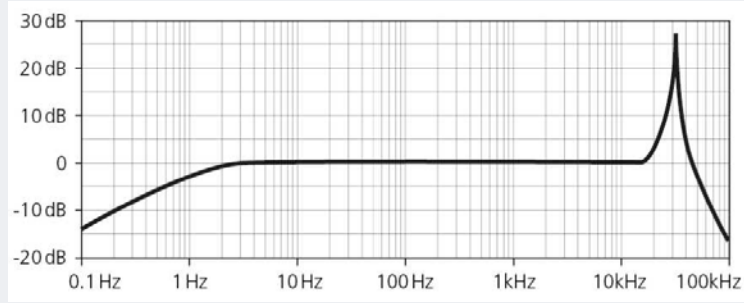
## TECHNICAL INFORMATION

### Technical data - VIB 6.12...

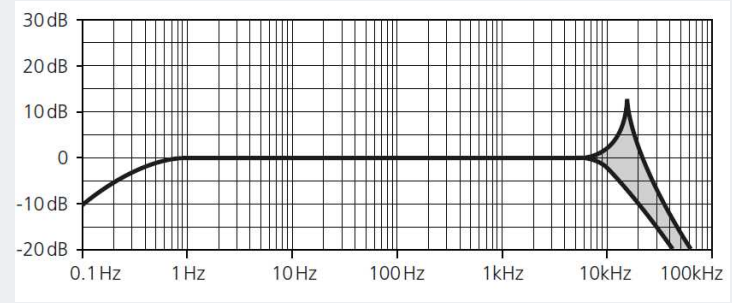
Parameter	VIB 6.125 RIP (5149359)
<b>MEASUREMENT</b>	
<b>Signaling system</b>	Current Line Drive, 3.5 mA static current with superimposed AC signal
<b>Transmission factor</b>	1,0 $\mu\text{A}/\text{ms}^{-2} \pm 3\%$ (Ref.: 159 Hz; 25 °C)
<b>Frequency range, <math>\pm 5\%</math></b>	2.5 Hz to 13 kHz
<b>Frequency range, <math>\pm 10\%</math></b>	1.6 Hz to 17 kHz
<b>Frequency range, <math>\pm 3\text{dB}</math></b>	1 Hz to 20 kHz
<b>Resonance frequency</b>	36 kHz
<b>Linearity range, <math>\pm 10\%</math></b>	$\pm 961 \text{ ms}^{-2}$
<b>Temperature range</b>	-40 °C to 125 °C, with cable type VIB 90093 (-40 °F to +257 °F) -40 °C to 135 °C, with cable type VIB 90007 (-40°F to +275 °F)
<b>ELECTRICAL</b>	
<b>Power supply</b>	> 10 mA / 7-18 VDC
<b>Transverse sensitivity</b>	< 5%
<b>Temperature sensitivity</b>	0,17 %/K
<b>Magnetic field sensitivity</b>	< 5 $\text{ms}^{-2}/\text{T}$ (at 50 Hz)
<b>Base strain sensitivity</b>	< 0.1 $\text{ms}^{-2}/\mu\text{m}/\text{m}$
<b>Electrical noise, rms</b>	< 0.01 $\text{ms}^{-2}$ at 2 Hz
<b>Output impedance</b>	> 1 MOhm
<b>Insulation</b>	> 10 <sup>9</sup> MOhm
<b>MECHANICAL</b>	
<b>Case material</b>	Stainless steel VA 1.4571, chemical resistant
<b>Environmental protection</b>	IP 65 with cable connector locked; IP 68 with special cable configuration
<b>Cable connection</b>	TNC socket
<b>Mounting</b>	M8 thread
<b>Shock limit</b>	< 250 $\text{kms}^{-2}$
<b>Weight</b>	40 g
<b>Mounting height A, straight / angled TNC plug</b>	A > 115 mm / 55 mm
	
<b>Mounting height w/ IP68 option</b>	A > 140 mm

## Frequency response

1 Hz - 20 kHz



0,3 Hz - 10 kHz



Type:

- VIB 6.125 RIP (5149359)



## Mini CLD accelerometer

This compact sensor is suitable for vibration measurements on industrial machinery. Its shape allows for its installation in limited space.



Mini accelerometer can be installed on limited space

### Features

- 3-in-1 sensor: housing vibration, shock pulse (condition of roller bearings), cavitation
- Intrinsic safety, Zone 1
- $T_{max.} : 120^{\circ}\text{C}$
- Compact shape: 22 x 21 mm
- Sensor cable permanently attached
- Permanent installation on the machine
- Current Line Drive (CLD) output for long cable use
- Immune to interference (Tandem-Piezo)
- Conformity: CE, ATEX, IECEx



### Ordering information

Item No.	Reference	Mini accelerometer
5149635	VIB 6.202-6	Standard, coaxial cable (RG 174/U), 6 m (19.7 ft)
5149647	VIB 6.202-6XD	Standard, coaxial cable (RG 174/U), 6 m (19.7 ft), intrinsically safe
5149612	VIB 6.202-20XD	Standard, coaxial cable (RG 174/U), 20 m (65.6 ft), intrinsically safe

Note: Intrinsically safe sensors are delivered with the protection cap VIB 6.205 (5149725). The cap protects the sensor from external impact during installation.

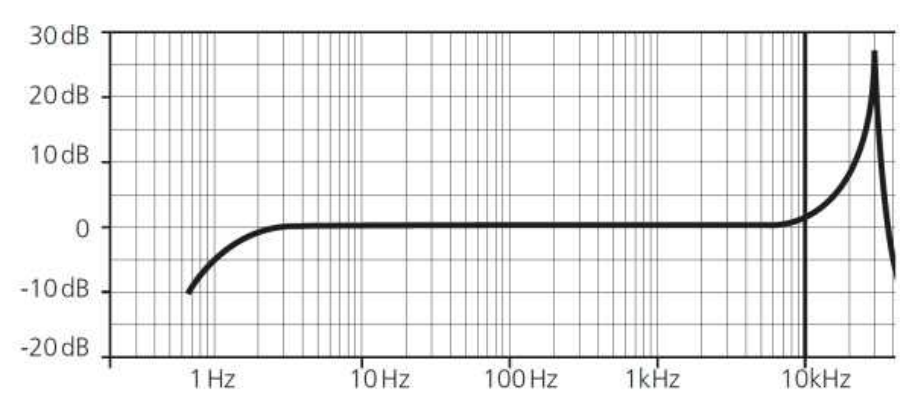
### Accessories

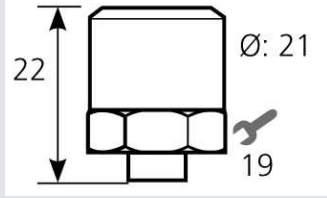
The mini sensor is delivered with an M8 hexagon socket set screw. The set screw may be replaced using the available optional mounting adapters.

Item No.	Reference	Description / Group
	Miscellaneous	"Mounting adapters for vibration sensors", p. 112
5147415	VIB 3.550	"Intrinsic safety barriers", p. 174
5327335	VIB 6.205 SP	Protection cap for mini sensors 
<b>Installation material for signal cable</b>		
	VIB 93025	TNC plug for coaxial cable (RG 174)
	VIB 81015	Protective sleeve for coaxial cable (RG 174)
		Cable with TNC plug and protective sleeve


## TECHNICAL INFORMATION

### Technical data - VIB 6.20..

Parameter	VIB 6.202-...
<b>MEASUREMENT</b>	
Signaling system	Current Line Drive, 3.5 mA static current with superimposed AC signal
Transmission factor	$1.0 \mu\text{A}/\text{ms}^{-2} \pm 10\%$ (Ref.: 159 Hz; 25 °C)
Frequency range, $\pm 5\%$	6 Hz to 6 kHz
Frequency range, $\pm 10\%$	4 Hz to 8 kHz
Frequency range, $\pm 3\text{dB}$	2 Hz to 10 kHz
Resonance frequency	30 kHz
Frequency response	
Linearity range, $\pm 10\%$	$\pm 961 \text{ ms}^{-2}$
Temperature range	-30 °C to 80 °C (-22 °F to 176 °F)
<b>ELECTRICAL</b>	
Power supply	> 10 mA / 7-18 VDC
Temperature sensitivity	0.08 %/K
Electrical noise, rms	< $0.1 \text{ ms}^{-2}$ from 2 Hz
Output impedance	> 250 kOhm
<b>MECHANICAL</b>	
Case material	Base: Stainless steel VA 1.4305 / Cap: Grivory HTV (resistant to diesel, crude oil, hydraulic and engine oil, lubricants, tar, and turpentine among others)
Environmental protection	IP 65
Mounting	M8 hexagon socket set screw or mounting adapter
Connection cable	Structure: coaxial, RG 174/U Diameter: 2.8 mm Outer sheath: PVC - Polyvinyl chloride

Parameter	VIB 6.202-...
Protective sleeve	Material: EVA (non-halogen); Temperature range: -40 °C to 70 °C (-40 °F to 158 °F)
Shock limit	< 250 kms <sup>-2</sup>
Weight	22 g
Dimensions, mm	

### Intrinsic safety details

Type VIB 6.202..XD / VIB 6.203..XD	
Marking 	Gas: II 2G Ex ib IIC T4 Gb/ Dust: II 2D Ex ib IIIC T135°C Db
Temperature range	-30 °C to 80 °C (-22 °F to 176 °F)

## "Wind" CLD accelerometer

This sensor is used for vibration measurement on industrial machinery. Due to the very low lower cut-off frequency, it is suited for very low-speed rotating machine components such as the main bearing in a wind turbine.



"Wind" accelerometer for monitoring vibration on low-speed rotating machine components

### Features

- Current Line Drive output
- $f_{\min.} : 0.1 \text{ Hz}$
- IP 67 when cable connector is locked
- Permanent installation on the machine
- Possible connection to VIBEXPERT II through an adapter

### Ordering information

Item No.	Description
<b>VIB 6.195</b>	"Wind" CLD accelerometer with MIL cable connection

### Accessories

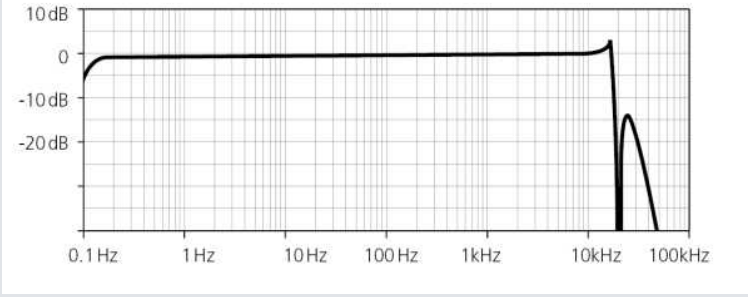
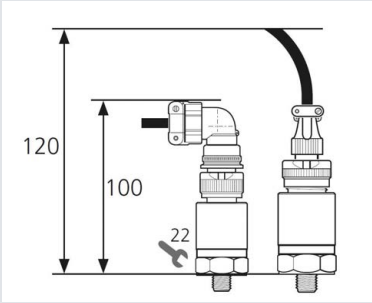
The sensor is delivered with an M8 hexagon socket set screw. The set screw may be replaced using the available optional mounting adapters.

Item No.	Description / Group
Miscellaneous	"Mounting adapters for vibration sensors", p. 112
Miscellaneous	"Sensor cable with 2-pin MIL connector", p. 159
<b>VIB 5.449-CLD</b>	"Extension cable for analog measuring channel, portable devices", p. 146

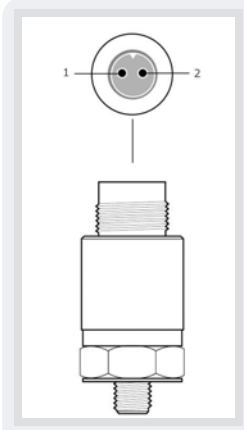
## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 6.195
<b>MEASUREMENT</b>	
<b>Signaling system</b>	Current Line Drive, 3.5 mA static current with superimposed AC signal
<b>Transmission factor, ±4%</b>	5.35 $\mu\text{A}/\text{ms}^{-2}$ (Ref.: 159 Hz; 25 °C)
<b>Frequency range, ± 5%</b>	1 Hz to 6 kHz
<b>Frequency range, ± 10%</b>	0.5 Hz to 8 kHz

Parameter	VIB 6.195
Frequency range, ± 3dB	0.1 Hz to 10 kHz
Resonance frequency	17 kHz; > 20 dB damped
Frequency response	
Linearity range, ± 10%	± 450 ms <sup>-2</sup>
Temperature range	-30 °C to 80 °C (-22 °F to 176 °F)
<b>ELECTRICAL</b>	
Power supply	> 10 mA / 7-18 VDC
Transverse sensitivity	< 5%
Temperature sensitivity	< 0.07%/K
Magnetic field sensitivity	< 1 ms <sup>-2</sup> /T (at 50 Hz)
Base strain sensitivity	< 0.1 ms <sup>-2</sup> /μm/m
Electrical noise, (0,1 Hz - 20 kHz)	< 0.002 m <sup>s</sup> <sup>-2</sup> as from 2 Hz
Output impedance	> 300 kOhm
<b>MECHANICAL</b>	
Case material	Stainless steel VA 1.4305 /
Environmental protection	IP 67 when cable connector is locked
Mounting	M8 thread or mounting adapter
Connection	2-pin MIL-C5015
Shock limit	< 5000 g
Weight	85 g
Mounting height, mm	

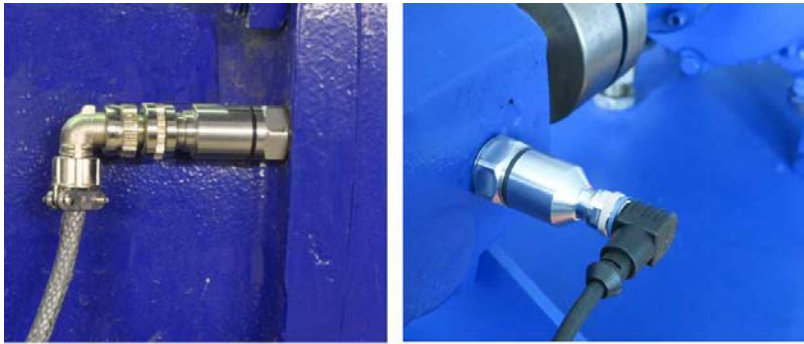
## Pin allocation



- 1: GND (-)
- 2: Signal (+)

## IEPE-type accelerometers

These sensors are suited for measurement of absolute machine vibrations in industrial environments. Due to the very low cutoff frequency, they are particularly suitable for very slowly rotating machinery components such as the main bearings of a wind turbine.



Sensor with MIL connector (left) and M12 connector (right).

### Features

- Voltage output according to IEPE standard
- $f_{\min.} : 0.1 \text{ Hz}$
- Two connector types: M12 or MIL
- IP 67 when cable connector is locked
- Permanent installation on the machine
- High temperature version,  $T_{\max.} : 120^\circ\text{C}$

### Ordering information

Item No.	Description
<b>VIB 6.172</b>	Accelerometer (IEPE) with MIL connector
<b>VIB 6.210</b>	Accelerometer (IEPE) with M12 connector

### Accessory

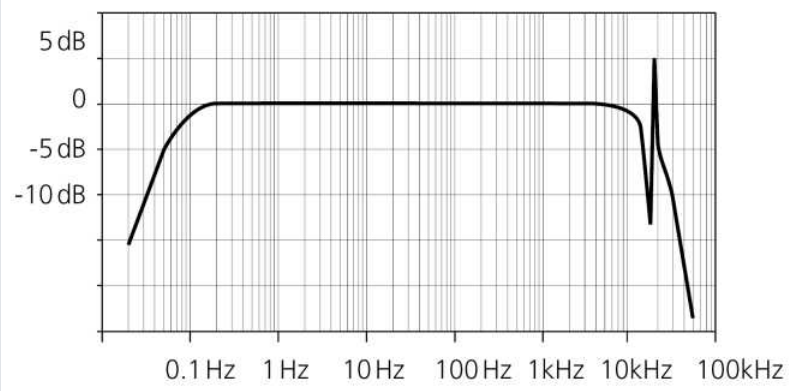
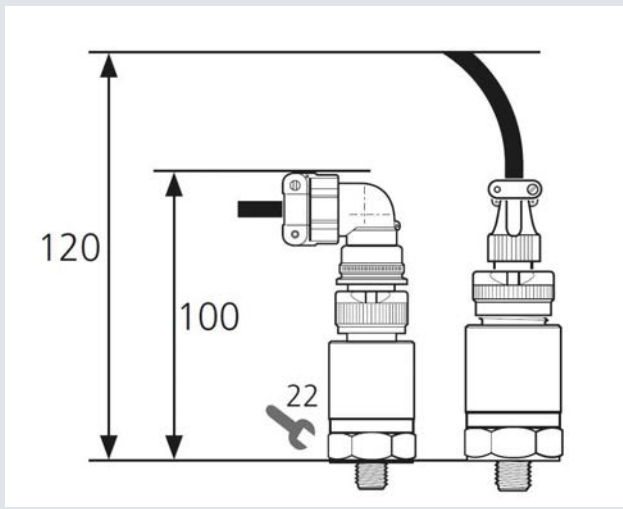
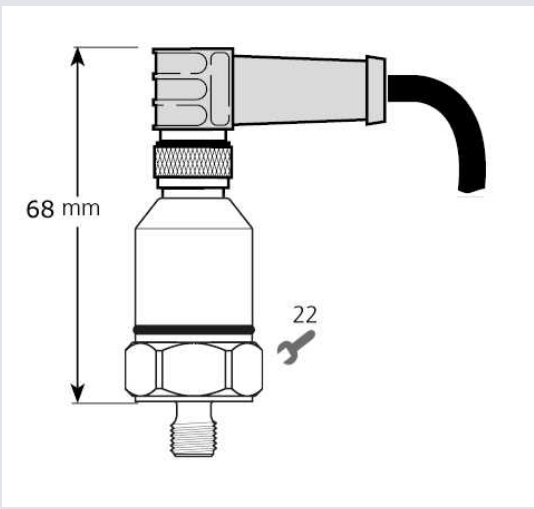
VIB 6.172 is delivered together with an M8 hexagon socket set screw. The set screw may be replaced using the available optional mounting adapters. In VIB 6.210, the mounting threads are fixed to the sensor casing.

Item No.	Description / Group
Miscellaneous	"Mounting adapters for vibration sensors", p. 112
Miscellaneous	"Sensor cable with 2-pin MIL connector", p. 159 , for VIB 6.172
<b>VIB 5.449-ICP</b>	"Cable adapter for VIBXPERT II", p. 136

## TECHNICAL INFORMATION

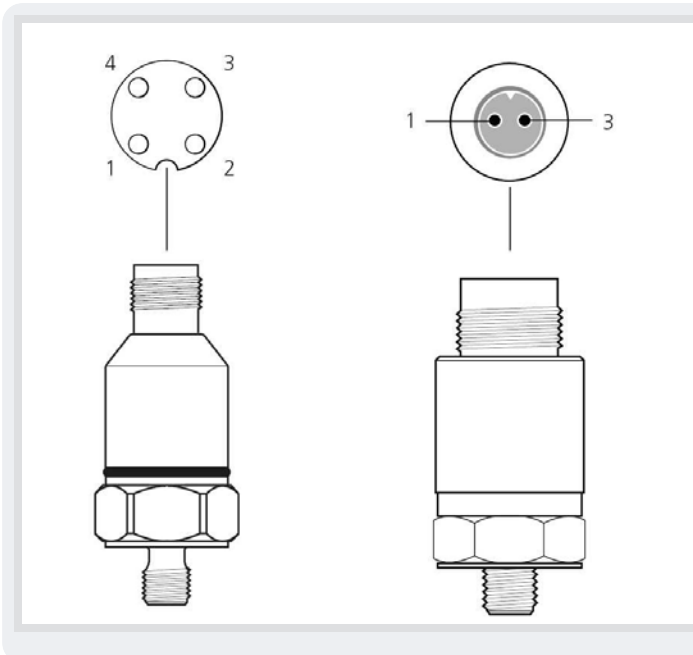
### Technical data

Parameter	VIB 6.172	VIB 6.210
<b>MEASUREMENT</b>		
<b>Signalling system</b>	IEPE	
<b>Transmission factor, <math>\pm 4\%</math></b>	10.2 mV/ ms <sup>-2</sup> (100mV/g); Ref.: 159 Hz; 25 °C / 77 °F	
<b>Frequency range <math>\pm 5\%</math></b>	1 Hz to 6 kHz	
<b>Frequency range <math>\pm 10\%</math></b>	0.5 Hz to 8 kHz	
<b>Frequency range <math>\pm 3\text{dB}</math></b>	0.1 Hz to 10 kHz	
<b>Resonance frequency</b>	17 kHz; > 10 dB damped	15 kHz; > 10 dB damped

Parameter	VIB 6.172	VIB 6.210
Frequency response		
Linearity range, $\pm 10\%$	$< 686 \text{ ms}^{-2}$ ( $< 70 \text{ g}$ )	
Temperature range	$-40 \text{ }^\circ\text{C}$ to $120 \text{ }^\circ\text{C}$ ( $-40 \text{ }^\circ\text{F}$ to $248 \text{ }^\circ\text{F}$ )	$-40 \text{ }^\circ\text{C}$ to $85 \text{ }^\circ\text{C}$ ( $-40 \text{ }^\circ\text{F}$ to $185 \text{ }^\circ\text{F}$ )
<b>ELECTRICAL</b>		
Power supply	2 - 10 mA / 24 V DC ( $\pm 10\%$ )	2 - 10 mA / 18 - 30 V DC
Bias, DC output	12 V DC $\pm 0,5 \text{ V}$	
Grounding	insulated from machine ground, internal shielding	
Transverse sensitivity	$< 5\%$	
Temperature transient sensitivity	$< 0.07\%/K$	
Magnetic field sensitivity	$< 1 \text{ ms}^{-2}/T$ (at 50 Hz)	
Base strain sensitivity	$< 0.1 \text{ m/s}^2/\mu\text{m/m}$	
Electrical noise, rms	$1 \text{ mm/s}^2$ (0.1 Hz - 10 kHz)	$1.5 \text{ mm/s}^2$ (0.1 Hz - 10 kHz)
Output impedance	$< 10 \text{ Ohm}$	$< 100 \text{ Ohm}$
<b>MECHANICAL</b>		
Case material	Stainless steel VA 1.4305	
Environmental protection	IP 67 with cable connector locked	
Mounting	M8 threaded screw or mounting adapter	
Cable connector	2-pin MIL-C5015	M12, 4-pin, A-coded
Shock limit	$< 50 \text{ km/s}^2$	
Weight	85 g (3 oz)	72 g (2.5 oz)
Mounting height, mm		



## Pin allocation



1: Signal (+)

3: GND (-)

2,4: nc

## VIBCODE vibration transducer

VIBCODE is an intelligent sensor system that identifies measurement points by use of coded measurement studs. The patented VIBCODE transducer is attached to the coded measurement stud locked using a bayonet catch. The rigid connection at the measurement point ensures a loss-free transmission of vibration signals, and bearing signals (shock pulse). The electronics within the handle amplifies the signal and transmits the measurement point data to the measurement device.



VIBCODE transducer with protective cap

### Features

- Reliable identification of measurement point
- Foolproof assignment of measurement tasks
- Rigid Mounting
- Repeatable measurement results
- 3-in-1 sensor: housing vibration, shock pulse (condition of roller bearings), cavitation
- VIBCODE measurement points with a various mounting options

### Order information

Item No.	Reference	Description
5151075	VIB 8.660	VIBCODE sensor without cable
<b>VIBCODE sensor repair kit</b>		
5151139	VIB 8.662	VIBCODE repair set
5151261	VIB 8.691	Dust cap for VIBCODE sensor

### Accessories

Item No.	Description
Miscellaneous	"VIBCODE measurement studs", p. 122
Miscellaneous	"Pre-assembled sensor cables and adapters for CLD accelerometers (portable devices)", p. 135

## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 8.660
<b>MEASUREMENT</b>	
<b>Signaling system</b>	Current Line Drive, 3.5 mA static current with superimposed AC signal
<b>Transmission factor, ±4%</b>	1.0 $\mu\text{A}/\text{ms}^{-2} \pm 3\%$ (Ref.: 159 Hz; 25 °C)

Parameter	VIB 8.660
Frequency range, ± 5%	4 Hz to 6 kHz
Frequency range, ± 10%	2 Hz to 10 kHz
Frequency range, ± 3dB	1.5 Hz to 20 kHz
Resonance frequency	36 kHz
Frequency response	
Linearity range, ± 10%	± 50 ms <sup>-2</sup> (±5 g)
Temperature range	-10 °C to 70 °C (14 °F to 158 °F)
<b>ELECTRICAL</b>	
Power supply	> 10 mA / 7-18 VDC
Temperature transient sensitivity	< 0.3 ms <sup>-2</sup> /K
Transverse sensitivity	< 10% of axial value
Magnetic field sensitivity	< 14 ms <sup>-2</sup> /T (at 50 Hz)
Electrical noise	< 1 mms <sup>-2</sup> / Hz <sup>1/2</sup> at 10 Hz
Output impedance	> 500 kOhm
<b>MECHANICAL</b>	
Environmental protection	IP 65 with cable connector locked
Mounting	VIBCODE measurement stud
Cable connection	coaxial, TNC
Weight	390 g
Dimensions	136 x 39 mm (hxd)

# Triaxial accelerometer

This triaxial accelerometer is used for the measurement of machine and component vibrations in the horizontal, vertical and axial directions at a single measurement location. The triaxial accelerometer achieves shorter measuring times with a data collector and is easier to install since only one sensor needs to be mounted.



## Features

- Simultaneous measurement in the X, Y, and Z axes
- Larger temperature range
- $f_{\max}$ : 10 kHz
- For VIBXPART II and VIBSCANNER 2

Triaxial sensor for VIBXPART II

## Ordering information

Item No.	Description
VIB 6.655	Triaxial accelerometer for mobile applications

## Accessories

Item No.	Description
VIB 5.336	Sensor cable for triaxial accelerometer VIB 6.655; refer to: "Cable adapter for VIBXPART II", p. 136
VIB 5.237	Sensor cable for triaxial accelerometer, 4P Mini-MIL connector, spiralized, p. 147
VIB 6.656	Magnetic holder - M6 mounting hole, p. 114
VIB 6.657	Magnetic holder - 1/4-28 mounting hole, p. 114

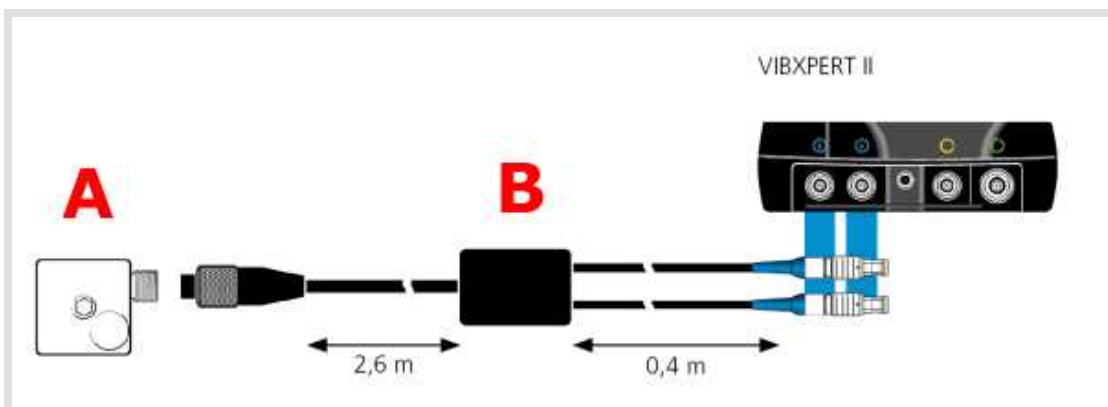
## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 6.655
<b>MEASUREMENT</b>	
Signaling system	IEPE
Measurement range (peak)	± 50 g
Transmission factor, ±5%	100 mV/g

Parameter	VIB 6.655
Frequency range, $\pm 5\%$	8 Hz to 5.5 kHz
Frequency range, $\pm 10\%$	1 Hz to 6.5 kHz
Frequency range, $\pm 3\text{dB}$	0.6 Hz to 10 kHz
Temperature range	-54 °C to 121 °C (-65 °F to 250 °F)
<b>ELECTRICAL</b>	
Rise time	< 2.5 s
Power supply	2-10 mA / 18-30 VDC
Electrical noise, @ 10 / 100 / 1000 Hz	27 / 6.5 / 2.5 $\mu\text{g} / (\text{Hz})^{1/2}$
Output impedance	< 100 Ohm
Case insulation	> $10^8$ Ohm
Output bias	11-13 VDC
<b>MECHANICAL</b>	
Case material	Stainless steel 316L
Mounting	Magnetic holder with M6 or 1/4-28 thread
Mounting torque	1.4 to 2.7 Nm
Connection	4-pin cable connector (Mini-MIL)
Weight	200 g
Dimensions	35 x 35 x 24 mm / 1.4" x 1.4" x 0.9" (lxbxh)

### Connection schematic



Triaxial sensor (A) connected to VIBXPART II via the sensor cable (B)

### Mounting example



## Intrinsically safe triaxial accelerometer

This triaxial accelerometer is used for the measurement of machine and component vibrations in the horizontal, vertical and axial directions at a single measurement location. The triaxial accelerometer achieves shorter measuring times with a data collector and is easier to install since only one sensor needs to be mounted.



### Features

- Simultaneous measurement in the X, Y, and Z axes
- Larger temperature range
- $f_{\max}$ : 10 kHz
- For VIBSCANNER 2 EX

Intrinsically safe triaxial sensor for VIBSCANNER 2 EX

### Ordering information

Item No.	Description
<b>VIB 6.658 EX0</b>	Intrinsically safe triaxial accelerometer for mobile applications

**Note:** The measurement relevant parameters for the intrinsically safe triaxial sensor for VIBSCANNER 2 EX have been stored in both the device and OMTC software under the sensor's original number CTC AC980-1D.

### Accessories

Item No.	Description
<b>VIB 5.237</b>	Sensor cable for triaxial accelerometer, 4P Mini-MIL connector, spiralized, p. 147
<b>VIB 6.656</b>	Magnetic holder - M6 mounting hole, p. 114

## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 6.658 EX0
<b>MEASUREMENT</b>	
<b>Signaling system</b>	IEPE
<b>Dynamic range</b>	± 50 g (peak)
<b>Sensitivity (±10%)</b>	100 mV/g
<b>Frequency response (± 10%)</b>	1 Hz to 6.5 kHz
<b>Frequency response (± 3dB)</b>	0.6 Hz to 10 kHz
<b>Temperature range</b>	-54 °C to 121 °C (-65 °F to 250 °F)

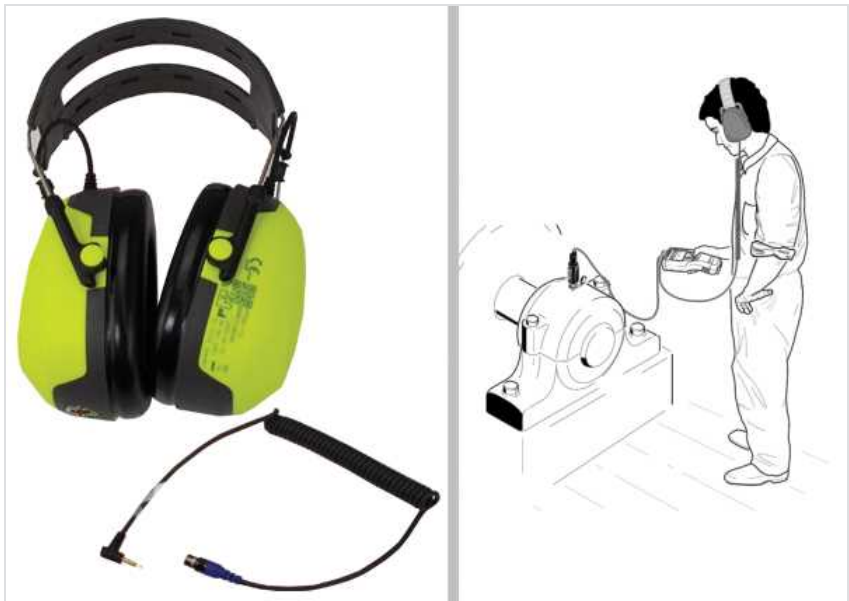
Parameter	VIB 6.658 EX0
<b>ELECTRICAL</b>	
Settling time	< 2.5 s
Power supply	2-10 mA / 18-28 VDC
Spectral noise, @ 10 / 100 / 1000 Hz	27 / 6.5 / 2.5 $\mu\text{g} / (\text{Hz})^{1/2}$
Output impedance	< 100 Ohm
Case isolation	> $10^8$ Ohm
Bias output voltage	11-14 VDC
<b>MECHANICAL</b>	
Case material	316L Stainless steel
Mounting	Magnetic holder with M6
Mounting torque	1.4 to 2.7 Nm
Connector	4-pin cable connector (Mini-MIL)
Weight	200 g
Dimensions	35 x 35 x 24 mm / 1.4" x 1.4" x 0.9" (lxbxh)
<b>INTRINSIC SAFETY DETAILS</b>	
CSA	Marking: Ex ia IIC T3/T4 Ga ; AEx ia IIC T3/T4 Ga Class: CLI Groups A, B, C, D ; CLII Groups E, F, G; CLIII ; CLI, Zone 0 Control Drawing INS10012 Certificate number: CSA 70009242
ATEX	Marking: Ex ia IIC T3 Ga Certificate number: Sira 15ATEX2152X
IECEX	Marking: Ex ia IIC T3 Ga Certificate number: IECEX SIR 15.0060X
Electrical Ratings	$U_i = 28 \text{ VDC}$ , $I_i = 112 \text{ mA}$ , $P_i = 1 \text{ W}$ , $C_i = 63.036 \text{ nF}$ , $L_i = 0 \text{ }\mu\text{H}$
Operating temperature code: T4	Ambient temperature range: $-40^\circ\text{C}$ to $80^\circ\text{C}$ ( $-40^\circ\text{F}$ to $176^\circ\text{F}$ )
Operating temperature code: T3	Ambient temperature range: $-40^\circ\text{C}$ to $121^\circ\text{C}$ ( $-40^\circ\text{F}$ to $250^\circ\text{F}$ )

### Mounting example



## Mono headphones

The mono headphones can be used to listen to the machines and, in particular, roller bearings for the characteristic noises that indicate damage. The buffered sensor signal is picked at the data collectors analog output. The appropriate adapter cable is available as an accessory.



### Features

- Frequency range: 125 Hz to 8000 Hz
- Suitable for VIBXPERT II, VIBSCANNER

Headphones for VIBXPERT II and VIBSCANNER.

### Ordering information

Item No.	Reference	Description
5312369	VIB 6.671-2	Protective mono headphones with listen-only FLX2-205 Flex 2 cable with 3.5 mm mono connector

### Accessory

Item No.	Reference	Description / Group
5312357		Listen-only FLX2-205 Flex 2 cable with 3.5 mm mono connector for headphones
5159099	VIB 6.675	"Cables for signal output – handheld devices", p. 140

## TECHNICAL INFORMATION

### Technical data

Parameter	5312369 (VIB 6.671-2)
<b>ELECTRICAL</b>	
Noise Reduction Rating	26 dB
Frequency range	125 - 8000 Hz
Signal-to-Noise Ration	30 dB
Sound Level Conversion (SLC <sub>80</sub> )	Class 5, 31 dB
<b>GENERAL</b>	
Connection	Adapter cable VIB 6.675 for VIBSCANNER / VIBXPERT II (MiniSnap)
Weight	273 g (without listen-only cable FLX2-205)



## VIBROTECTOR vibration transmitters

This sensor is employed to monitor vibration in industrial machinery. The vibration signal is relayed as a current intensity level ( 4-20 mA) to the machine controls for analysis.



Monitoring vibrations with VIBROTECTOR

### Features

- Current level output: 4-20mA
- $f_{\min}$  : 2 Hz or 10 Hz
- Intrinsic safety, Zone 1
- Mounting adapter
- Customized sensor cable
- Installation in liquid media (IP 68)
- Conformity: CE, ATEX, IECEx

### Ordering information

Item No.	VIBROTECTOR vibrations monitor
<b>VIB 5.731</b>	VIBROTECTOR, frequency range: 10 Hz to 1 kHz
<b>VIB 5.731 EX</b>	VIBROTECTOR, intrinsically safe, frequency range: 10 Hz to 1 kHz
<b>VIB 5.736</b>	VIBROTECTOR, frequency range: 2 Hz to 1 kHz
<b>VIB 5.736 EX</b>	VIBROTECTOR, intrinsically safe, frequency range: 2 Hz to 1 kHz

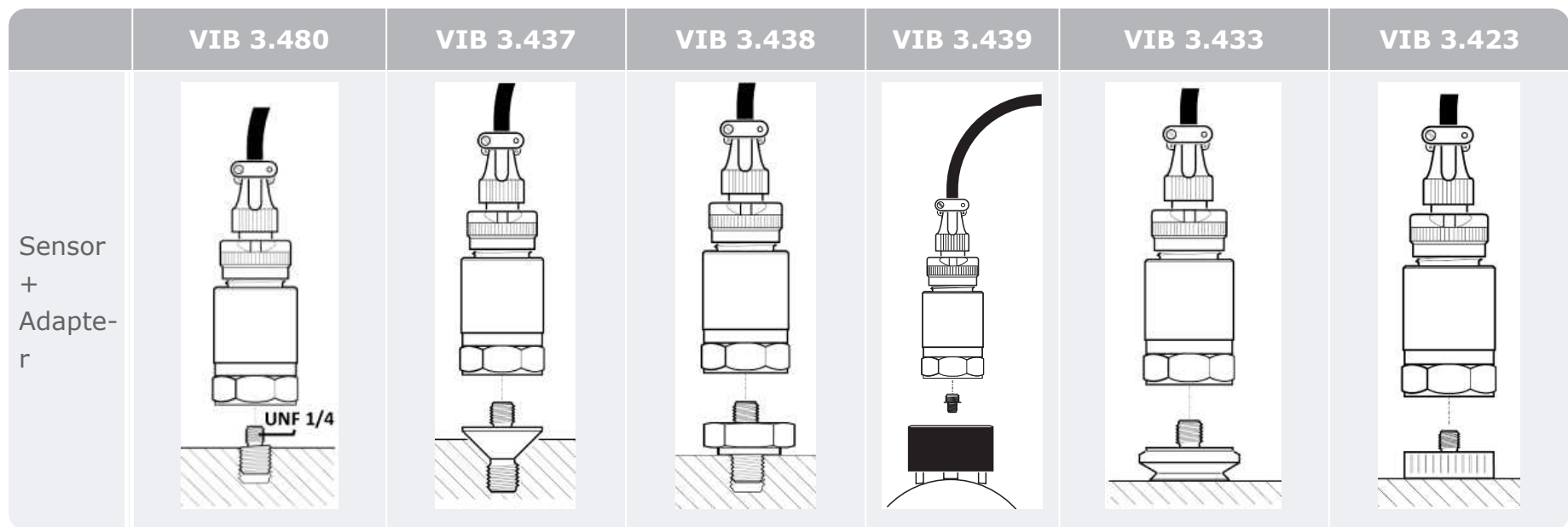
### Accessories

VIBROTECTOR is delivered with M8 hexagon socket set screw. The set screw may be replaced using the available optional mounting adapters. Customized connection cables of different lengths are available.

Item No.	Description / Group
<b>Miscellaneous</b>	"Sensor cable with 2-pin MIL connector", p. 159
<b>0 2088 0010</b>	"Intrinsic safety barriers", p. 174

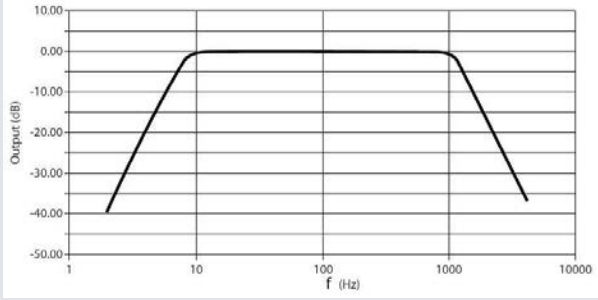
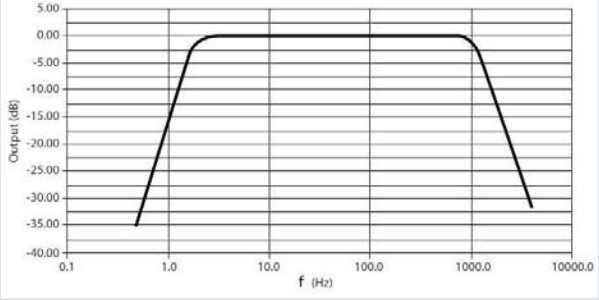
### Mounting adapters for VIBROTECTOR and sensor types VIB 6.195, VIB 6.172 (Wind, IEPE-100mV/g)

Item No.	Description	Application / Hint
<b>VIB 3.480</b>	<b>M8 threaded pin</b>	Installed in the sensor as standard. Can be replaced if necessary.
<b>VIB 3.437</b>	<b>Screw adapter on M8-90°</b>	
<b>VIB 3.438</b>	<b>Screw adapter on M8 flat</b>	
<b>VIB 3.439</b>	<b>Screw adapter on M5 flat</b>	This adapter is used to mount the sensor on the magnetic adapter VIB 3.420.
<b>VIB 3.433</b>	<b>Adhesive adapter</b>	For measurement points where mounting holes cannot be drilled. Fix using a two-component adhesive (e.g. WEICON HB 300).
<b>VIB 3.423</b>	<b>Magnetic adapter</b>	



## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 5.731	VIB 5.736
<b>MEASUREMENT</b>		
Output signal	Current intensity level (4-20 mA)	
Measurement range (RMS)	$\leq 20$ mm/s	
Accuracy	$\pm 0.2$ mm/s plus $\pm \%2$ of measured value (Reference: 159 Hz)	
Frequency range, $\pm 10\%$	10 Hz to 1 kHz	2 Hz to 1 kHz
Frequency response		
Temperature range, $T_A$	-40 °C to 80 °C (-40 °F to 176 °F)	
Temperature offset drift (@ 4mA)	- 0.015%/K	
Temperature sensitivity	- 0.08%/K	
<b>ELECTRICAL</b>		
Power supply	24 V DC ( $\pm 5\%$ ), loop power	
Loop resistance	90 to 360 Ohm	
Insulation	complete	
<b>MECHANICAL</b>		
Case material	Stainless steel VA 1.4305	
Environmental protection	IP 65; IP 68 with pre-assembled cable VIB 3.570-L; Immersion depth: 10 m (33 ft)	
Mounting	M8 hexagon socket set screw or mounting adapter	
Connection	2-pin cable connector (Cannon, MIL-C5015)	
Shock limit	$< 50$ kms <sup>-2</sup>	
Weight	80 g	

Parameter	VIB 5.731	VIB 5.736
Mounting height, mm		

### Intrinsic safety details

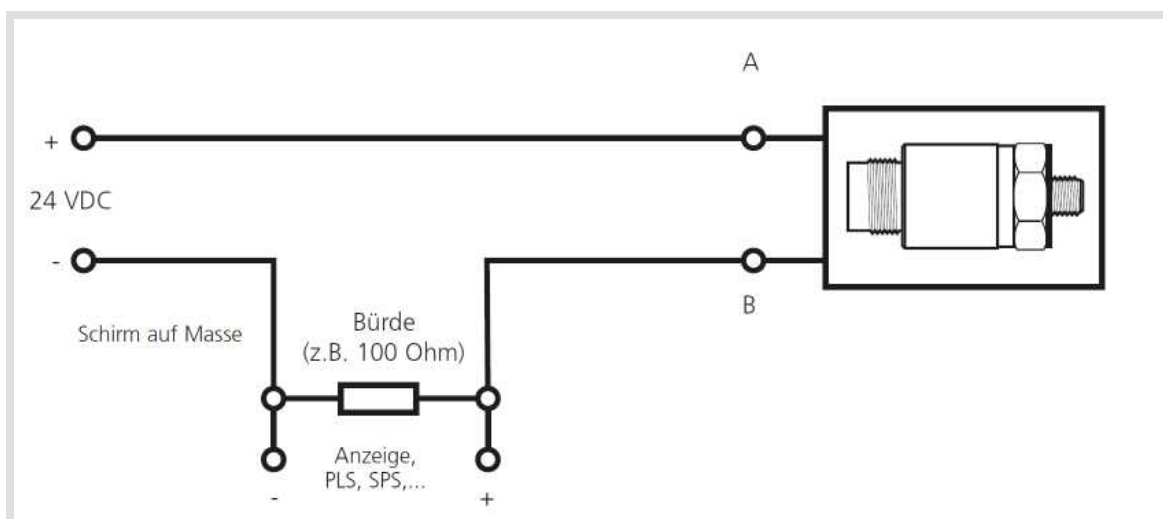
#### Type VIB 5.731 EX / VIB 5.736 EX

Marking	Gas: II 2G Ex ib IIC T4 Gb/ Dust: II 2D Ex ib IIIC T135°C Db
Temperature range	-40 °C ...+80 °C

### Pin allocation, VIBROTECTOR

	<p>1: Signal (+)</p> <p>2: Shield (-)</p>
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### Connection schematic



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## Sensors for process parameters

<b>RPM sensors for VIBRONET Signalmaster .....</b>	<b>94</b>
<b>Laser trigger / RPM sensor .....</b>	<b>97</b>
<b>Fluke 820-2 LED stroboscope .....</b>	<b>99</b>
<b>Displacement sensor for VIBXPERT II .....</b>	<b>101</b>
<b>Displacement sensor (for VIBGUARD) .....</b>	<b>103</b>
<b>Default RPM sensor for stationary measurement systems .....</b>	<b>105</b>
<b>Temperature probes .....</b>	<b>107</b>

## RPM sensors for VIBRONET Signalmaster

These sensors are used in combination with the stationary measurement system VIBRONET Signalmaster to measure RPM contactless. For higher measurement accuracy, a version with a higher with a higher cut-off frequency ( $f_{\max}$ : 1500 Hz) is available.



RPM sensors: VIB 6.620 (left) and VIB 6.622 (right)

### Features

- Inductive measurement
- Maximum switching frequency: 300 Hz / 1500 Hz
- Rated operating distance: 8 mm
- Easy to mount and position
- Intrinsic safety, Zone 1

### Ordering information

Item No.	Description
<b>VIB 6.620</b>	Inductive RPM sensor for VIBRONET Signalmaster, $f < 300$ Hz
<b>VIB 6.622</b>	Inductive RPM sensor for VIBRONET Signalmaster, $f < 1500$ Hz

Note: An appropriate connector is available as an optional accessory.  
The cable required for connection to VIBRONET field multiplexer is not included in the items in the box.

### Accessories

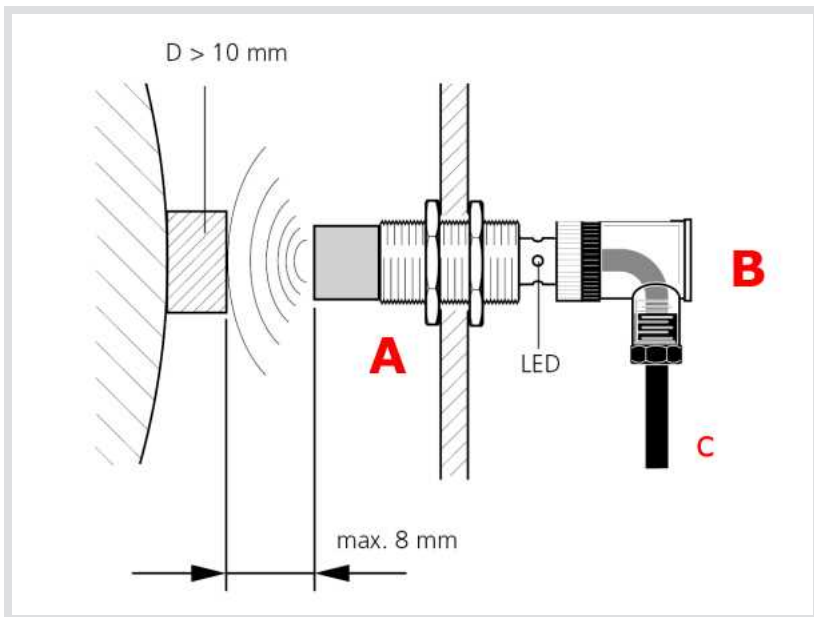
Item No.	Description	View
<b>VIB 6.621</b>	M12 device connector, 4-pin	

## TECHNICAL INFORMATION

### Technical data

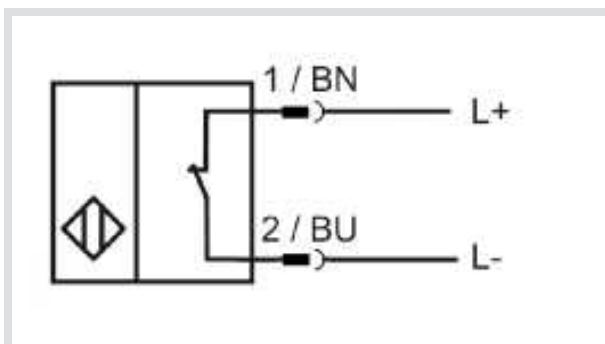
Parameter	VIB 6.620	VIB 6.622
<b>MEASUREMENT</b>		
Measurement principle	Inductive	
Rated operating distance Sn	8 mm	
Assured operating distance Sa	0 – 6.48 mm	
Type of sensor	NAMUR / opener	
Reduction factor r(V2A) / r(Al) / r(Cu)	0.72 / 0.42 / 0.4	0.71 / 0.39 / 0.36
Switching frequency	0 – 300 Hz	0 – 1500 Hz
Hysteresis H	1 – 15 typical 15%	
Operation display	Yes, LED, yellow	
Temperature range	-25 °C to 100 °C (-13 °F to 212 °F)	
<b>ELECTRICAL</b>		
Supply voltage	8 V DC (from RPM module)	
Current drain, measuring plate detected	< 1 mA	
Current drain, measuring plate not detected	> 3 mA	> 2.2 mA
Short circuit protection	Yes	
Reverse-polarity protection	Yes	
<b>MECHANICAL</b>		
Mounting	Non-flush	Flush
Connection	M12 device connector, 4-pin	
Case material	Stainless steel	
Sensing surface material	PBT	
Environmental protection	IP 67	
Marking for intrinsic safety	II 1 G Ex ia IIC T6 Ga	

## Installation example

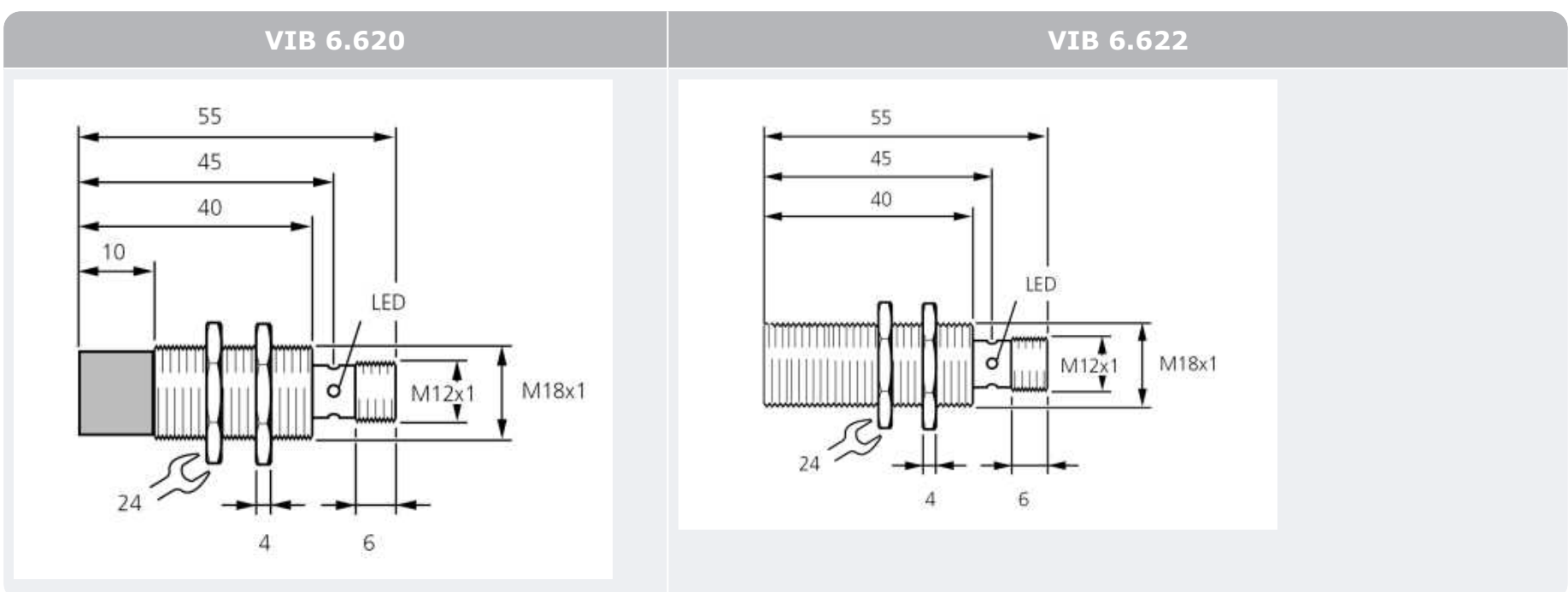


RPM sensor (A), device connector (B, accessories) and sensor cable (not included with items in the box)

## Connection diagram



## Dimensions





## Laser trigger / RPM sensor

This laser optical sensor is used in combination with a handheld device to act as a trigger for vibration measurements and to measure RPM.



### Features

- Optical measurement method
- Contactless measurement
- Wider measurement range
- Measurement distance up to 1 m (39 1/3")
- High accuracy

### Ordering information

Item No.	Reference	Description
5149855	VIB 6.631	Laser trigger / RPM sensor

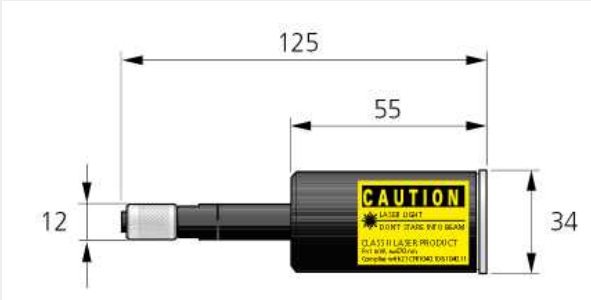
### Accessories

Item No.	Description
Miscellaneous	"Pre-assembled sensor cable and adapter for trigger / RPM sensor (portable devices)", p. 141
Miscellaneous	"Stand and accessories for laser trigger / RPM sensor", p. 120

## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 6.631
<b>MEASUREMENT</b>	
Measurement principle	Optical
Measurement range	3 to 120'000 1/min.
Measurement distance with reflective mark	5 – 100 cm [2" - 39 1/3"]
Measurement distance with contrast mark	5 – 20 cm [ 2" - 7 7/8"]
Temperature range	-20 °C to 50 °C (-4 °F to 122 °F)
<b>ELECTRICAL</b>	
Power supply	< 5.8 V (from device)
Output	5 V (TTL)
Laser wavelength	630-680 nm (red)

Parameter	VIB 6.631
Laser class	2 (DIN EN 60825-1, May 2014)
<b>MECHANICAL</b>	
Environmental protection	IP 65 with cable connector locked
Mounting	With stand and magnetic holder
Cable connection	Binder socket
Weight	76 g
Dimensions	

## Fluke 820-2 LED stroboscope

This stroboscope is used in combination with VIBXPERT II to analyze rotary motion as well as measuring phase shift, RPM and velocity. The stroboscope uses high-intensity LEDs. The flash rate may be either controlled internally, or set via an external trigger signal.



LED stroboscope for analysis of rotary motion

### Scope of supply

- LED stroboscope
- External trigger input connector
- Protective case
- Set of batteries (3x AA / LR6)
- Quick reference guide

### Ordering information

Item No.	Description
4550041	Fluke 820-2 LED stroboscope

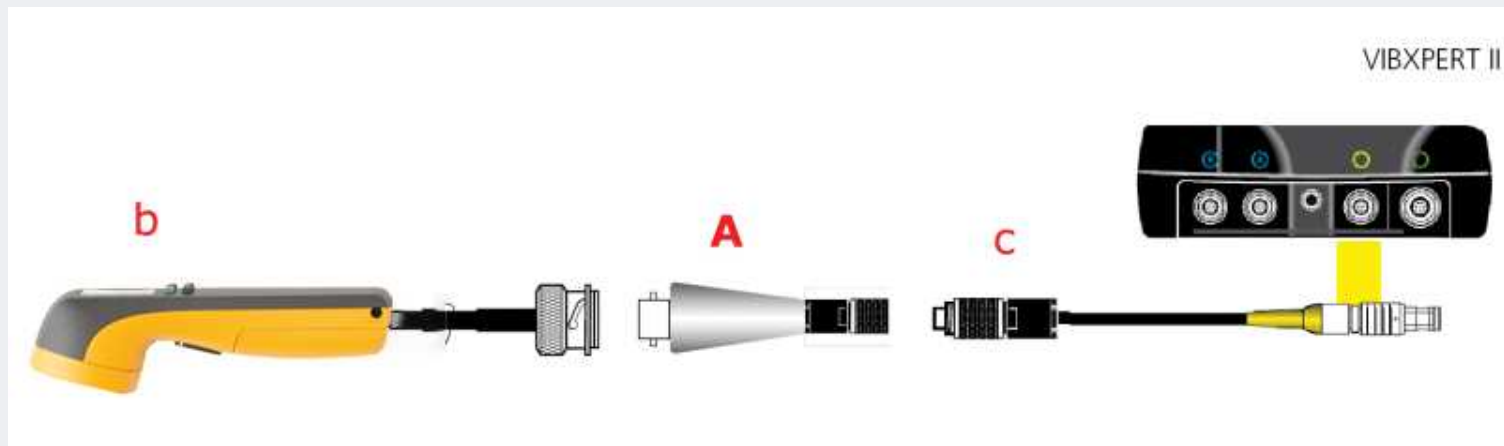
## TECHNICAL INFORMATION

### Technical data

Parameter	4550041 Fluke 820-2
<b>MEASUREMENT</b>	
Light source	High-intensity 7-LED array
Light intensity	4800 Lux @ 6000 FPM at 30 cm
Frequency range	0.5 to 5000 Hz / 30 to 300,000 FPM
Control of the flash rate	Internal: Push button operation; External: external trigger signal
Phase shift	0° to 359°
Operating temperature	0 °C to 45 °C (32 °F to 113 °F)
Operating time	4 hours continuous use
<b>GENERAL</b>	
Dimensions (HxWxL)	57.1 x 60.9 x 190.5 mm (2.25" x 2.4" x 7.5")
Weight	240 g (8.5 oz)
Storage temperature	-10 °C to 50 °C (14 °F to 122 °F)
Operating humidity	Non-condensing (<10 °C); 90 % RH (10 °C to 30 °C); 75 % RH (30 °C to 40 °C); 45 % RH (40 °C to 50 °C) RH - Relative Humidity
EMI, RFI, EMC	EN61326-1:2006

## Application

### VIBXPERT II: Measuring RPM using Fluke 820-2 Stroboscope 4550041



A: Cable adapter for LED stroboscope VIB 5.333

b: Fluke 820-2 LED stroboscope 4550041

c: Sensor cable VIB 5.432-2,9

## Displacement sensor for VIBXPART II

This displacement sensor is used with VIBXPART II to determine the position of metallic objects within close proximity to each other, contactless. A typical application is the detection of the radial and axial motions of a rotating shaft.



Displacement sensor connected to VIBXPART II

### Features

- Inductive measurement
- Working range: 3 - 15 mm
- Easy to mount and position
- Connection cable with device connector
- Linearization of the characteristic curve is automatically done within device

### Ordering information

Item No.	Description
VIB 6.640	Inductive proximity sensor for VIBXPART II

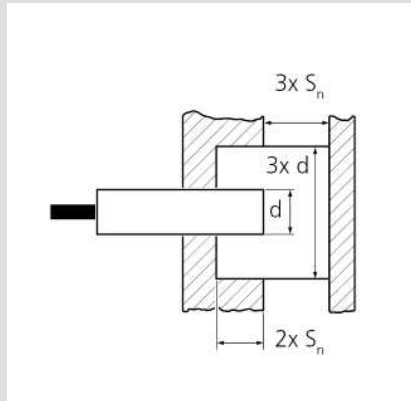
## TECHNICAL INFORMATION

### Technical data

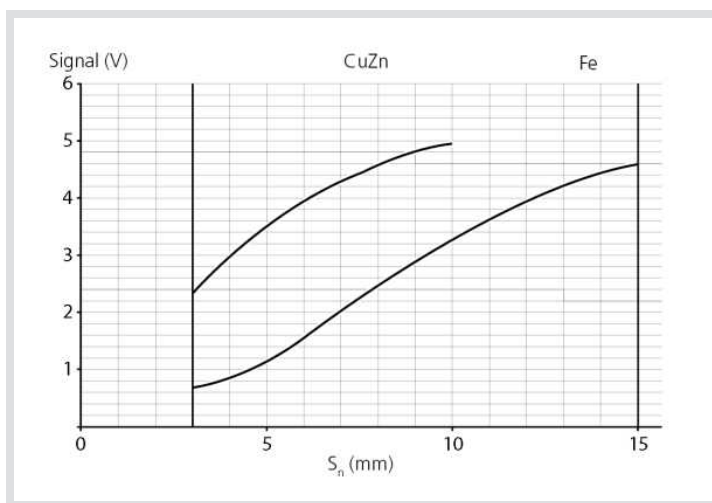
Parameter	VIB 6.640
<b>MEASUREMENT</b>	
Measurement principle	Inductive
Measurement variable	Relative distance / displacement
Working range $S_n$	3 – 15 mm
Linearity	$\leq 5\%$
Repeatability	$\leq 1\%$
Average rise	0.333 V/mm $\pm 5\%$
Cut-off frequency	300 Hz
Influence on the operating voltage $dU_a/dU_b$	approx. 6.7% / 0.1 V
Temperature range	-25 °C to 70 °C (-13 °F to 158 °F)
Temperature drift	$\pm 5\%$
<b>ELECTRICAL</b>	
Operating voltage $U_b$	5 VDC, stabilized
Operating current	$\leq 15\text{mA}$
Output signal $U_a$	approx. 0.5 to 4.5 VDC (refer to characteristic)
Load resistance	$\geq 20\text{k}\Omega$
<b>MECHANICAL</b>	
Case material	Nickel-plated brass

Parameter	VIB 6.640
Material of active surface	PCP
Environmental protection	IP 67
Mounting	Non-flush
Connection cable	cable with MiniSnap device connector, 2.9 m

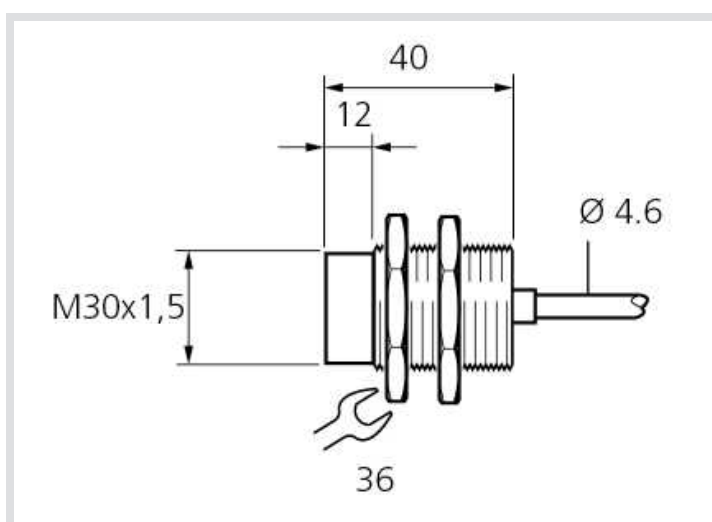
Hint for mounting: When carrying out non-flush mounting on metal surfaces, observe the following hint according to EN 60947-5-2.



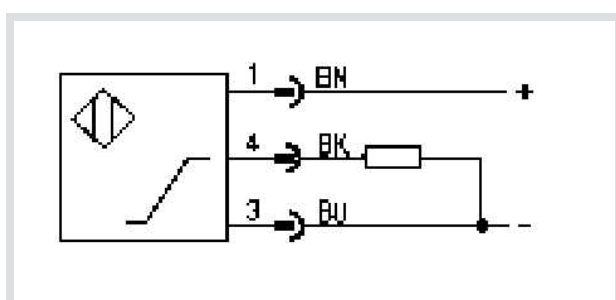
### Characteristic



### Dimensions



### Connection diagram



## Displacement sensor (for VIBGUARD)

This displacement sensor is used in combination with a stationary measurement system (e.g. VIBGUARD) to determine the position of metallic objects within close proximity to each other, contactless. A typical application is the detection of the radial and axial motions of a rotating shaft.



Displacement sensor for use with a stationary measurement system (left); Detection of radial movement in a shaft (right)

### Features

- Inductive measurement
- Linear characteristic
- Working range: 2 - 10 mm (79 - 394 mils)
- Rated operating distance 6 mm (236 mils)
- Easy to mount and position
- Connection cable (10 m / 32.8 ft) available as optional accessory (5149565)

### Ordering information

Item No.	Description
VIB 6.645	Inductive displacement sensor for VIBGUARD

## TECHNICAL INFORMATION

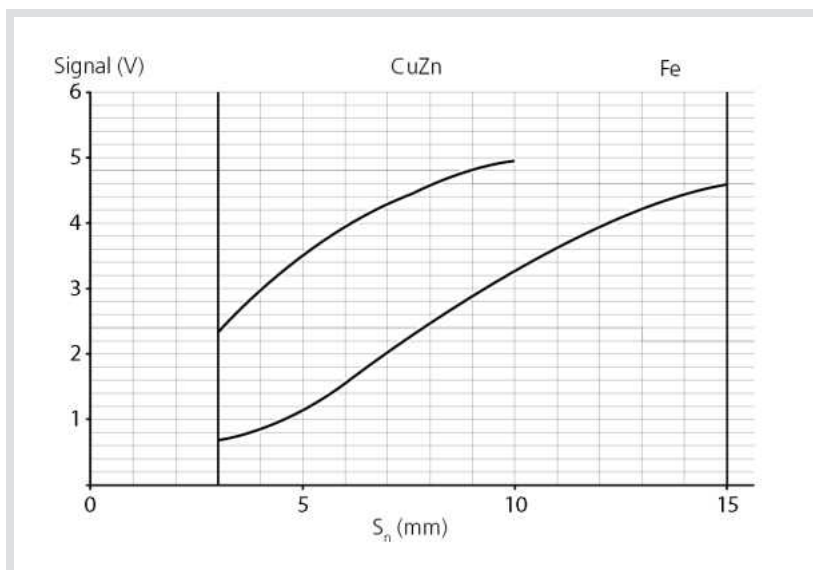
### Technical data

Parameter	VIB 6.645
<b>MEASUREMENT</b>	
Measurement principle	Inductive
Measurement variable	Relative distance / displacement
Linearity range $S_i$	2 – 10 mm
Rated operating distance $S_e$	6 mm
Max. non-linearity at $S_e$	± 3% of $U_a$ max.
Repeating accuracy	± 10µm
Cut-off frequency	500 Hz
Adjusting indication	Yes, LED
Temperature range	-10 °C to 70 °C (14 °F to 158 °F)
Temperature drift	< 5% of $U_a$ max
<b>ELECTRICAL</b>	
Operating voltage $U_b$	24 VDC
No-load supply current	< 10 mA
Output signal $U_a$	0 – 10 VDC
Load resistance	> 2 kOhm
<b>MECHANICAL</b>	

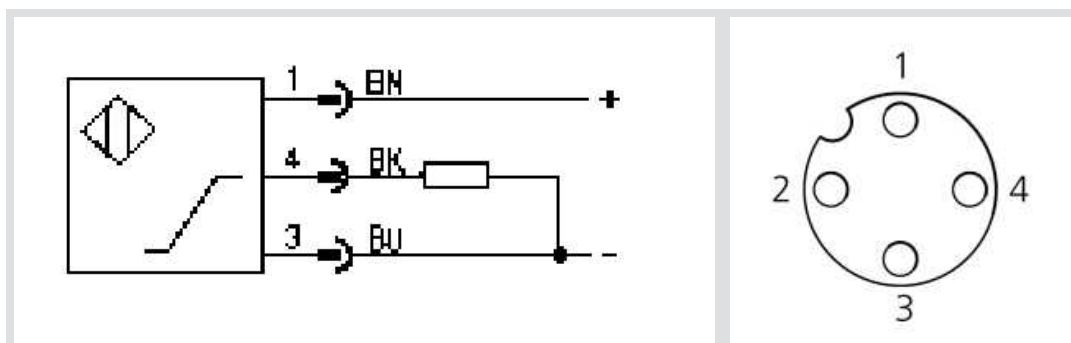
Parameter	VIB 6.645
Case material	Nickel-plated brass
Material of active surface	PBT
Environmental protection	IP 67
Mounting on steel	Flush
Connection cable	PUR cable (10 m ) + plug

Hint for mounting: The minimum distance to any metal surface that is not part of the measurement surface must be 3 times  $S_e$ .

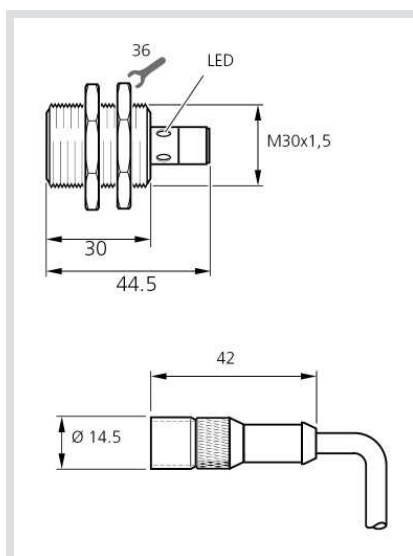
### Characteristic



### Connection diagram and plug pin allocation



### Dimensions





## Default RPM sensor for stationary measurement systems

This is used in combination with a stationary measurement system (e.g. VIBGUARD) to measure the RPM contactless.



Default RPM sensor for stationary measurement systems.

### Features

- Inductive measurement
- Maximum switching frequency: 1000 Hz
- Effective switching distance: 8 mm
- Operating voltage 24 V DC
- Easy to mount and position
- Sensor cable included (15 m / 49 ft )

### Ordering information

Item No.	Description
VIB 5.992-STD	Default RPM sensor for stationary measurement systems

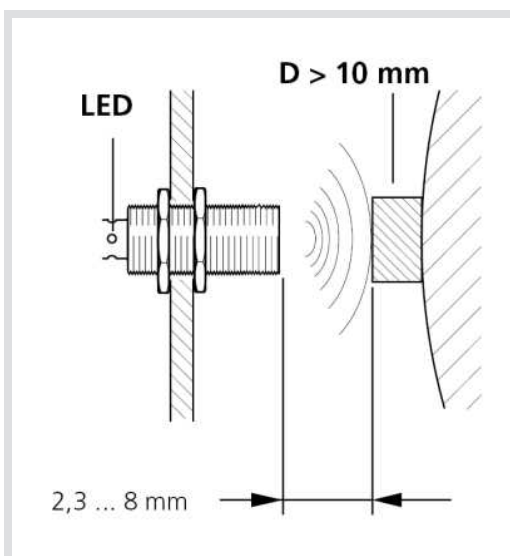
## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 5.992-STD
<b>MEASUREMENT</b>	
Measurement principle	Inductive
Effective switching distance $S_r$	8 mm
Assured operating distance $S_a$	0 – 6.4 mm
Repeating accuracy (% of $S_r$ )	5 %
Switching frequency	0 - 1000 Hz
Switching function	Closer (NO)
Operation display	Yes
Short circuit protection	Yes
Reverse-polarity protection	Yes
Temperature range	-25 °C to 70 °C (-13 °F to 158 °F)
<b>ELECTRICAL</b>	
Operating voltage	10 – 30 V DC
Rated operating voltage $U_e$	24 V DC
Effective operating current $I_e$	200 mA
Potential difference	< 2.5 V

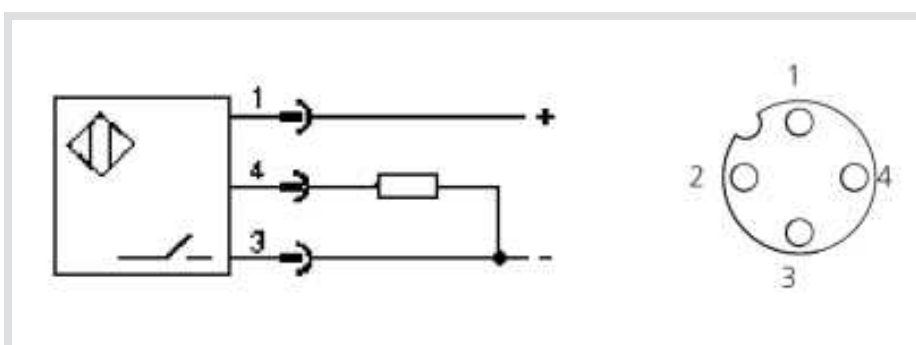
Parameter	VIB 5.992-STD
Cut-off current	< 0.01 mA
<b>MECHANICAL</b>	
Mounting	Flush
Connection	M12 device connector, 4-pin
Case material	CuZn, nickel-free coating
Sensing surface material	PBT
Environmental protection	IP 67

### Installation example

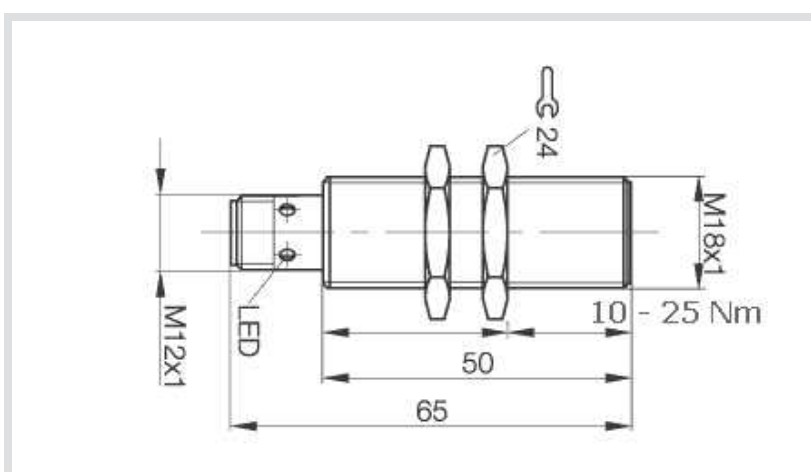


RPM sensor (A), Device connector (B, Optional accessory) and sensor cable (not part of items in the box).

### Connection diagram



### Dimensions



# Temperature probes

These sensors are used in conjunction with handheld devices to measure temperature also in hazardous areas.

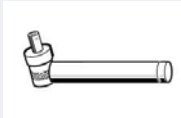



Temperature handheld probe

## Features

- NiCrNi thermocouple
- Compact shape
- High temperature version,  $T_{max.} : 500^{\circ}\text{C}$  (932  $^{\circ}\text{F}$ )
- Used together with intrinsically safe measurement devices

## Ordering information

Item No.	Reference	Illustration	Description
5150905	VIB 8.605		Spare temperature probe for VIBSCANNER
5150946	VIB 8.608		Temperature handheld probe

## TECHNICAL INFORMATION

### Technical data

Parameter	5150946 (VIB 8.605)	5150905 (VIB 8.608)
<b>MEASUREMENT</b>		
Type of sensor	NiCrNi thermocouple	
Measurement range	-30 $^{\circ}\text{C}$ to 270 $^{\circ}\text{C}$ (-22 $^{\circ}\text{F}$ to 518 $^{\circ}\text{F}$ )	-50 $^{\circ}\text{C}$ to 500 $^{\circ}\text{C}$ (-58 $^{\circ}\text{F}$ to 932 $^{\circ}\text{F}$ )
Sensitivity	---	0.040 mV/ $^{\circ}\text{C}$
Accuracy	< 3%	
<b>MECHANICAL</b>		
Dimensions (L x Ø)	25 x 11 mm (63/64" x 7/16")	250 x 3 mm (9 27/32" x 1/8")
Weight	6 g (0.2 oz)	83 g (2.9 oz)
Connector	QLA	

Note: When transporting or storing the temperature probe with magnetic holder a steel washer is mounted on the pole pieces to act as a short circuit rail. The relevant safety data sheet is available on [www.pruftechnik.com](http://www.pruftechnik.com)

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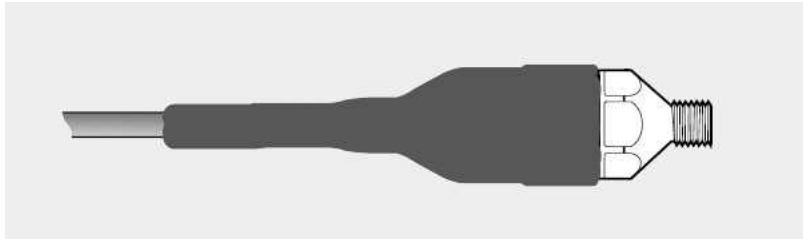
## Sensor accessories

<b>IP68 option for industrial accelerometers .....</b>	<b>110</b>
<b>Mounting adapters for vibration sensors .....</b>	<b>112</b>
<b>Dust caps for industrial CLD accelerometers .....</b>	<b>117</b>
<b>Stand and accessories for laser trigger / RPM sensor .....</b>	<b>120</b>
<b>VIBCODE measurement studs .....</b>	<b>122</b>
<b>Accessories for VIBCODE measurement studs .....</b>	<b>124</b>
<b>Measurement studs .....</b>	<b>125</b>
<b>Tools for installation of accelerometers .....</b>	<b>127</b>

## IP68 option for industrial accelerometers

With this option, the connection between the sensor and the cable is hermetically sealed and strain-relieved. The cable [5196534 (VIB 90093)], the shrink-fit part, and the TNC plug are pre-assembled ex-works together with the following sensor type:

- 5149359 (VIB 6.125 RIP)



IP68 option for industrial accelerometers

### Features

- Environmental protection: IP68
- Also used in explosive atmospheres (Zone 1)
- Resistant to chemicals and salt water

### Ordering information

Item No.	Reference	Description
5199883	VIB 6.763-10	Sensor VIB 6.125 RIP with IP68 + coaxial cable VIB 90093, length: 10 m / 33 ft Note: The coaxial cable VIB 90093 is open ended and offers flexibility.
5199890	VIB 6.763-20	Sensor VIB 6.125 RIP with IP68 + coaxial cable VIB 90093, length: 20 m / 66 ft Note: The coaxial cable VIB 90093 is open ended and offers flexibility.

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

## TECHNICAL INFORMATION

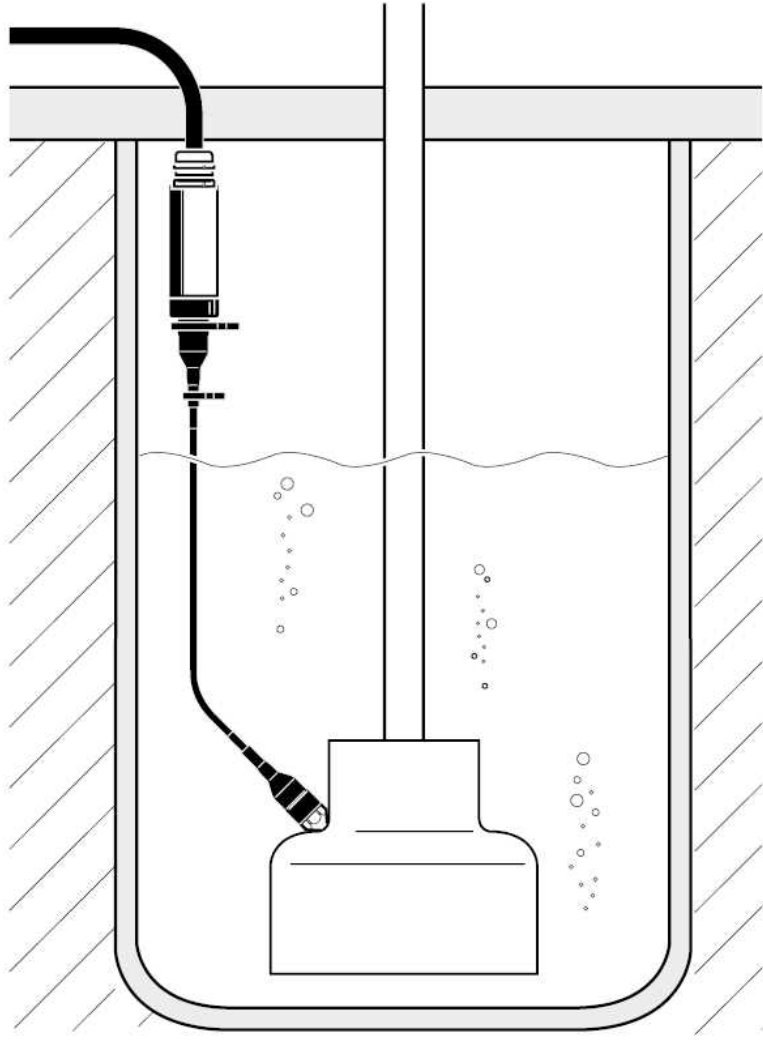
### Technical data, IP68 option

Parameter	Value
Environmental protection	IP68 (dust- 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")

## 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.



# 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 machine by being screwed down or held secure using adhesives or magnets.



Mounting options for an "industrial" accelerometer

## Fixation options

- Screwed mounting
- Glued mounting
- Magnetic connection
- 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

### Mounting adapters for industrial accelerometers VIB 6.122, VIB 6.125, VIB 6.127, VIB 6.129

Item No.	Description	Application / Hint
VIB 8.772	Screwed adapter to M10	For installation into an existing M10 hole, e.g. jack ring thread.
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 suitable 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 <sup>1</sup> / 35 mm (2.16" / 3.74" / 6.70" / 1.38")	For measurement points that are difficult to access or located inside a guard plate. Diameter: 12 mm ( 15/32")

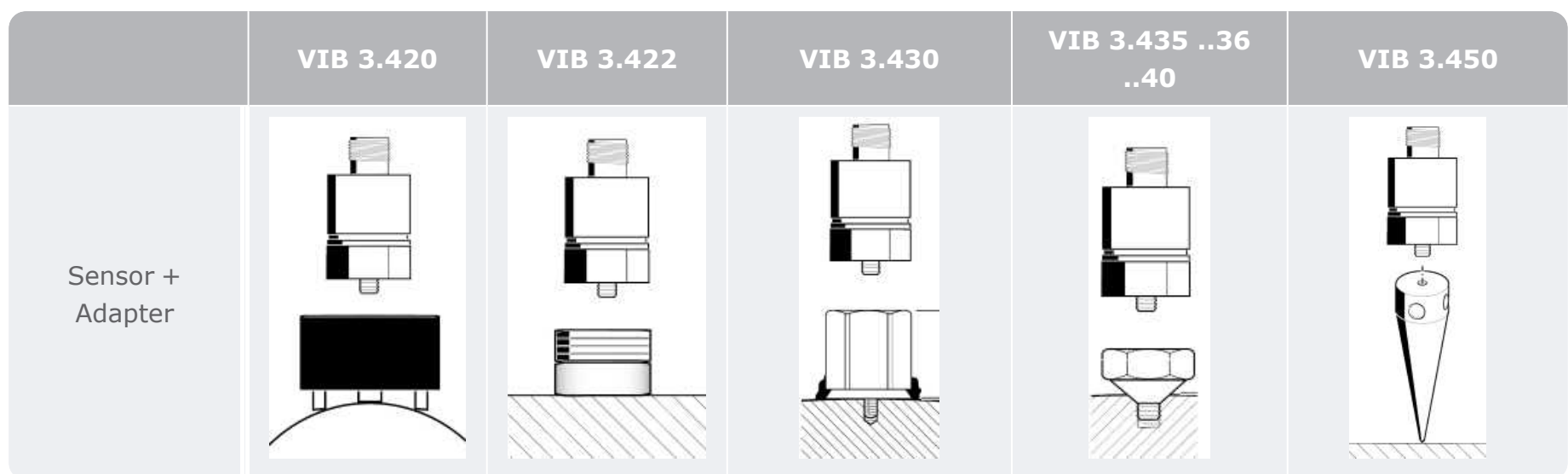
	VIB 8.772	VIB 3.411 ..13	VIB 3.431	VIB 8.586 ..89
Sensor + Adapter				

<sup>1</sup>170 mm (6.70") for shock pulse measurements only



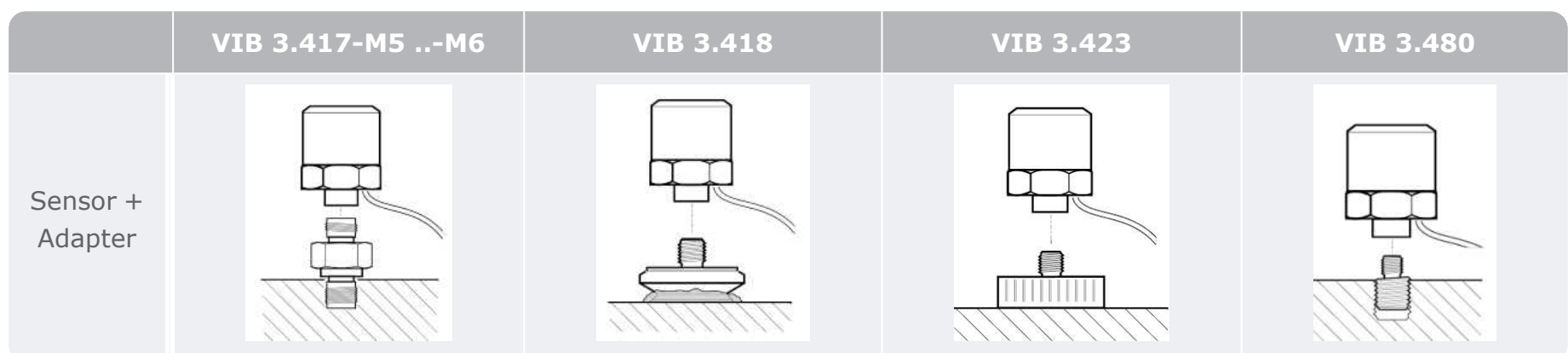
### Mounting adapters for mobile industrial sensors, VIB 6.142, VIB 6.147

Item No.	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 M5-120° / M6-90° / M8-90°	
VIB 3.450	Probe tip	Manual coupling to the measurement location. Material: Aluminium; Dimensions: 19 x 73 mm [ 3/4" x 2 7/8" ] (D x H)



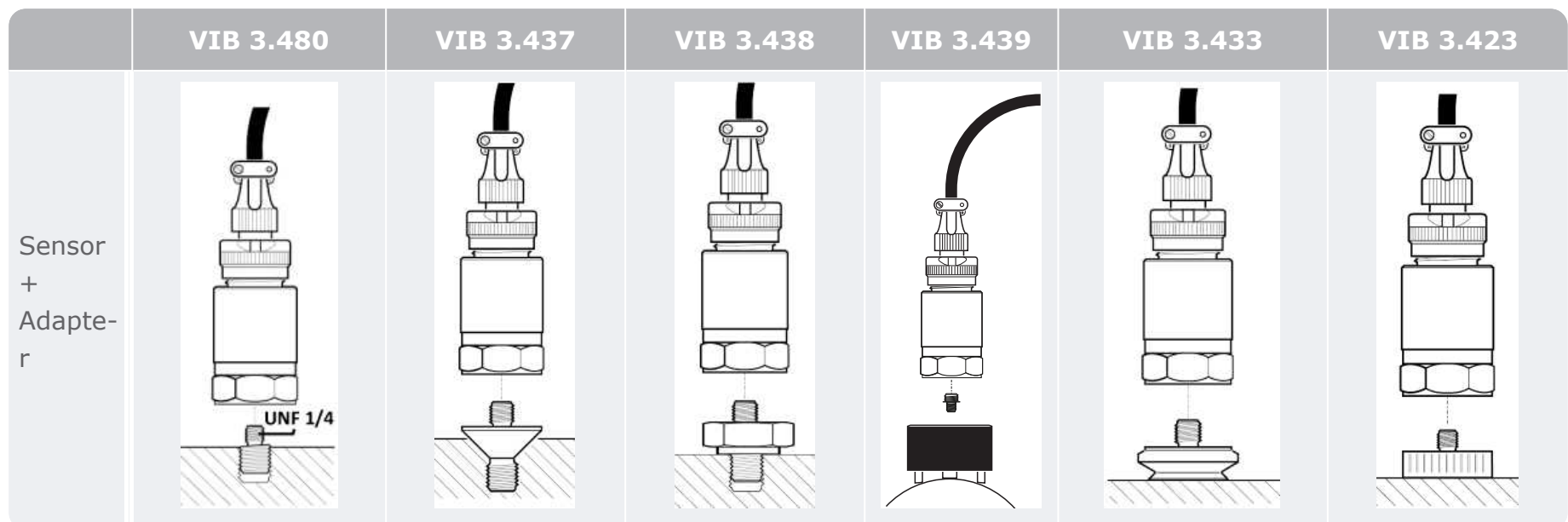
### Mounting adapter for mini-sensor, VIB 6.202, VIB 6.203

Item No.	Description	Application / Hint
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.



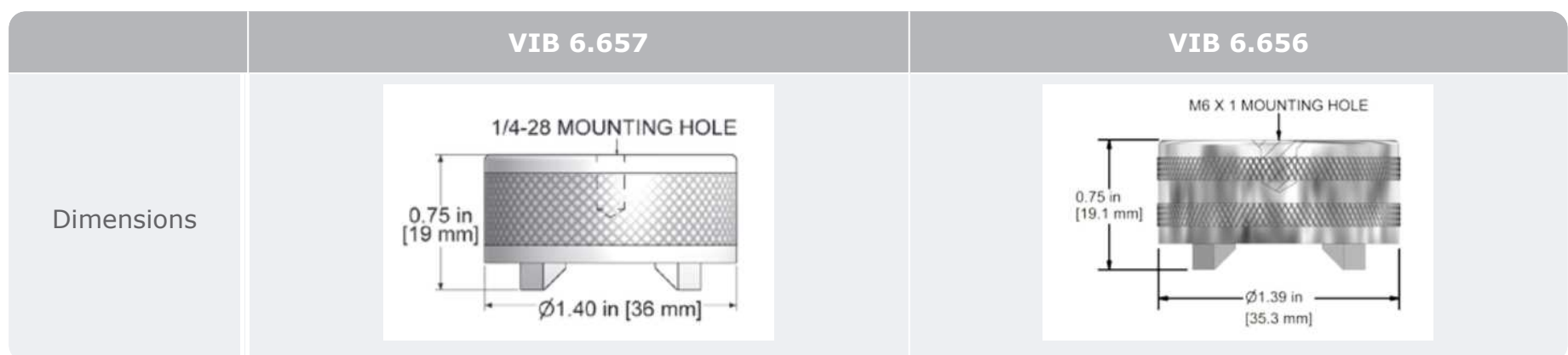
### Mounting adapters for VIBROTECTOR and sensor types VIB 6.195, VIB 6.172 (Wind, IEPE-100mV/g)

Item No.	Description	Application / Hint
VIB 3.480	M8 threaded pin	Installed in the sensor as standard. Can be replaced if necessary.
VIB 3.437	Screw adapter on M8-90°	
VIB 3.438	Screw adapter on M8 flat	
VIB 3.439	Screw adapter on M5 flat	This adapter is used to mount the sensor on the magnetic adapter VIB 3.420.
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	



### Mounting adapter for Triaxial sensor, VIB 6.655

Item No.	Description	Application / Hint
VIB 6.657	Magnetic holder, 1/4-28 mounting hole	Magnetic coupling to the measurement location. Material: Stainless steel/Neodymium; Max. temperature: + 80°C
VIB 6.656	Magnetic holder, M6 mounting hole	Magnetic coupling to the measurement location. Material: Stainless steel/Neodymium; Max. temperature: + 80°C



### Accessories

Item No.	Item name / item group
Miscellaneous	"Tools for installation of accelerometers", p. 127

## TECHNICAL INFORMATION

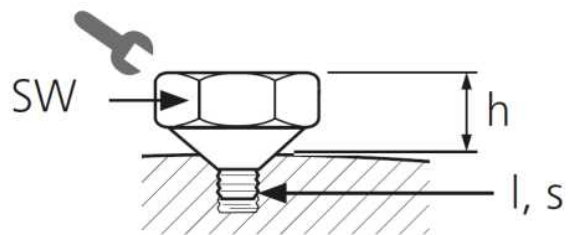
### Technical data, Magnetic adapter

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.

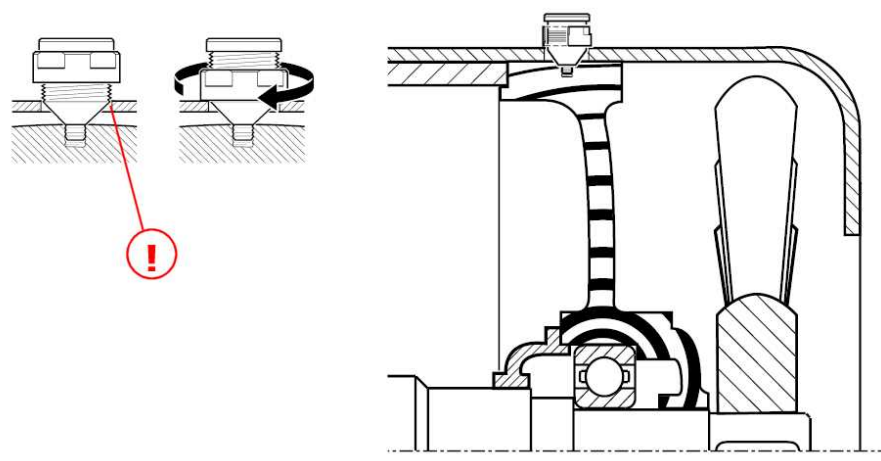


Item No.	Mounting height h	Thread size s	Thread length l	Torque in Nm	Wrench size SW
VIB 3.411	18	M8	6	11	20
VIB 3.412	17	M10	6	22	20
VIB 3.413	16	M12	6	39	20
VIB 3.417-M5	11	M5	5	2.7	13
VIB 3.417-M6	11	M6	6	4.6	13
VIB 3.418	6	---	---	---	---
VIB 3.430	16	---	---	---	---
VIB 3.431 / 3.432	21	---	---	---	---
VIB 3.433	8	---	---	---	---
VIB 3.435	8	M5-120°	3.5	2.7	19
VIB 3.436	8	M6-90°	6	4.6	19
VIB 3.437	4	M8-90°	5	11	---
VIB 3.438	8	M8	4	11	22

Item No.	Mounting height h	Thread size s	Thread length l	Torque in Nm	Wrench size SW
VIB 3.439	1	M5	4	2.7	---
VIB 3.440	9	M8-90°	5	11	19
VIB 3.480	0	M8	11	11	---
VIB 8.772	12	M10-120°	7	22	19

## Mounting examples

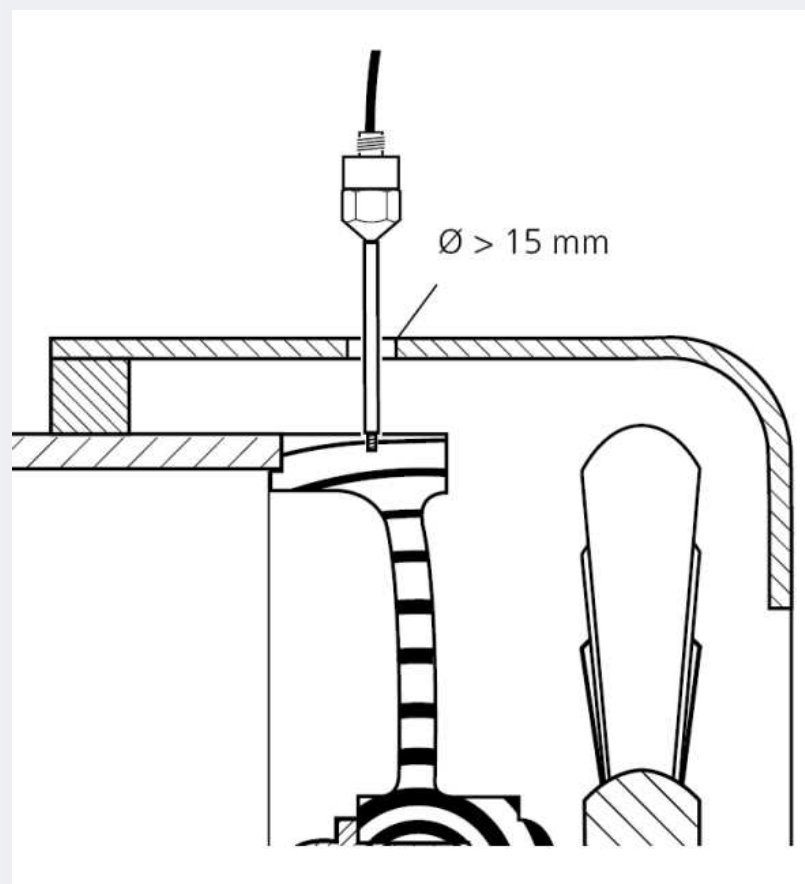
### Screw adapter with lock nut



!: 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.

## Dust caps for industrial CLD accelerometers

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



### Features

- Design: Straight or angled
- Material: Silicone or Vitone
- Protection: IP 67 or IP 65

### Ordering information

Item No.	Reference	Description	Legend
5150014	VIB 6.710	Dust caps, angled, 10 pieces	1
5150023	VIB 6.711	Dust caps, angled, oil-resistant, 10 pieces	2
5150006	VIB 6.701	Dust caps, straight, oil-resistant, 10 pieces	3
5149997	VIB 6.700	Dust caps, straight, 10 pieces	4
5150045	VIB 6.721	Clamps for dust caps, sensor end, 10 pieces	5
5150050	VIB 6.722	Dust cap sleeves, 10 pieces	6
5150038	VIB 6.720	Clamps for dust caps, cable end, 10 pieces	7

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

## Overview



The diagram shows an exploded view of the dust cap assembly. Component A is a clamp for the cable end, B is the dust cap, C is a clamp for the sensor end, D is a dust cap sleeve, e is a TNC plug, and f is the sensor.

**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




## Technical data

Dust cap	VIB 6.700	VIB 6.710	VIB 6.701	VIB 6.711
<b>Material</b>	Silicone (siloprene HV)		Viton (FKM polymer, P-60 120 black)	
<b>Resistance</b>	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	
<b>Temperature range</b>	-55 °C ... + 180 °C [ -67 °F ... +356°F ]		-30 °C ... + 200 °C [ -22 °F ... +392°F ]	
<b>Environmental protection</b>	IP 67	IP 65	IP 67	IP 65

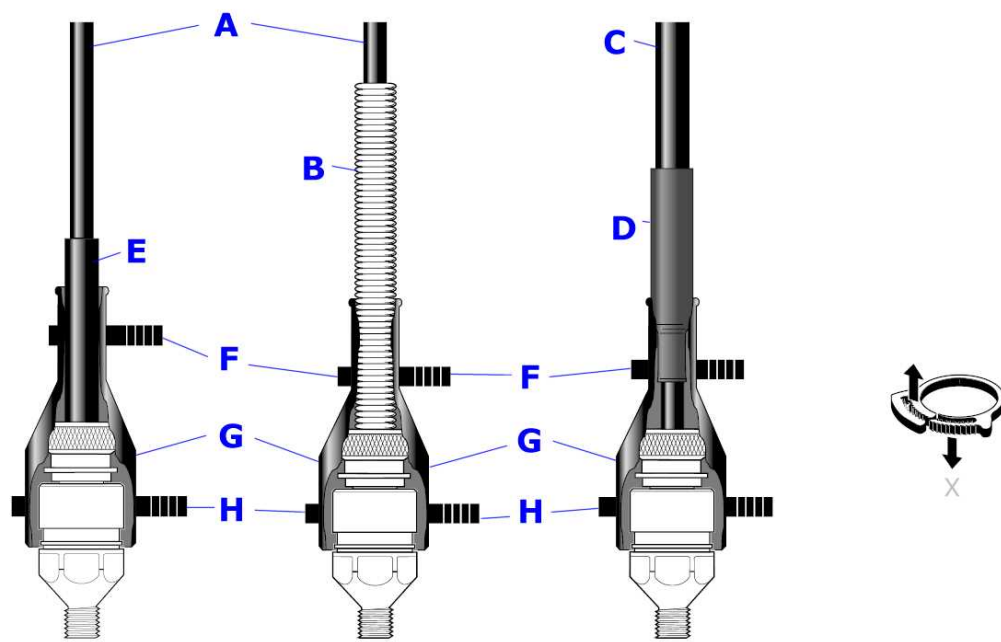
Clamps, Sleeve	VIB 6.720	VIB 6.721	VIB 6.722
<b>Material</b>	Nylon 66, thermally stabilized		Nitrile rubber (NBR)
<b>Resistance</b>	Industrial solvents, fuels, oils, fats, weathering		Silicone-free, oil-resistant



Clamps, Sleeve	VIB 6.720	VIB 6.721	VIB 6.722
Temperature range	-40°C ... +120°C [ -40 °F ... +248°F ]		-30°C ... +100°C [ -22 °F ... +212°F ]
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

## Stand and accessories for laser trigger / RPM sensor

This stand is used to mount securely the laser trigger sensor on machines. The sensor may be adjusted to virtually any position using the ball joint on the stand. The magnetic holder on the stand ensures that the setup of the measuring components remains fixed on any magnetic surface. The reflective tape serves as a measurement mark on the rotating shaft.



Stand and reflective tape

### Features

- Secure and stable mounting of sensor
- Mounts readily even on curved surfaces
- 360° sensor adjustment
- Compact structural shape

### Ordering information

Item No.	Description
VIB 6.632	Stand for laser trigger / RPM sensor
VIB 3.306	Reflective tape, 10 mm wide in a roll (4.5 m)

## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 6.632
Weight	approx. 230 g
Mounting height	Max. 116 mm
Fixation	Magnetic; Block magnet: NdFeB

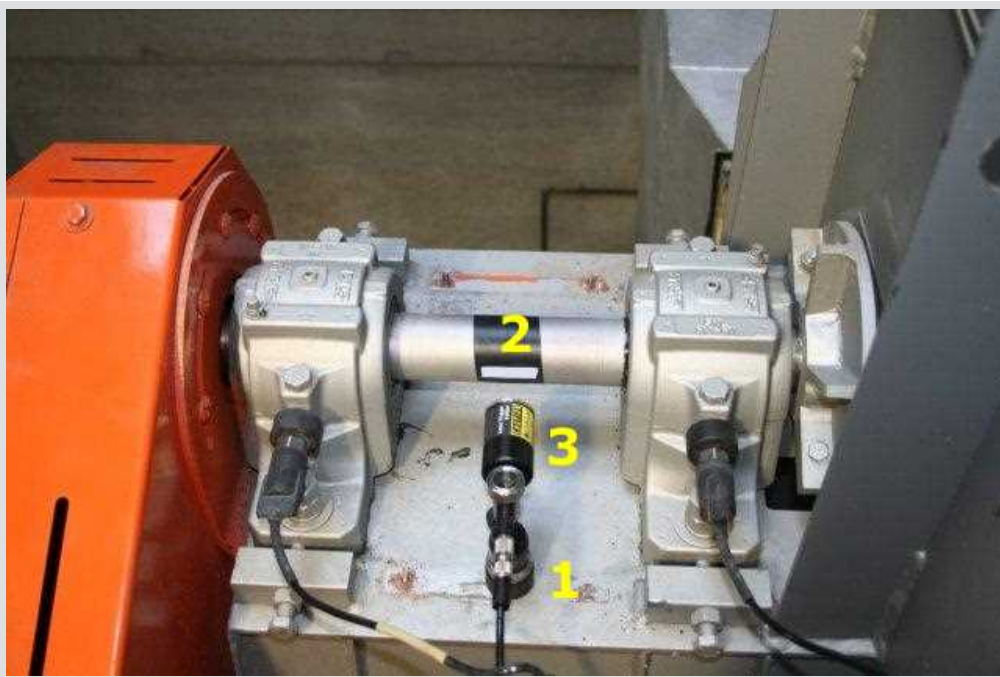
Note: During transportation or storage, a washer-shaped steel plate is placed on the pole pieces to act as a short-circuit rail. The relevant safety data sheet is available for download and reference from the PRÜFTECHNIK website.



## Installation example



RPM sensor mounted on the stand



Measuring RPM: Stand (1), the reflective tape is on the shaft (2) and RPM sensor (3).

## VIBCODE measurement studs

VIBCODE measurement studs are the standard measurement locations used with VIBCODE transducer. They provide a rigid connection to the object being measured, and each has a unique code. They are optimized for a loss-free signal transmission to the transducer. The measurement studs are available in different shapes.



VIBCODE measurement stud comprises stud, code ring and protective cap

### Features:

- Guarantees a rigid connection to the transducer
- Facilitates repeatability in measurement results
- Foolproof identification of measurement points
- Coding of measurement points patented

### Mounting options

- Screw mounting
- Glue mounting

NOTE: VIBCODE studs are NOT delivered together with the code ring or protective cap. Code rings and protective caps must be ordered separately.

### Order information

Item No.	Reference	Description
5150775	VIB 8.565	VIBCODE stud for adhesive mounting
5384572	VIB 8.574	VIBCODE stud with M8 thread, VA 1.4571
5150816	VIB 8.575	VIBCODE stud with M8 thread

### Accessories

Item No.	Description / Group
Miscellaneous	"Accessories for VIBCODE measurement studs", p. 124
Miscellaneous	"Tools for installation of accelerometers", p. 127

## TECHNICAL INFORMATION

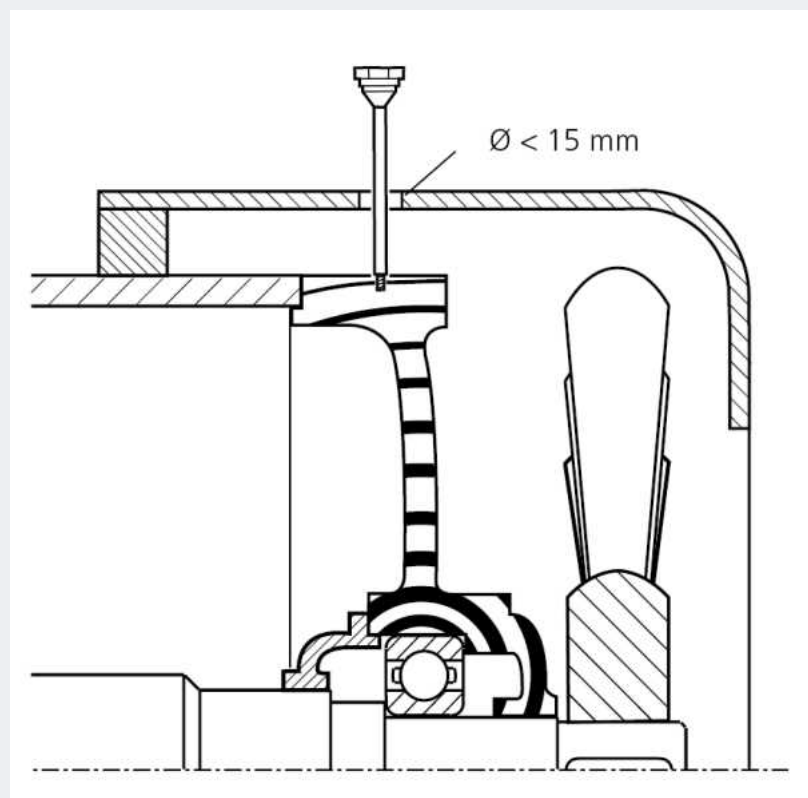
### Mounting example

#### VIBCODE measurement stud with M8 thread



The tapered shank section must seat perfectly into the countersunk hole so that proper signal transfer from the asset to the sensor can take place over a large area of the shank.

#### Extension post



! : No contact between the extension post and the protective cover

#### Order information

Item No.	Reference	Description
5159237	VIB 8.586	Extension post M8 X 55 mm
5159243	VIB 8.587	Extension post M8 X 95 mm
5159255	VIB 8.588	Extension post M8 X 170 mm
5150884	VIB 8.589	Extension post M8 X 35 mm

## Accessories for VIBCODE measurement studs

These items are used as consumables and to code VIBCODE measurement studs.



Protective cap, code ring, and encoding tool

### Features

- Patented, measurement point coded mechanically
- Over 8000 different coded patterns possible
- Measurement point protected from contamination

### Order information

Item No.	Reference	Description
5159228	VIB 8.566	Protective cap for VIBCODE stud
5159204	VIB 8.563	Code ring

## TECHNICAL INFORMATION

### Technical data

Parameter	Protective cap - VIB 8.566	Code ring - VIB 8.563
Material	Desmopan®	Hostaform®
Temperature range	-30 °C ... + 100 °C [ -22 °F ... + 212 °F ]	-40 °C ... + 130 °C [ -40 °F ... + 266 °F ]
Resistance	Oil, Coolant	

## Measurement studs

The accelerometer with quick fitting coupling is connected to these measurement studs. The stud is connected to the measuring object in a stable manner and optimized for loss-free signal transmission to the sensor. Measurement studs are available in various designs and materials.



Measurement stud with bonding base.

### Features:

- Defined measurement location
- Stable coupling
- Reproducible measurements

### Mounting options

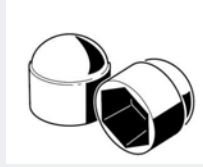
- Threaded mounting
- Adhesive mounting

### Ordering information

Item No.	Description, Mounting x Installation height X [mm], Material	
<b>VIB 32000</b>	Measurement stud M8 x 24, <b>free-cutting steel<sup>1</sup></b> , nickel-plated	
<b>VIB 32010</b>	-, M8 x 24, stainless steel (VA 1.4305)	
<b>VIB 32200</b>	-, M8 x 113, free-cutting steel, nickel-plated	
<b>VIB 32210</b>	-, M8 x 113, stainless steel	

<sup>1</sup>Material number: 1.0715.07

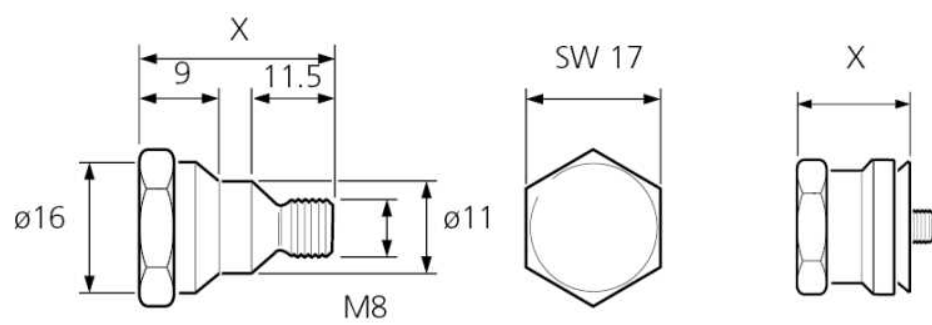
## Accessories

Item No.	Description	
<b>VIB 81025</b>	Protective cap for measurement stud (black, LDPE, Ta < 70°C)	
Miscellaneous	"Tools for installation of accelerometers", p. 127	

## TECHNICAL INFORMATION

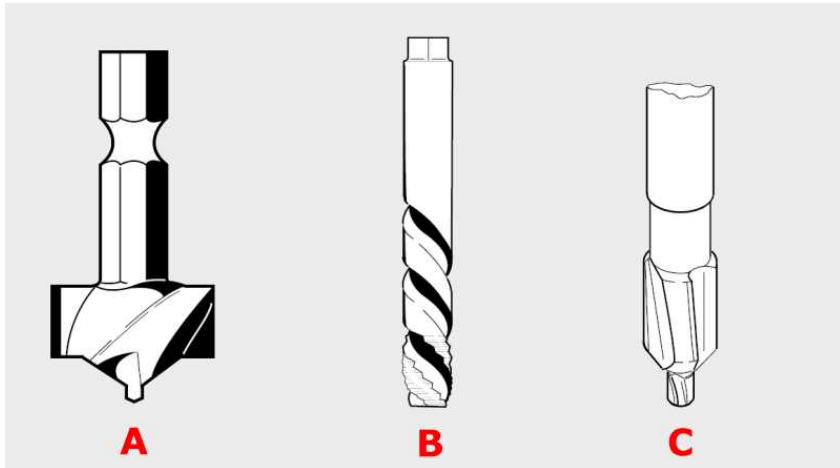
### Dimensions

Values in mm



## 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.



### Overview

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

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

### Ordering information

Item No.	Name
VIB 8.693	Thread cutter M8
VIB 8.694	90° countersink

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## Cables and installation material

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### Device cables (Vibration)

<b>Ethernet cable for VIBXPART II .....</b>	<b>130</b>
<b>Serial PC cable - RS232 .....</b>	<b>131</b>
<b>USB cables for VIBXPART II .....</b>	<b>132</b>

## Ethernet cable for VIBXPART II

This cable is used for data transmission within a network.




Ethernet cable connected to VIBXPART II

### Features

- The patch cable is used to connect measurement devices to network sockets
- FTP CAT.5 patch
- ISO / IEC 11801 & EN 50173
- Gigabit Ethernet type CM (UL), C (UL)

### Ordering information

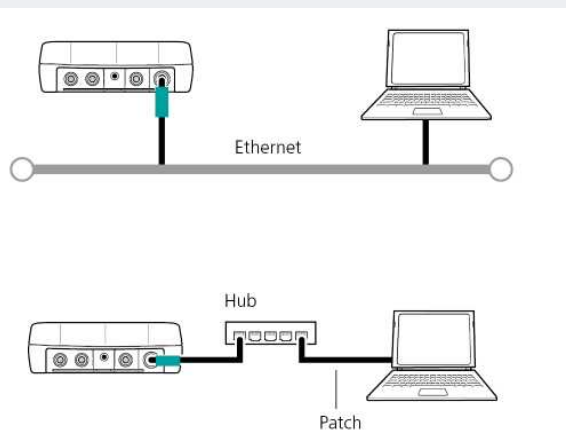
Item No.		Description
<b>VIB 5.331</b>		Ethernet cable for VIBXPART II, 2 m (6' 6.7"), RJ45 to MiniSnap

Note: This cable must not be used with the intrinsically safe VIBXPART EX.

## TECHNICAL INFORMATION

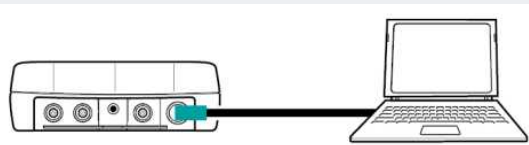
### Examples

#### VIBXPART II communicating with PC via a network



Connect the Ethernet cable to the communication socket (green). A commercially available patch cable is connected to a network interface card. Both cables are then connected to either a network socket or to a hub.

#### VIBXPART II communicating with a PC directly via a patch cable



Connect the Ethernet cable to the communication socket (green) and to the network interface card.

## Serial PC cable - RS232

The cable is used for data transmission via the serial interface (RS232) of the measuring instrument.




### Suited for:

- VIBXPERT II

Serial PC cable connected to VIBXPERT II

### Ordering information

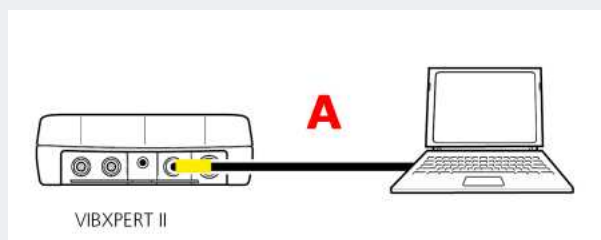
Item No.	Reference		Description
5158742	VIB 5.430-2		Serial PC cable, 2 m, D-Sub9 (f) to MiniSnap

Note: The serial PC cable must not be used with the intrinsically safe VIBXPERT EX.

## TECHNICAL INFORMATION

### Example

#### VIBXPERT II communicating with a PC via the serial port



Connect the device digital socket (yellow) to the PC serial port using the cable (A).

## USB cables for VIBXPERT II

This cable is designed for data transfer between VIBXPERT II and a PC. A USB flash drive and a matching connection cable are available for storing measured data on an external data storage medium.





### Features

- USB 2.0
- Storage medium with 4 GB

USB cable for data transfer connected to VIBXPERT II.

### Ordering information

Item No.	Reference		Description
	<b>VIB 5.330 SUSB</b>		USB cable for VIBXPERT II, 2.9 meters, USB to MiniSnap
<b>5168519</b>	<b>VIB 5.330AMEM</b>		Connection cable for USB flash drive
<b>5269372</b>	<b>VIB 5.350-USB2</b>		USB flash drive, 8 GB

Note: These cables and adapters must not be operated with VIBXPERT EX.

## Sensor cables, pre-assembled

<b>Pre-assembled VIBXPART 3 cables</b> .....	<b>134</b>
<b>Pre-assembled sensor cables and adapters for CLD accelerometers (portable devices)</b> .....	<b>135</b>
<b>Cable adapter for VIBXPART II</b> .....	<b>136</b>
<b>Pre-assembled sensor cables for measuring low signal voltage/low signal current, portable measuring devices</b> .....	<b>138</b>
<b>Cables for signal output – handheld devices</b> .....	<b>140</b>
<b>Pre-assembled sensor cable and adapter for trigger / RPM sensor (portable devices)</b> .....	<b>141</b>
<b>Connection cable for field multiplexer on VIBXPART II</b> .....	<b>145</b>
<b>Extension cable for analog measuring channel, portable devices</b> .....	<b>146</b>
<b>Sensor cables and adapters for VIBSCANNER 2</b> .....	<b>147</b>
<b>Overview: Sensor cables for portable instruments</b> .....	<b>149</b>
<b>Pre-assembled sensor cables - VIB 3xx series</b> .....	<b>153</b>

## Pre-assembled VIBXPERT 3 cables

These cables are used to connect sensors and PCs to VIBXPERT 3.



Sensor VIB 6.142 connected to VIBXPERT 3 using the spiral connection cable VIB 5.236 and the straight cable VIB 5.037.

### Ordering information

Item No.	Reference	Description
<b>5569089</b>	<b>SYS 3.543</b>	USB-C data cable 1 m / 3.3 ft; used for data transfer between VIBXPERT 3 and a PC, and includes firmware updates
<b>5587715</b>	<b>VIB 5.236</b>	CLD accelerometer cable, spiral, 1.8 m / 5.9 ft, ODU AMC metal connector
<b>5335465</b>	<b>VIB 5.037</b>	CLD accelerometer cable, straight, 2.9 m / 9.5 ft, ODU AMC metal connector
<b>5335452</b>	<b>VIB 5.032</b>	Laser trigger / RPM sensor cable, straight 2.9 m / 9.5 ft, ODU AMC metal connector

## Pre-assembled sensor cables and adapters for CLD accelerometers (portable devices)

These cables and adapters are used to connect CLD accelerometers to portable devices.



Sensor VIB 6.142 connected to VIBXPERT II using the spiral connection cable VIB 5.436



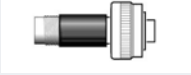
### Suited for this portable device:

- VIBXPERT II

### Suited for following types of sensors:

- CLD accelerometers with TNC cable connection
- "Wind" CLD accelerometer VIB 6.195

### Ordering information

Item No.		Description
VIB 5.436		CLD accelerometer cable, spiral, 1.8 m, TNC connector to MiniSnap
VIB 5.437-2,9 VIB 5.437-5		CLD accelerometer cable, straight, 2.9 m or 5 m, TNC connector to MiniSnap
VIB 5.449-CLD		Adapter used to connect VIB 6.195 to portable measuring devices, 2-pin MIL-C5015 plug to TNC socket

Note: For cable lengths greater than 2.9 m, the EMC immunity of the signal path can be adversely affected.

## TECHNICAL INFORMATION

### Accessories

Item No.	Description
Miscellaneous	"Extension cable for analog measuring channel, portable devices", p. 146

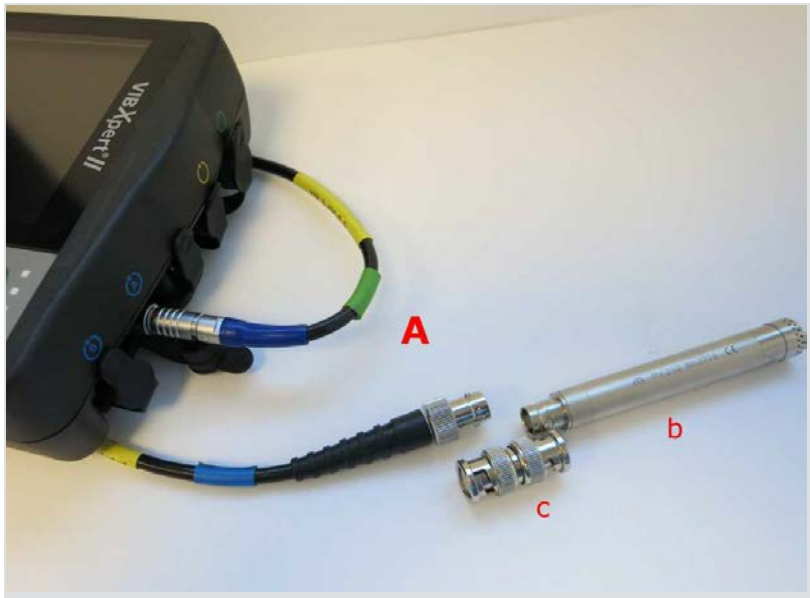
### Compatibility overview: Sensor cable – Measurement device

The following overview shows the type of sensor cable that may be connected to the corresponding device. For cables marked with (\*), additional cables and/or adapters are required in the measurement chain.

Cable / Adapter	VIBXPERT II
VIB 5.436	✓
VIB 5.437-2,9 / -5	✓
VIB 5.449-CLD*	✓

## Cable adapter for VIBXPERT II

The sensor cable and adapter are used to connect vibration sensors with a voltage output (IEPE) to handheld measurement devices.



Microphone(b) connected to VIBXPERT II using a BNC coupler (c) and sensor cable VIB 5.438-0,5 (A)

### Suited for following types of sensors:

- Accelerometers (IEPE) with BNC cable connection
- Accelerometer 100 mV/g" (IEPE) VIB 6.172
- Triaxial accelerometer VIB 6.655

### Ordering information

Item No.		Description
VIB 5.438-0,5		Sensor cable for accelerometer (IEPE), straight, 0.5 m, BNC connector to MiniSnap
VIB 5.422		Sensor cable for accelerometer (IEPE), spiral, 1.8 m, MIL connector to MiniSnap
VIB 5.345-6		Extension for sensor cable with MIL connector, 6 m, MIL plug to MIL socket
VIB 5.449-ICP		Adapter for connecting VIB 6.172 to portable measuring devices
VIB 5.336		Sensor cable for triaxial accelerometer VIB 6.655

## TECHNICAL INFORMATION

### Accessories

Item No.	Description
Miscellaneous	"Extension cable for analog measuring channel, portable devices", p. 146

### Technical data - VIB 5.336

Parameter	VIB 5.336
<b>DESIGN</b>	
<b>Conduct layout</b>	4-pin, AWG25, spiral CTC cable from adapter to sensor
<b>Cable sheath</b>	PU



Parameter	VIB 5.336
<b>Diameter</b>	5.3 mm
<b>Cable length</b>	approx. 0.4 m (15 3/4") device side / approx. 2.6 m (8' 6 23/64") sensor side
<b>ENVIRONMENT</b>	
<b>Temperature range</b>	Operation: -10 °C to 60 °C (14 °F to 140 °F) Storage: -20 °C to 80 °C (-4 °F to 176 °F)
<b>Relative humidity</b>	< 95 %
<b>Environmental protection</b>	IP65
<b>Weight</b>	approx. 310 g

### Compatibility overview: Sensor cable – Measurement device

The following overview shows the type of sensor cable that may be connected to the corresponding device. For cables marked with (\*), additional cables and/or adapters are required in the measurement chain.

Sensor cable / Adapter	VIBXPERT II
VIB 5.438-0,5*	✓
VIB 5.422	✓
VIB 5.345-6	✓
VIB 5.449-ICP*	✓
VIB 5.336	✓

## Pre-assembled sensor cables for measuring low signal voltage/low signal current, portable measuring devices

These sensor cables are used for measuring small signal voltages or level signals provided by other measuring instruments.



### Compatible with the following measuring devices:



- VIBXPERT II / VIBSCANNER

### Signal types:

- Voltage, AC: 0-30 V
- Voltage, DC: 0-30 V
- Current, DC: 0-30 mA

Sensor cables for measuring small signal voltage (A) and small signal current (B) connected to VIBXPERT II.

### Ordering information

Item No.		Description
VIB 5.433		Sensor cable for measuring small signal voltage with VIBSCANNER / VIBXPERT II, spiraled, 1.8 meters, BNC socket to MiniSnap
VIB 5.434		Sensor cable for measuring small signal current with VIBSCANNER / VIBXPERT II, spiraled, 1.8 meters, BNC socket to MiniSnap

Notes: An additional cable with at least one BNC plug is required to connect the sensor cable to the measuring instrument. These sensor cables may only be operated **outside** of the EX zone!

All circuits in the VIBXPERT II are DC coupled. When more than one circuit is connected, faults may occur in the case of potential differences.

## TECHNICAL INFORMATION

### Accessories

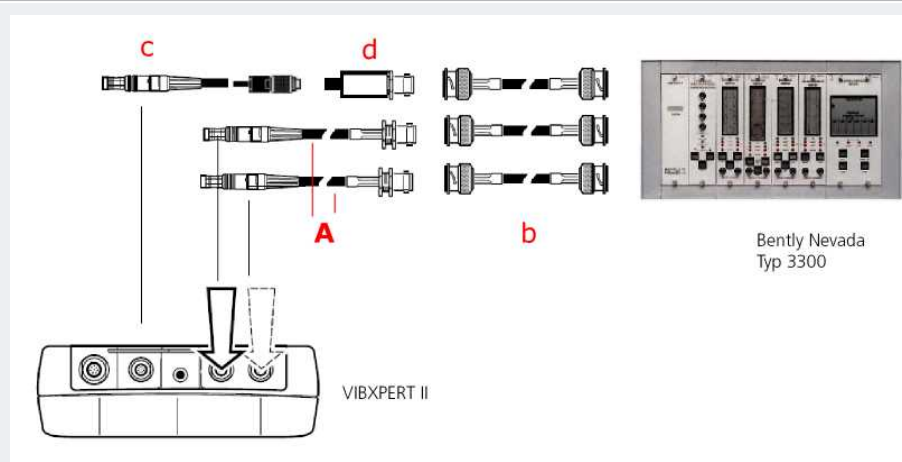
Item No.	Description
Misc.	"Extension cable for analog measuring channel, portable devices", p. 146

### Technical data, VIB 5.433 X

Parameter	VIB 5.433 X
Temperature range	0°C ... + 40 °C (32...104 °F)
Maximum measurement error	-2.0% / +2.7%
f <sub>max</sub> AC measurement	5 kHz

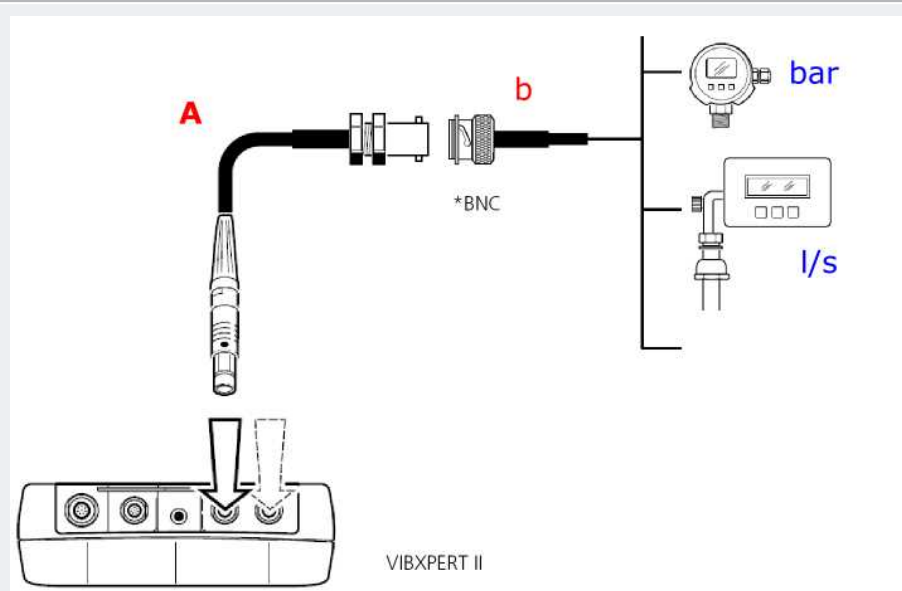
### Application examples

#### VIBXPERT II: Shaft vibration measured as a voltage signal on a machine protection system (e.g. Bentley Nevada 3300)



- A: Sensor cable for measurement of signal-low voltage VIB 5.433 (2 pieces)
- b: Coaxial cable with BNC connector, 3 pieces
- c: Sensor cable for trigger / RPM sensor VIB 5.432-2,9
- d: Keyphasor adapter VIB 5.332 X

#### VIBXPERT II: Pressure as current level (4-20 mA), resp. flow rate as current or voltage level (4-20 mA / 0-10 V)



- A: Sensor cable for measuring small signal voltage, VIB 5.433, or small signal current, VIB 5.434  
For VIBXPERT EX: Use sensor cable VIB 5.433 X.
- b: Coax cable with BNC plug, signal cable from sensor

# Cables for signal output – handheld devices

These cables are used to connect headphones or external analytical instrument to a handheld data collector.



### Compatible with the following handheld devices:

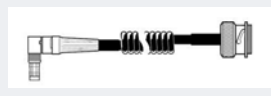

- VIBXPERT II
- VIBSCANNER, VIBSCANNER EX

### Suitable for following instruments and devices:

- Signal analyzers such as oscilloscopes
- Headphones VIB 6.671-2 (5312369)

Mono headphones (b) attached to VIBXPERT II via the sensor cable VIB 6.675 (A)

### Ordering information

Item No.		Description
VIB 5.431		Connection cable to an external analytical instruments — spiral, 1.8 m (5' 10 9/10"), BNC socket to MiniSnap
VIB 6.675		Connection cable für headphones VIB 6.671-2 — straight, 1 m (3' 3 4/10"), mono jack to MiniSnap

## TECHNICAL INFORMATION

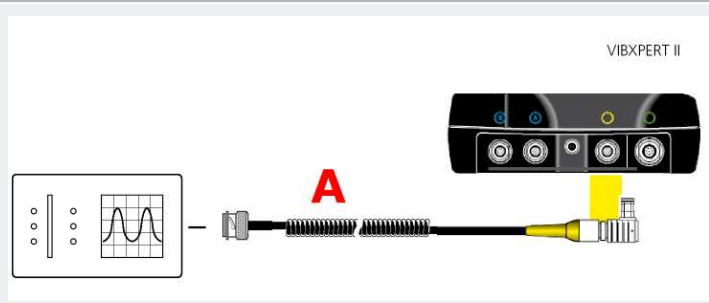
### Compatibility overview: Connection cable – Handheld device

The following overview shows which is compatible to which handheld device.

Connection cable	VIBXPERT II	VIBSCANNER	VIBSCANNER EX
VIB 5.431	✓	✓	✓
VIB 6.675	✓	✓	✗

### Application

**VIBXPERT II: Signal analysis using an oscilloscope**



A: Connection cable VIB 5.431

## Pre-assembled sensor cable and adapter for trigger / RPM sensor (portable devices)

The sensor cable and adapter are intended for transmitting digital signals from e.g. a trigger or an RPM sensor.







### Suited for following portable devices:

- VIBXPERT II

Sensor cable for laser trigger / RPM sensor VIB 6.631 connected to VIBXPERT II

### Ordering information

Item No.		Description
VIB 5.432-2,9		Sensor cable for laser trigger / RPM sensor VIB 6.631, straight, 2.9 m, Binder socket to MiniSnap
VIB 4.750-5		Extension for sensor cable VIB 5.432-2,9, straight, 5 m, Binder socket to Binder plug
VIB 5.443		Sensor cable for TTL trigger (other manufacturer), spiral, 1.6 m, BNC socket to MiniSnap
VIB 5.332 X		Keyphasor adapter for machine protection systems (VIBXPERT II, VIBSCANNER, VIBSCANNER EX), Binder socket to BNC socket

## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 5.332 X
<b>ELECTRICAL</b>	
<b>Operating voltage</b>	5.4 V ± 10%
<b>Current consumption</b>	0.5 mA
<b>Input signal, Pulse width</b>	> 100 µs
<b>Input signal, Pulse level</b>	> 500 mV <sub>pp</sub>
<b>Input signal, DC portion</b>	+8 V to -30 V
<b>Output signal</b>	5 V, rectangular signal
<b>Input resistance</b>	200 kOhm
<b>Output resistance</b>	1 kOhm
<b>MECHANICAL</b>	
<b>Case material</b>	Stainless steel, VA 1.4301
<b>Length including connectors</b>	130 mm
<b>Diameter</b>	15 mm
<b>Weight</b>	30 g
<b>Environmental protection</b>	IP 65
<b>Temperature range</b>	0 °C to 40 °C (32 °F to 104 °F)
<b>CONNECTIONS</b>	
<b>Input signal</b>	Binder connector, 8-pin, 712 series
<b>Input signal, Pin allocation</b>	2: 5 V / 4: Rectangular signal / 7: GND
<b>Output signal</b>	BNC socket
<b>Output signal, Pin allocation</b>	Internal contact: Signal / External contact: GND

Note: This adapter converts a pulse signal (including the DC level) to a 5V rectangular signal. This allows keyphasors that are connected to a machine protection system be connected and operated by PRÜFTECHNIK instruments.

When feeding digital signals to the intrinsically safe VIBSCANNER EX, the adapter **VIB 5.332 X** must be used. The adapter protects the digital port on the measuring instrument against overvoltages. The adapter must only be connected outside an explosive atmosphere to an electrical circuit, whose maximum voltage does not exceed 265 V<sub>eff.</sub> even when a malfunction occurs. The permissible ambient temperature is 0 °C to 40 °C (32 °C to 104 °C).

## Compatibility overview: Sensor cable – Measurement device

The following overview shows the type of sensor cable or adapter that may be connected to the corresponding device. For adapters marked with (\*), additional cables are required in the measurement chain.

Sensor cable / Adapter	VIBXPERT II
VIB 5.432-2,9	✓
VIB 5.443	✓
VIB 5.332 X*	✗

## Application example

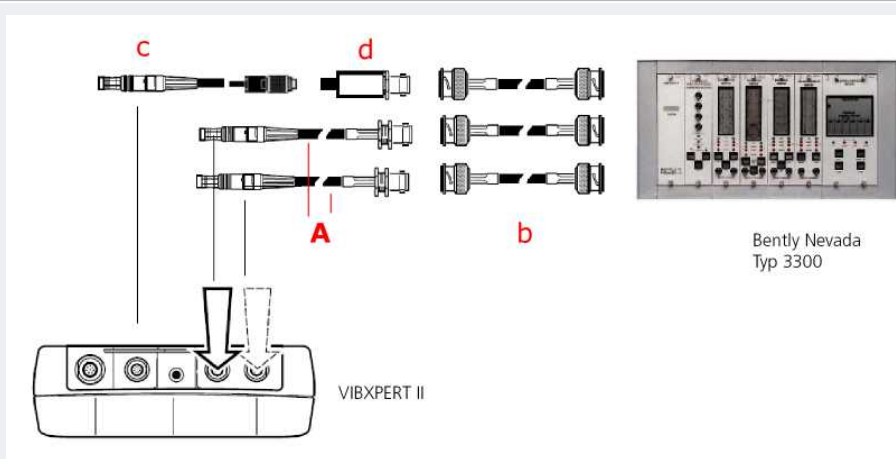
### VIBXPERT II: RPM measurement using Laser trigger / RPM sensor VIB 6.631



A: Sensor cable VIB 5.432-2,9

b: Laser trigger / RPM sensor VIB 6.631

### VIBXPERT II: Shaft vibration measured as a voltage signal on a machine protection system (e.g. Bentley Nevada 3300)



A: Sensor cable for measurement of signal-low voltage VIB 5.433 (2 pieces)

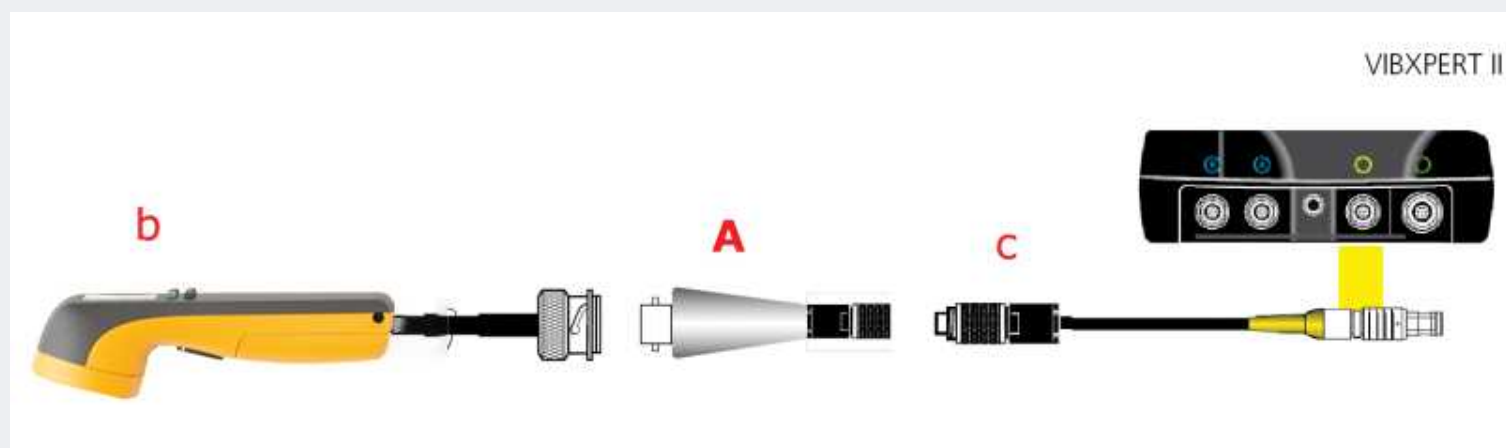
b: Coaxial cable with BNC connector, 3 pieces

c: Sensor cable for trigger / RPM sensor VIB 5.432-2,9

d: Keyphasor adapter VIB 5.332 X



VIBXPERT II: Measuring RPM using Fluke 820-2 Stroboscope 4550041



A: Cable adapter for LED stroboscope VIB 5.333

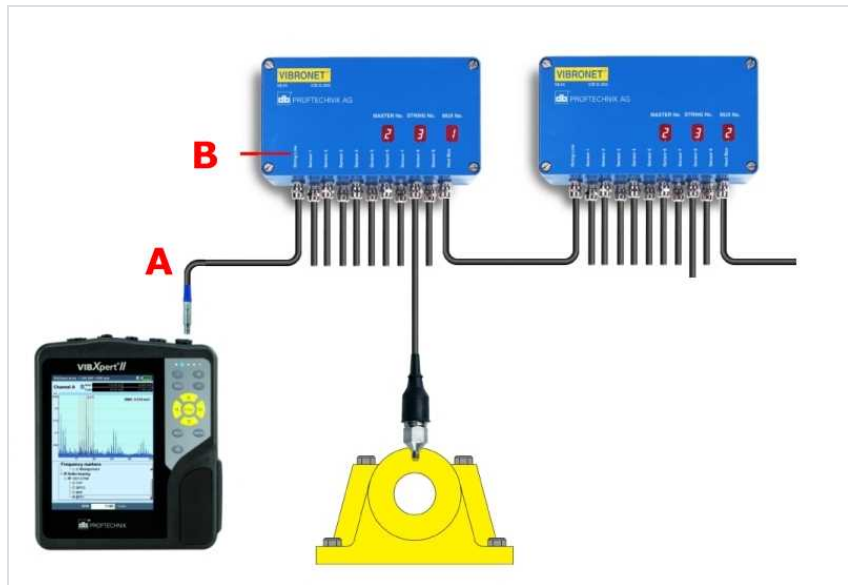
b: Fluke 820-2 LED stroboscope 4550041

c: Sensor cable VIB 5.432-2,9



## Connection cable for field multiplexer on VIBXPert II

Using these cable components, VIBXPert II can be connected to and operated on a string line of up to 6 VIBRONET field multiplexers for automated data acquisition.





### Features

- Up to 54 measuring locations possible
- Safe and fast data acquisition on site
- No power supply required
- For vibration sensors with current output (CLD)

Connect VIBXPert II with field multiplexer via connection cable (A) and cable adapter (B).

### Ordering information

Item No.		Description
VIB 5.346		Connection cable, VIBXPert II to VIBRONET field multiplexer, 1.5 meters, BNC to MiniSnap
VIB 5.346-MUX		Cable adapter for connection cable VIB 5.346 (installed in field multiplexer), 25 cm

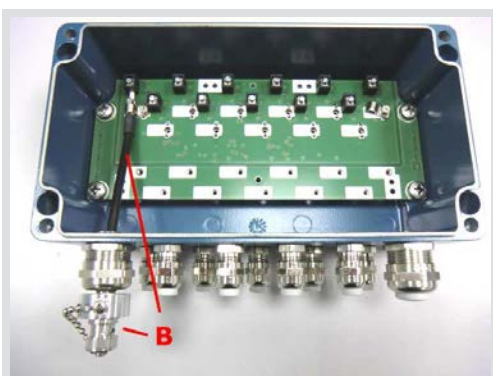
### Accessories

Item No.	Description
VIB 5.444-5	"Extension cable for analog measuring channel, portable devices", p. 146

## TECHNICAL INFORMATION

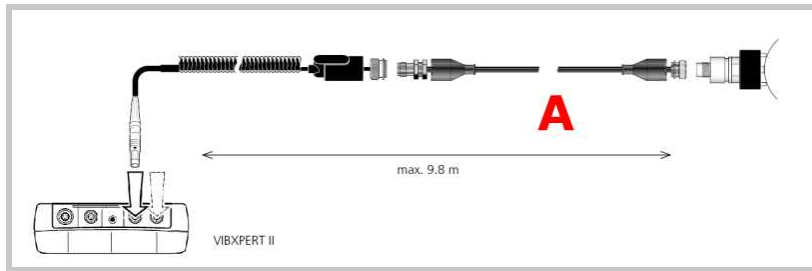
### Installation example

Cable adapter (B) installed on main board in field multiplexer.



## Extension cable for analog measuring channel, portable devices

These sensor cables and adapters are used for connecting vibration sensors with current output (CLD) to portable measuring devices.





Sensor VIB 6.142 with extension VIB 5.339 (A) and spiral cable VIB 5.436 connected to VIBXPERT II.

### Compatible with the following measuring devices:

- VIBXPERT II
- VIBSCANNER, VIBSCANNER EX

### Ordering information

Item No.		Description
VIB 5.444-5		Extension cable for analog measuring channel, 5 meters, MiniSnap socket to MiniSnap plug
VIB 5.339		Extension cable for analog measuring channel, 8 meters, TNC plug to TNC socket

Note: For cable lengths greater than 2.9 meters, EMC interference resistance of the measuring section may be impaired.

## TECHNICAL INFORMATION

### Compatibility overview: Sensor cable – extension

The following overview shows, which sensor cable/ adapter can be used with which extension cable.

Sensor cable/adapter	Extension VIB 5.339	Extension VIB 5.444-5
VIB 5.436	✓	✓
VIB 5.437-2.9	✓	✓
VIB 5.437-5	✓	✓
VIB 5.438-0.5	✗	✓
VIB 5.422	✗	✓
VIB 5.433	✗	✓
VIB 5.433 X	✗	✓
VIB 5.434	✗	✓
VIB 5.342	✗	✓
VIB 5.346	✗	✓

## Sensor cables and adapters for VIBSCANNER 2

These cables and adapters are used to connect accelerometers to VIBSCANNER 2.



Accelerometer VIB 6.142R connected to VIBSCANNER 2 with sensor cable VIB 5.236 and safety release cable VIB 5.239.





### Suited for following types of sensors:

- CLD-type accelerometers, TNC
- IEPE-type accelerometers, TNC
- Triaxial accelerometer, 4P Mini MIL
- Low-voltage outputs

### Spiral cable length:

- 0.8 - 2.9 meters [2.6 - 9.5 feet]

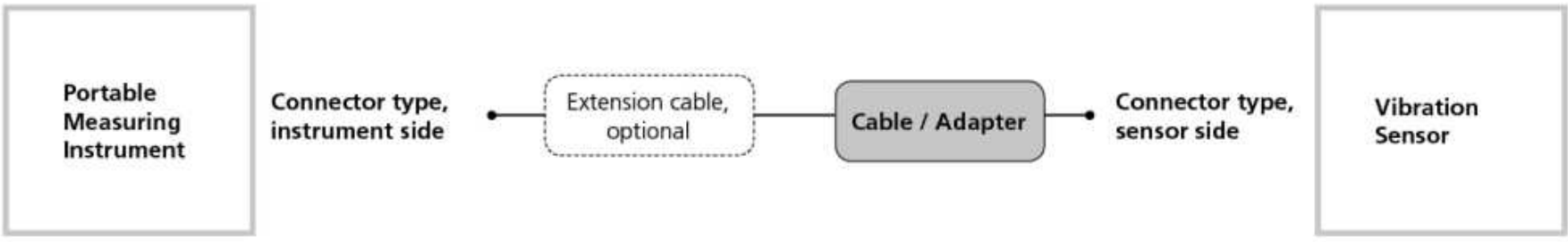
### Ordering information

Item No.	Image	Description
VIB 5.236		Sensor cable for CLD-type accelerometer, TNC connector, spiralized
VIB 5.237		Sensor cable for triaxial accelerometer, 4P Mini-MIL connector, spiralized
VIB 5.238		Sensor cable for IEPE-type accelerometer, BNC connector, spiralized
VIB 5.239		VIBSCANNER 2 safety release cable

Item No.	Image	Description
<b>VIB 5.234</b>		Sensor cable for measuring low voltage signals with VIBSCANNER 2, spiralized
<b>VIB 5.222</b>		Sensor cable for IEPE-type accelerometer, MIL connector, spiralized

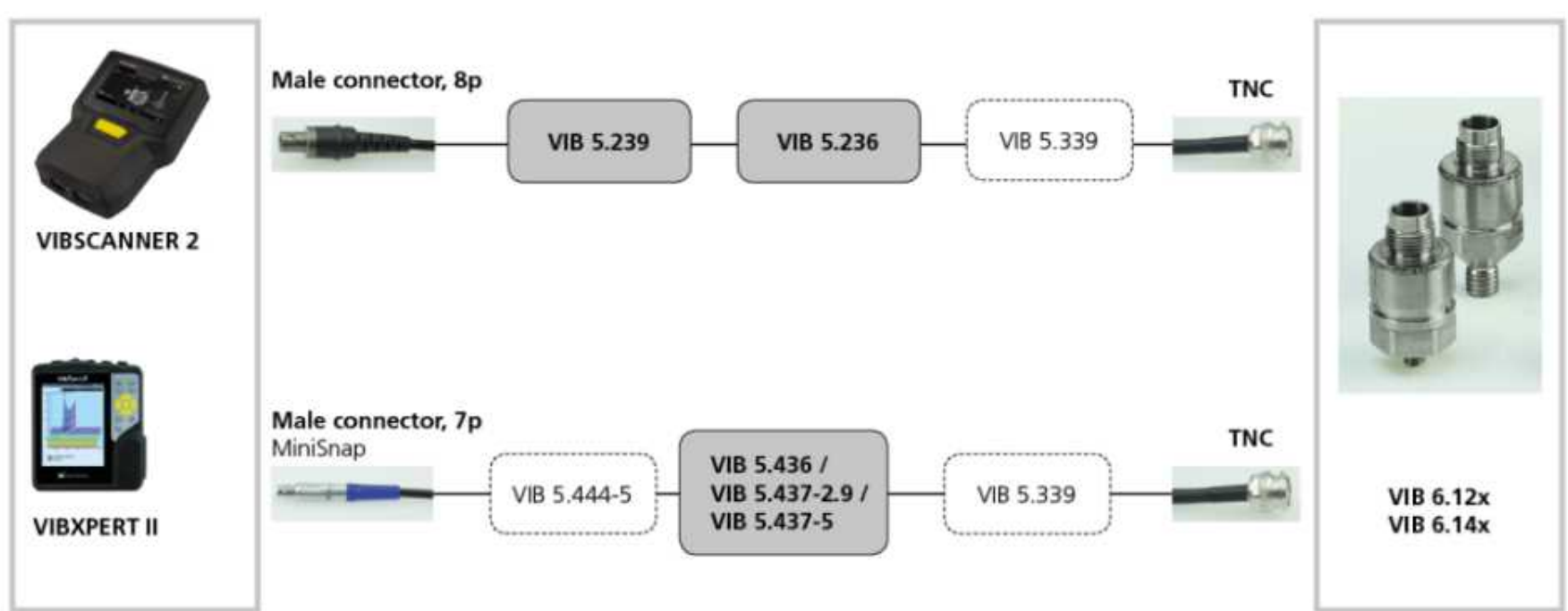
# Overview: Sensor cables for portable instruments

In this section you will learn which cable and, if necessary, which adapter is necessary to connect a portable measuring instrument to a specific vibration sensor. The illustrations are structured according to the following scheme:

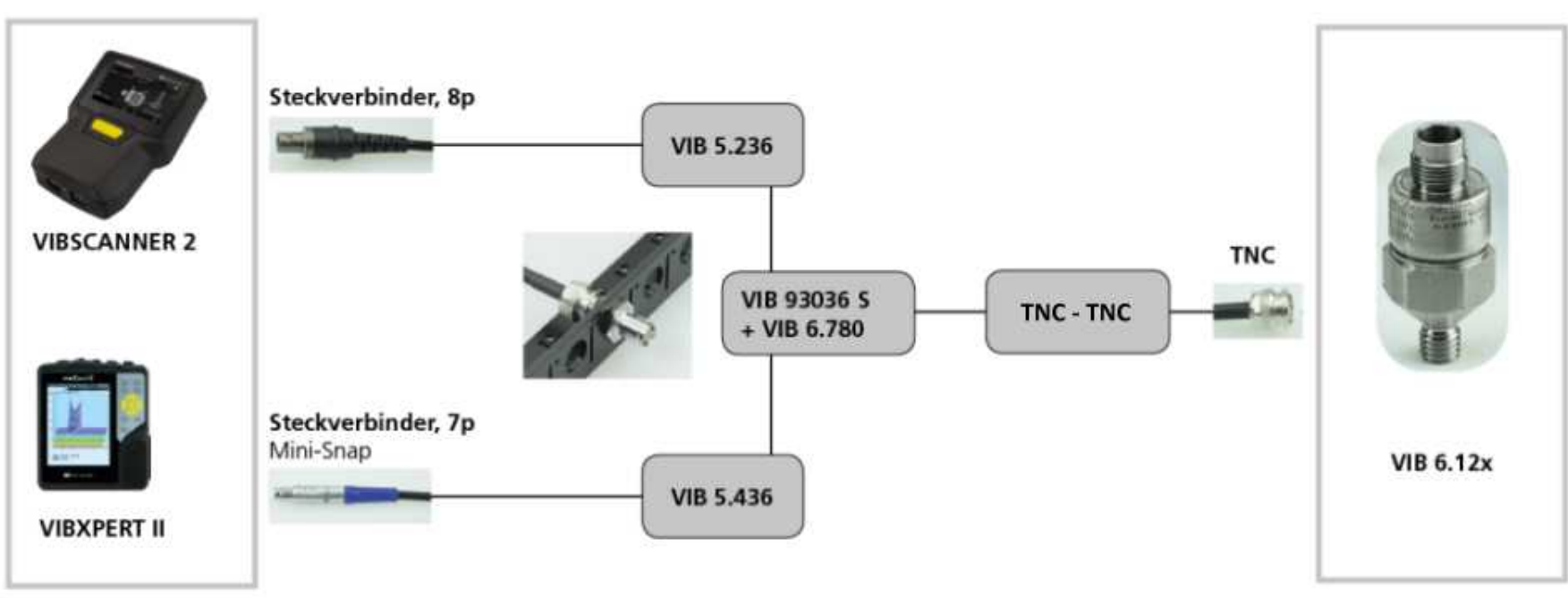


Note: For cable lengths longer than 2.9 meters, the EMC immunity of the signal path can be adversely affected.

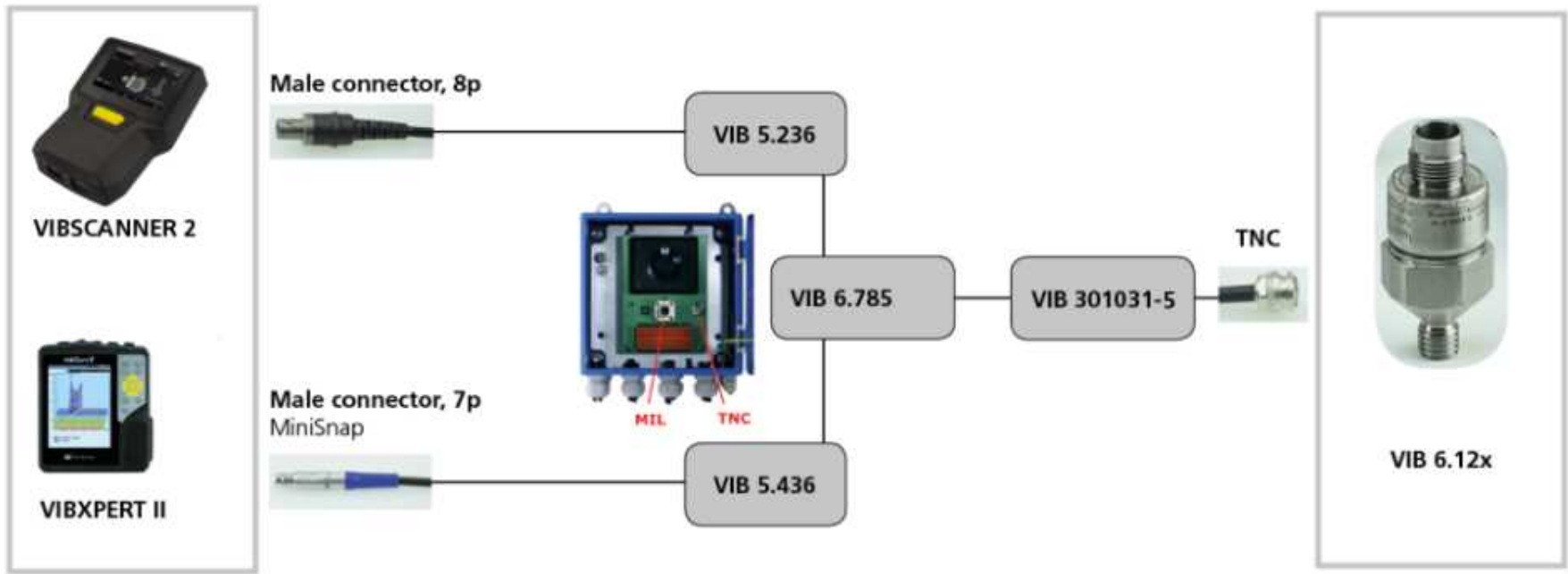
## Accelerometer - type: Current Linedrive (CLD)



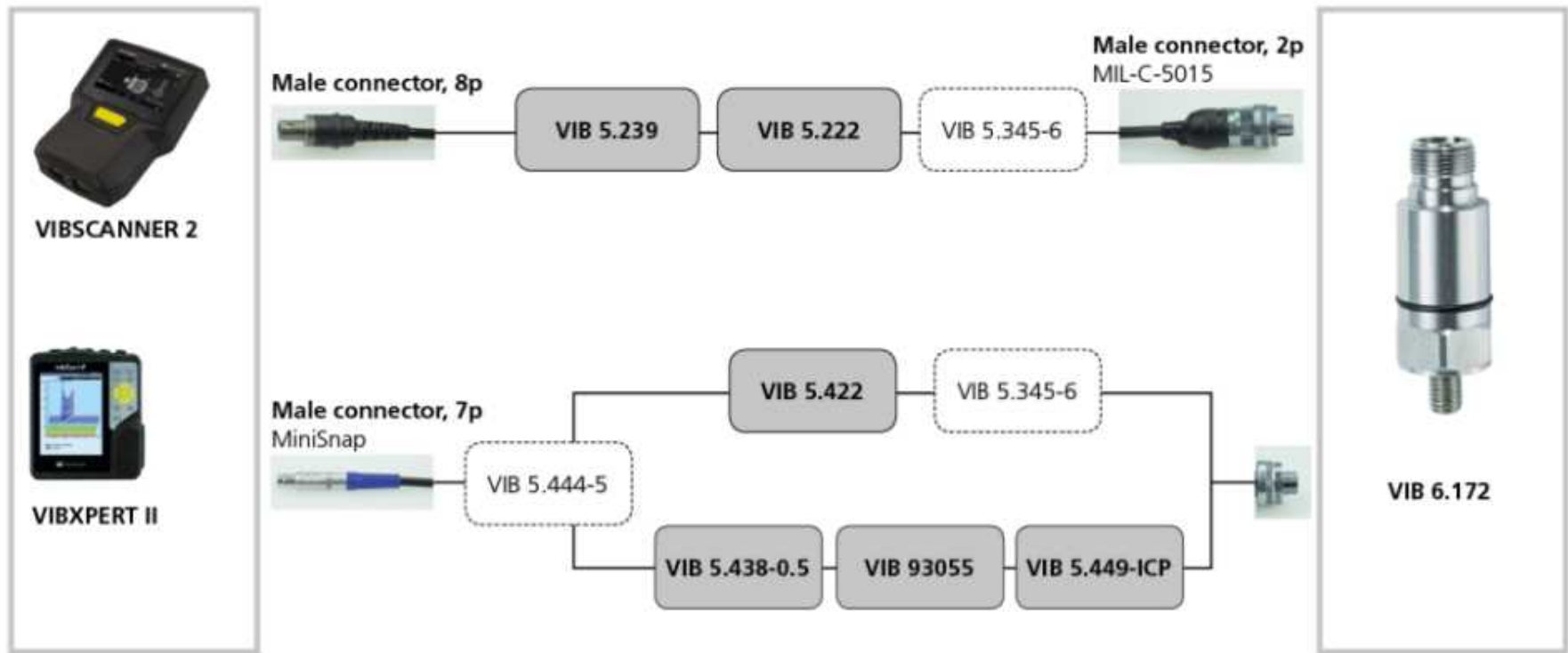
## Remote measuring location with accelerometer - type: CLD



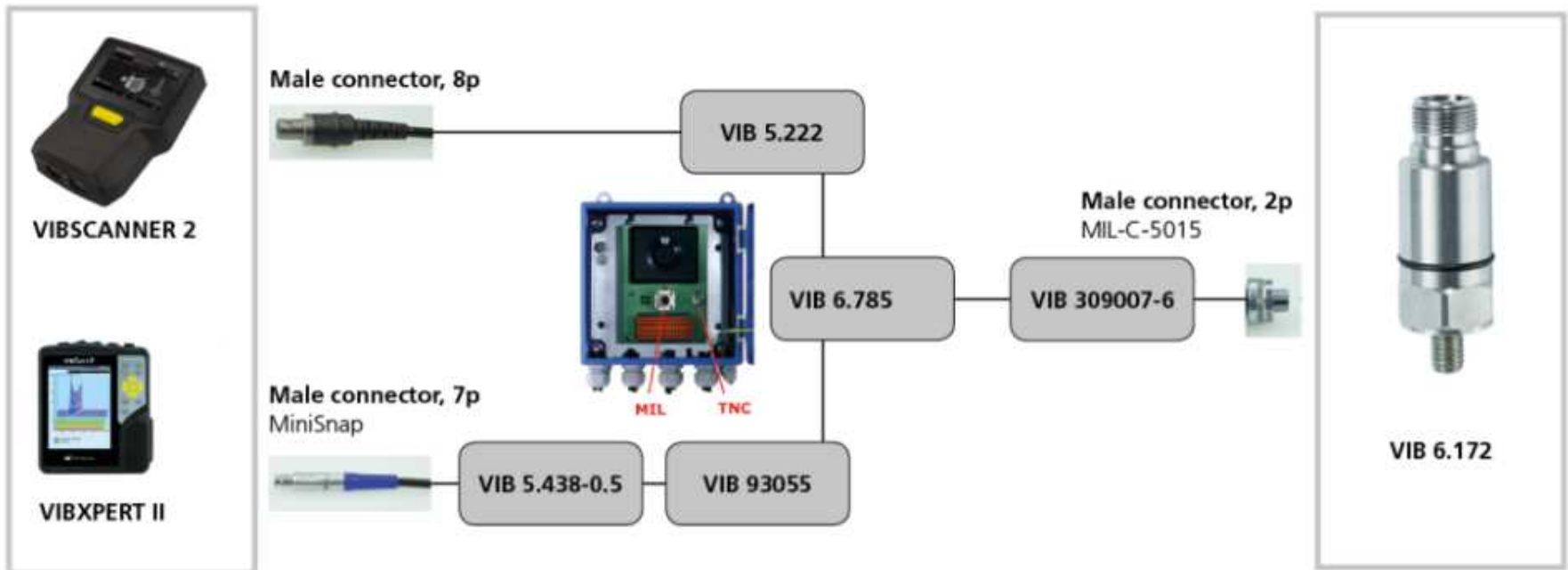




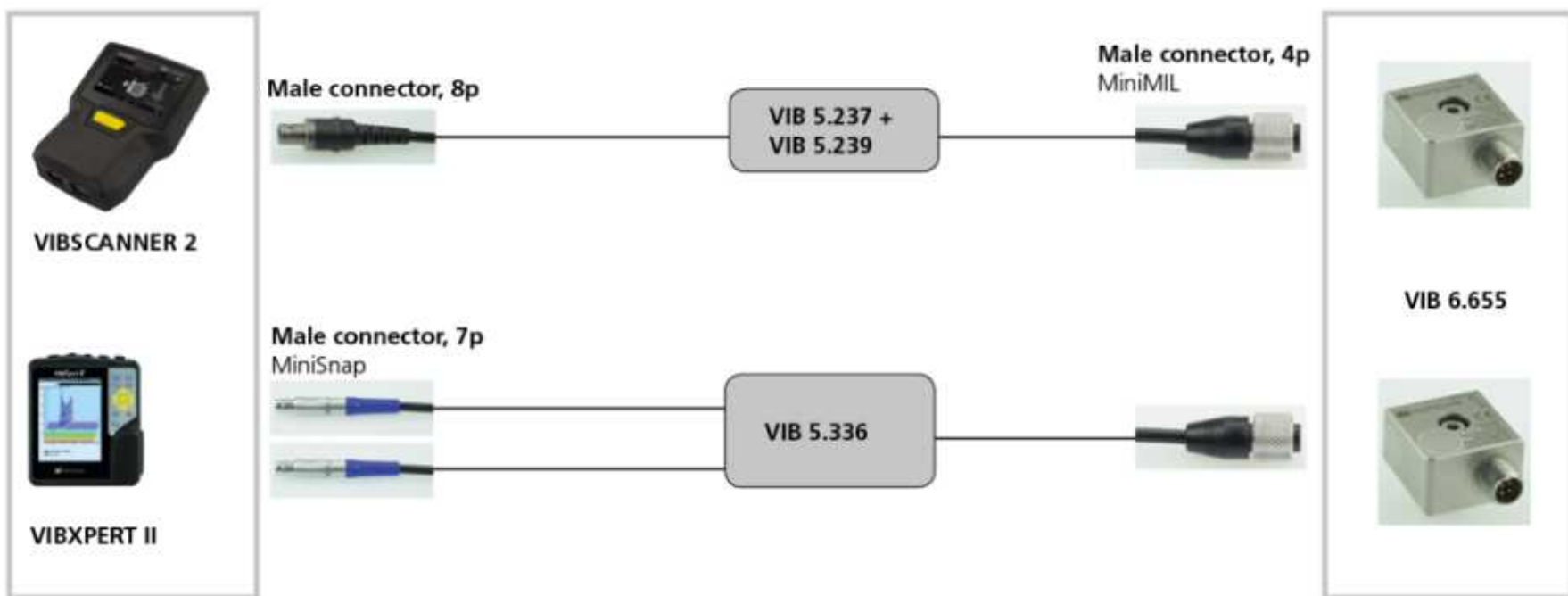
**Accelerometer - type: IEPE monoaxial**



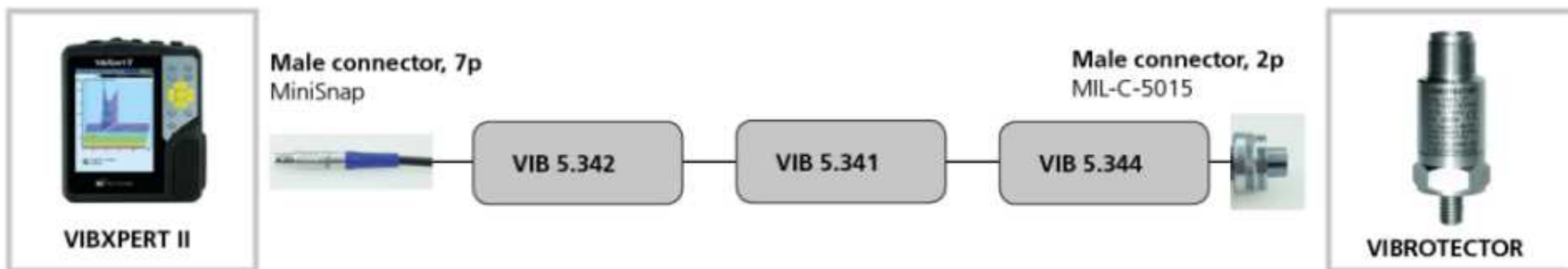
**Remote measuring location with accelerometer - type: IEPE monoaxial**



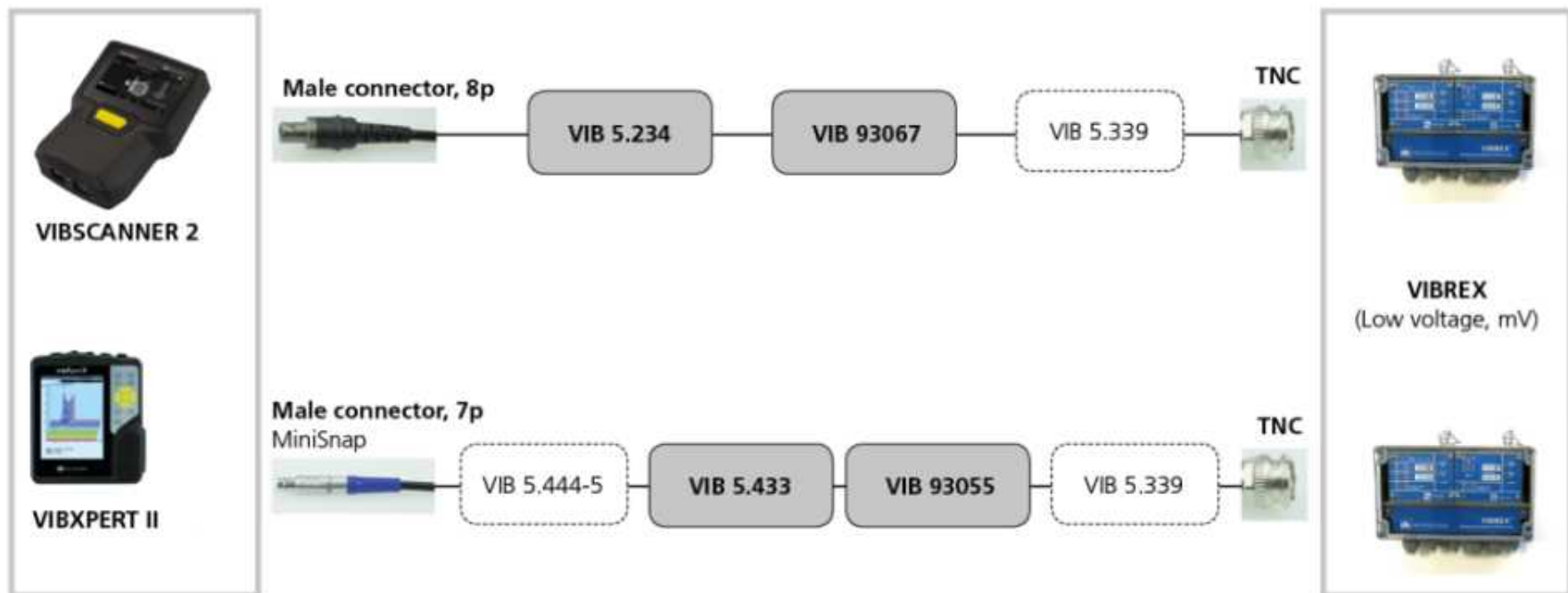
**Accelerometer - type: IEPE triaxial**



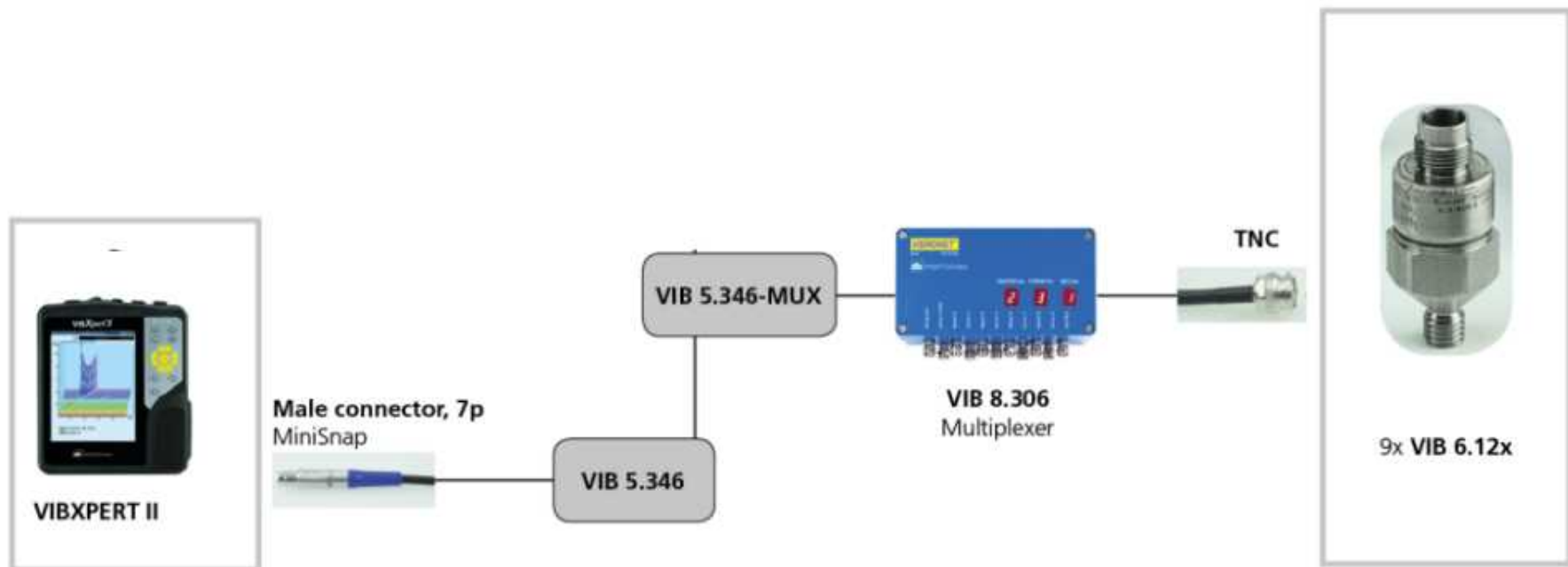
**VIBROTECTOR: 4-20 mA**



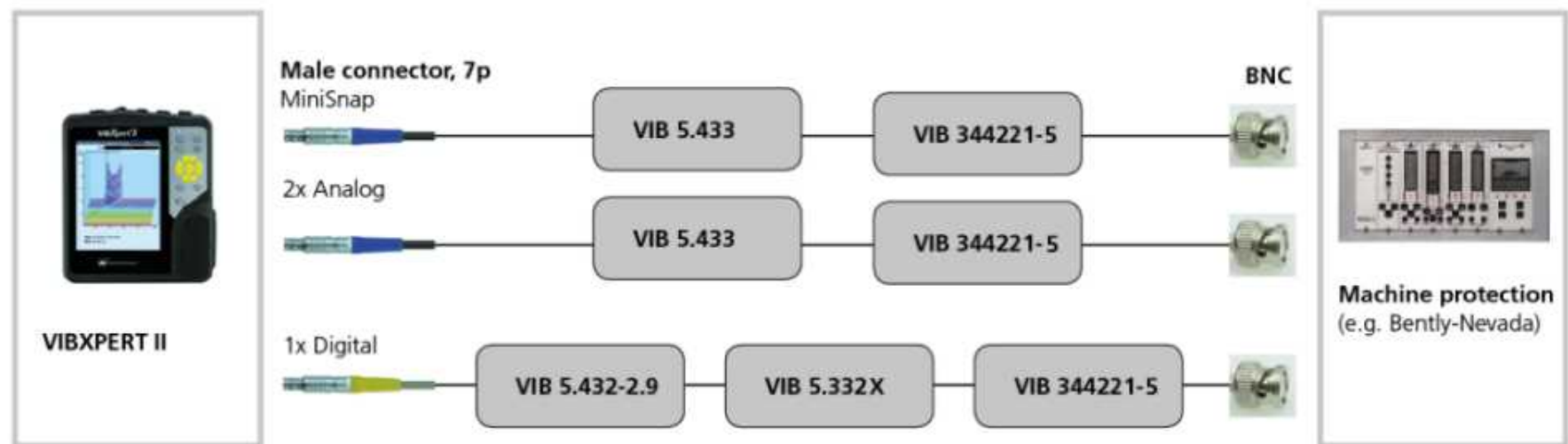
**VIBREX: Low voltage, mV**



## VIBRONET Multiplexer



## Machine protection system (e.g. Bently Nevada)





## Pre-assembled sensor cables - VIB 3xx series

These sensor cables are assembled at both ends and can be used as signal cables for mobile or stationary data acquisition.




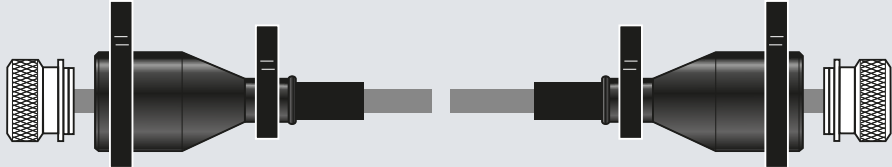


### Features

- Coaxial cable
- Different connectors
- Available in different lengths

Sensor cable with BNC connector and antikink sleeve. The figure shows the cable in the sample length (1m).

### Ordering information

Item No.	Description
<b>VIB 344221-5</b>	Sensor cable, both ends assembled, coaxial, 2x BNC connector, incl. antikink sleeve Length: 5 meters / 16.5 feet 
<b>VIB 318221-5</b> <b>VIB 318221-10</b> <b>VIB 318221-20</b>	Sensor cable, both ends assembled, coaxial, TNC connector, TNC socket, incl. antikink sleeve Length: 5, 10, 20 meters / 16.5, 33, 66 feet 
<b>VIB 316321-5</b> <b>VIB 316321-10</b> <b>VIB 316321-20</b>	Sensor cable, both ends assembled, coaxial, TNC connector with silicon dust cap, BNC socket (chassis) with antikink sleeve Length: 5, 10, 20 meters / 16.5, 33, 66 feet 
<b>VIB 311332-5</b> <b>VIB 311332-10</b>	Sensor cable, both ends assembled, coaxial for high temperatures (<125°C / 257°F), 2x TNC connector with silicon dust cap, incl. clamps Length: 5, 10 meters / 16.5, 33 feet 

## TECHNICAL INFORMATION

### Technical data

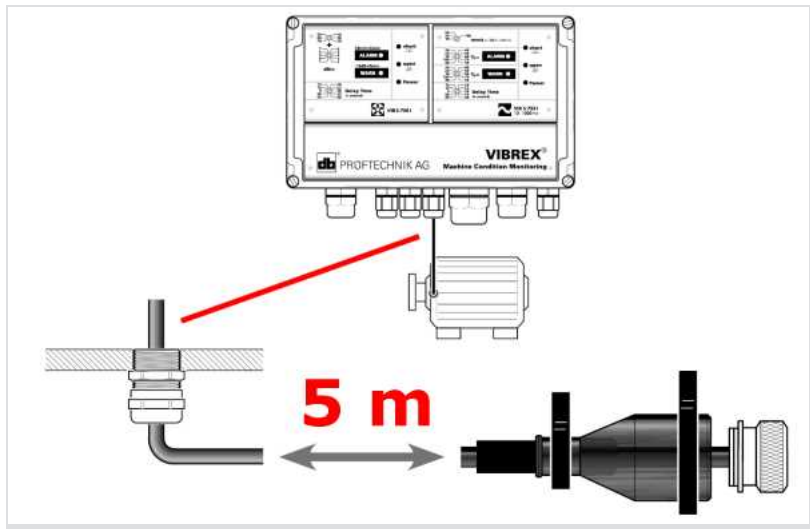
Component	Item No.	Details
Coaxial cable	VIB 90008, VIB 90093	"Coaxial cable", p. 165
Silicon dust cap	VIB 6.700	"Dust caps for industrial CLD accelerometers", p. 117

## Sensor cables, partly pre-assembled

<b>Partly pre-assembled sensor cable for VIBREX .....</b>	<b>156</b>
<b>Sensor cable with TNC connector, stationary CMS .....</b>	<b>157</b>
<b>Sensor cable with 2-pin MIL connector .....</b>	<b>159</b>
<b>Partly pre-assembled sensor cable with 4-pole M12 plug-in connector, angled .....</b>	<b>161</b>
<b>Partly pre-assembled sensor cable with 4-pole M12 plug-in connector, straight .....</b>	<b>162</b>

## Partly pre-assembled 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 [16' 5"]
- Assembly on the sensor side: TNC connector, dust cap, 2x clamps

### Ordering information

Item No.	Name
VIB 5.775-5	VIBREX sensor cable, partly pre-assembled, 5 m [16 ft 5 inch] long

### Accessories

Item No.	Item name / item group
VIB 6.77x	"Junction boxes for the extension of cables", p. 176

## Sensor cable with TNC connector, stationary CMS

These sensor cables are used to connect vibration sensors with coaxial signal output to stationary measuring systems. Ex-works, they are fitted with a straight TNC connector and different dust caps. The cable is cut smooth at the open end.



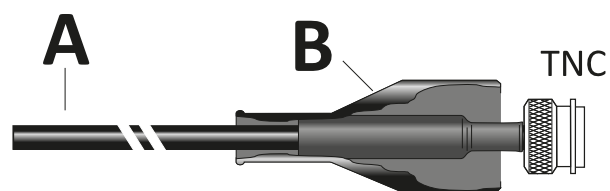
Top: Sensor cable with viton dust cap and clamps.

Bottom: Sensor cable with silicone dust cap for bulkhead connectors.

### Features

- Connection to stationary measuring systems
- TNC connector, straight
- Single or double cable shield (coaxial / triaxial)
- Large temperature range
- Available in different lengths

### Ordering information



Item No.	Description	A: Cable	B: Dust cap
<b>VIB 301031-5</b> <b>VIB 301031-10</b> <b>VIB 301031-20</b> <b>VIB 301031-30</b> <b>VIB 301031-40</b> <b>VIB 301031-60</b>	Sensor cable, partly pre-assembled, coaxial, TNC connector, silicone dust cap, incl. clamps Length: 5, 10, 20, 30, 40, 60 meters / 16.5, 33, 66, 98, 131, 197 feet	VIB 90008	VIB 6.700
<b>VIB 301041-5</b> <b>VIB 301041-10</b> <b>VIB 301041-20</b> <b>VIB 301041-30</b>	Sensor cable, partly pre-assembled, coaxial, TNC connector, viton dust cap, incl. clamps Length: 5, 10, 20, 30 meters / 16.5, 33, 66, 98 feet	VIB 90008	VIB 6.701
<b>VIB 301042-5</b> <b>VIB 301042-10</b> <b>VIB 301042-15</b>	Sensor cable, partly pre-assembled, coaxial, high temperature, TNC connector, viton dust cap, incl. clamps Length: 5, 10, 15 meters / 16.5, 33, 49 feet	VIB 90093	VIB 6.701

Item No.	Description	A: Cable	B: Dust cap
<b>VIB 301035-5</b> <b>VIB 301035-10</b> <b>VIB 301035-20</b> <b>VIB 301035-30</b>	Sensor cable, partly pre-assembled, triaxial, TNC connector, silicone dust cap, incl. clamps Length: 5, 10, 20, 30 meters / 16.5, 33, 66, 98 feet	VIB 90080	VIB 6.700
<b>VIB 301011-5</b> <b>VIB 301011-10</b> <b>VIB 301011-20</b> <b>VIB 301011-30</b> <b>VIB 301011-40</b>	Sensor cable, partly pre-assembled, coaxial, TNC connector, silicone dust cap for bulkhead connectors Length: 5, 10, 20, 30, 40 meters / 16.5, 33, 66, 98, 131 feet	VIB 90008	VIB 10473

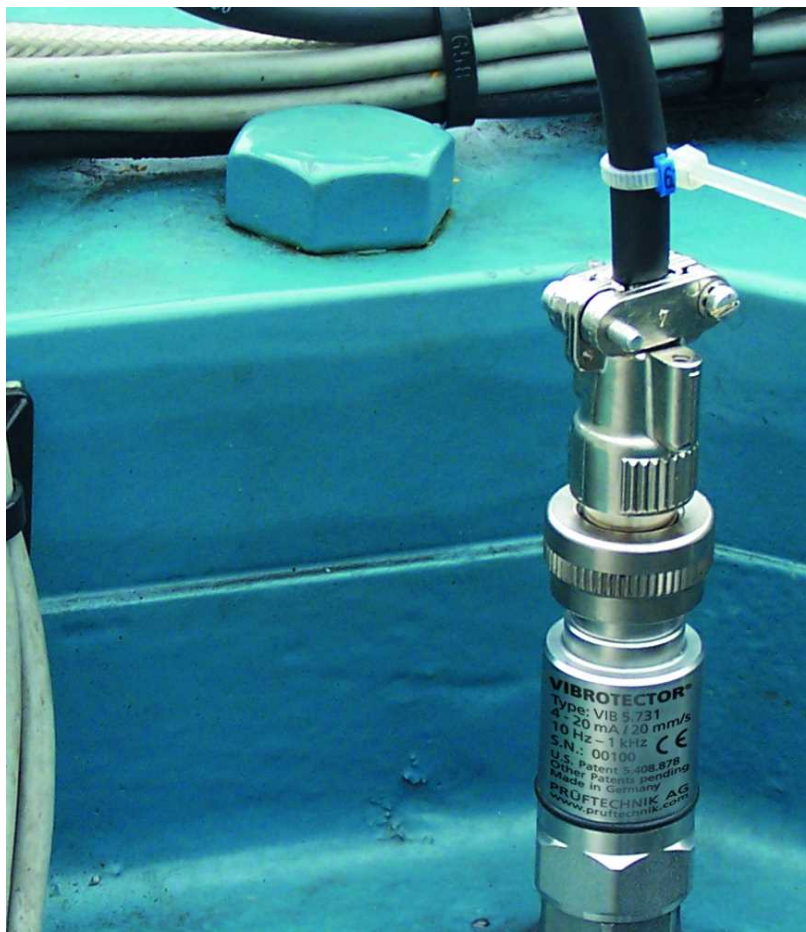
## TECHNICAL INFORMATION

### Technical data

Component	Item No.	Details
Coaxial cable	<b>VIB 90008, VIB 90093</b>	"Coaxial cable", p. 165
Triaxial cable	<b>VIB 90080</b>	"Triaxial cable", p. 169
Dust cap	<b>VIB 6.700, VIB 6.701</b>	"Dust caps for industrial CLD accelerometers", p. 117
Dust cap (bulk-head connector)	<b>VIB 10473</b>	"Dust cap for TNC connector VIB 10473", p. 184

## Sensor cable with 2-pin MIL connector

These sensor cables are used to connect vibration sensors with a 2-pole signal output to stationary measuring systems. Ex-works, they are fitted with a straight or angled plug-in connector and pre-assembled with wire end ferrules at the open end.



VIBROTECTOR with sensor cable VIB 309007.




### Features

- Connection to stationary measuring systems
- Robust 2-pole plug-in connector (MIL)
- Shielded 2-core cable, type VIB 90061
- IP 68 version for installation in liquid media (< 0.8 bar).

### Suitable for the following sensor types:

- VIBROTECTOR vibration monitor, VIB 5.73x
- Accelerometer "100 mV/g", IEPE, VIB 6.172
- Accelerometer "Wind", CLD, VIB 6.195

### Ordering information

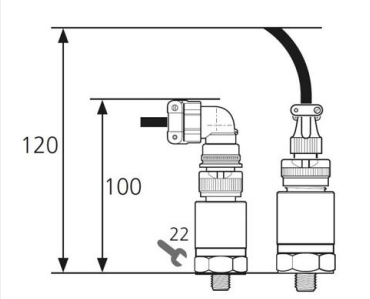
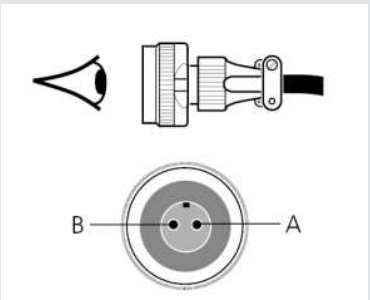
Item No.		Sensor cable with 2-pole plug-in connector (MIL)
VIB 3.570-6 VIB 3.570-12 VIB 3.570-20 VIB 3.570-30 VIB 3.570-40 VIB 3.570-60		Sensor cable, partly pre-assembled, PUR sheath, MIL plug-in connector (2p straight aluminum alloy), IP68 Length: 6, 12, 20, 30, 40, 60 meters / 20, 39, 66, 98, 131, 197 feet
VIB 309007-6 VIB 309007-15 VIB 309007-20 VIB 309007-25 VIB 309007-30		Sensor cable, partly pre-assembled, PUR sheath, MIL plug-in connector (2p straight aluminum alloy), Length: 6, 15, 20, 25, 30 meters / 20, 49, 66, 82, 98 feet
VIB 5.745-5 VIB 5.745-10 VIB 5.745-20 VIB 5.745-30		Sensor cable, partly pre-assembled, PUR sheath, MIL plug-in connector (2p angled aluminum alloy), Length: 5, 10, 20, 30 meters / 16.5, 33, 66, 98 feet

### Accessories

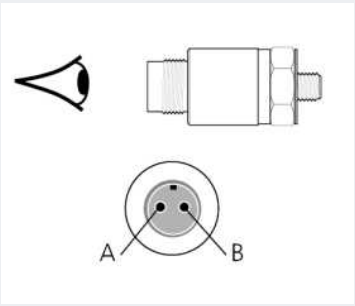
Item No.	Name
Miscellaneous	"Junction boxes for the extension of cables", p. 176

## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 3.570-x	VIB 309007-x	VIB 5.745-x
<b>Length</b>	Available in length x where x is the necessary length		
<b>Cable type</b>	VIB 90061, PUR, silicone-free		
<b>Temperature range</b>	-40°C ... + 85°C [-40°F ... +185°F]		
<b>IP rating</b>	IP 68	IP 65	IP 65
<b>Plug-in connector</b>	VIB 94010 Material: Al alloy Surface: Zink-nickel (A 240)		VIB 94011 Material: Al alloy Surface: Zink-nickel (A 240)
<b>Assembly</b>	The cable screen is electrically insulated to the connector.		
<b>Mounting height</b>	> 120 mm	> 120 mm	> 100 mm
			
<b>Pin: wire color code</b>	A: WT- white B: BN - brown		
			

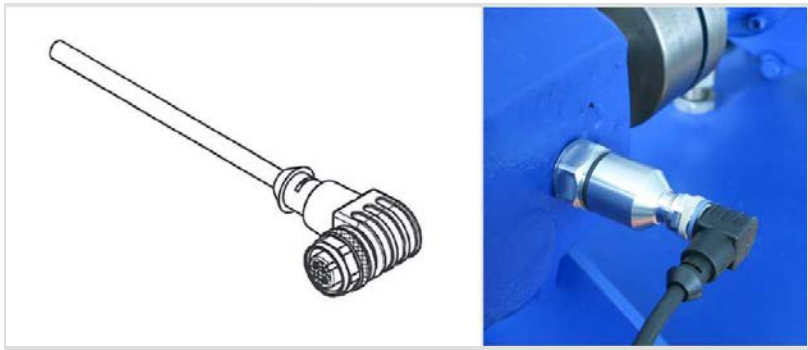
### Polarity, Sensor

Sensor	View	Pin A	Pin B
VIBROTECTOR		Signal (+)	Screen (-)
Accelerometer "100 mV/g", IEPE		Signal	GND
Accelerometer "Wind", CLD		GND	Signal



## Partly pre-assembled sensor cable with 4-pole M12 plug-in connector, angled

This sensor cable is used to connect vibration sensors with a 4-pole signal output to a stationary measuring system. Ex-works, the cable is fitted with an angled M12 plug-in connector and cleanly cut at the open end.



Sensor cable with 4-pole M12 plug-in connector

### Features

- Connection to stationary measuring systems
- Cable lengths: 10-meter or 20-meter
- Shielded line in the connector laid

### Suitable for the following sensor type:

- Accelerometer "100 mV/g", IEPE, VIB 6.210

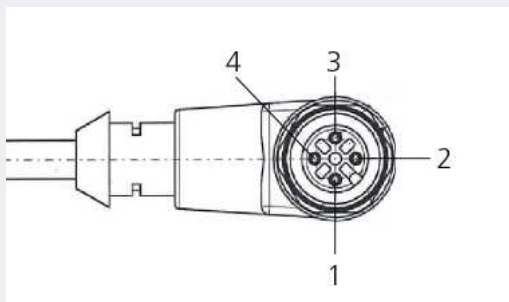
### Ordering information

Item No.	Name
<b>VIB 3.575-10</b>	Sensor cable with 4-pole M12x1 plug-in connector, angled, partly pre-assembled, PUR sheath, 10-meter long
<b>VIB 3.575-20</b>	Sensor cable with 4-pole M12x1 plug-in connector, angled, partly pre-assembled, PUR sheath, 20-meter long

## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 3.575-10 / VIB 3.575-20
<b>Sheath</b>	PUR UL, black
<b>Connector plug</b>	M12x1
<b>Pin: Color code</b>	1: BN - brown 2: BU - blue 3: BK - black 4: Drain wire (shield); drain wire (shield cable) is laid in the connector on pin 4 and is electrically insulated against the machine.



## Partly pre-assembled sensor cable with 4-pole M12 plug-in connector, straight

This sensor cable is used to connect vibration sensors with a 4-pole signal output to a stationary measuring system. Ex-works, the cable is fitted with a straight M12 plug-in connector and cleanly cut at the open end.



Sensor cable with 4-pole straight M12 plug-in connector for combi-sensor

### Features

- Connection to stationary measuring systems
- Cable length: 10 meters
- Shielded line in the connector not laid

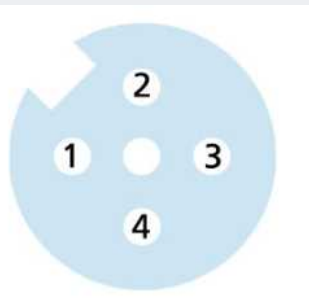
### Ordering information

Item No.	Name
<b>VIB 6.164-10</b>	Sensor cable with 4-pole M12x1 plug-in connector, straight, partly pre-assembled, PUR sheath, 10 m

## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 6.164-10
<b>Sheath</b>	PUR, black
<b>Diameter D</b>	5.1 mm
<b>Bending radius</b>	5 x D (fixed); 12 x D (movable)
<b>Connector plug</b>	M12x1
<b>Wire color code</b>	1: BN - brown 2: WH - white 3: BU - blue 4: BK - black Shield: NC
<b>Special characteristics</b>	Flame-resistant, seawater-resistant, acid-resistant, alkali-resistant, ozone-resistant, UV-resistant, can be used in drag chain, halogen-free, silicone-free, oil-resistant



## Cable Lines

<b>Industrial Ethernet cable CAT5 .....</b>	<b>164</b>
<b>Coaxial cable .....</b>	<b>165</b>
<b>Multi-core sensor cable (Multi-TP) .....</b>	<b>167</b>
<b>Triaxial cable .....</b>	<b>169</b>
<b>Two-core sensor cable .....</b>	<b>170</b>

# Industrial Ethernet cable CAT5



Industrial Ethernet cable.

## Features

- Category 5e (CAT5)
- Wires stranded in pairs and shielded
- Suitable for drag chains
- Flame retardant (IEC 60332-1)
- Halogen-free

## Ordering information

Item No.	Description
VIB 90030	Industrial Ethernet cable

Note: The item number refer to 1 meter cable.

## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 90030
<b>ELECTRICAL</b>	
Charact. impedance	approx. 100 Ohm ±15 Ohm (at 1 to 100 MHz)
Op. capacitance (nom.)	approx. 48 nF/km
Attenuation	33 dB/100m (100 MHz)
Test voltage	0.7 kV
<b>STRUCTURE</b>	
Conductor	4 x 2 x 0.15 mm <sup>2</sup> , bare copper strand
Wire insulation	PP
Stranding	Wired stranded in pairs
Shielding	Polyester film over stranded assembly Polyester film AI-laminated, outside: Cu braiding, galvanized
Cable sheath	PUR, green, suitable for drag chains
<b>MECHANICAL</b>	
Temperature range	-40°C ... + 80°C (-40 ... +176 °F)
Bending radius	> 102 mm (4" )
Diameter	approx. 6.8 mm ± 0.3 mm
Weight	5.6 kg / 100 m ( 197,5 oz / 328 ft)
Specific features	Flame retardant (IEC 60332-1), halogen-free (IEC 60754-2), category 5e (CAT 5), corrosiveness (EN50267-2-3), UL style 20963 (80 °C/30 V)

## Coaxial cable

These cables are single-shielded and are used by default for the transfer of high-frequency signals in the industrial area. Different designs are available for different ambient conditions and applications.



### Features

- Type: RG 58 resp. RG 142 B/U
- For low ambient temperatures
- For high ambient temperatures
- Flame resistant
- Halogen-free
- Oil-resistant

Coaxial cable in different designs:

Top: High temperature, 2x shielded, low attenuation - VIB 90007

Center: High temperature, 1x shielded VIB 90093

Bottom: Standard, to -40 °C, VIB 90008

### Ordering information

Item No.	Description
<b>VIB 90007</b>	Coax cable, high ambient temperature (< 165 °C), low attenuation
<b>VIB 90008</b>	(Standard) coax cable, low ambient temperature (> -40 °C),
<b>VIB 90009</b>	Coax cable, halogen-free, flame resistant
<b>VIB 90093</b>	Coax cable, high ambient temperature (< 125 °C)

Note: The item numbers refer to 1 meter cable.

### Accessories

Item No.	Description
<b>VIB 6.730</b>	"Conduit for coaxial cable", p. 181

## TECHNICAL INFORMATION

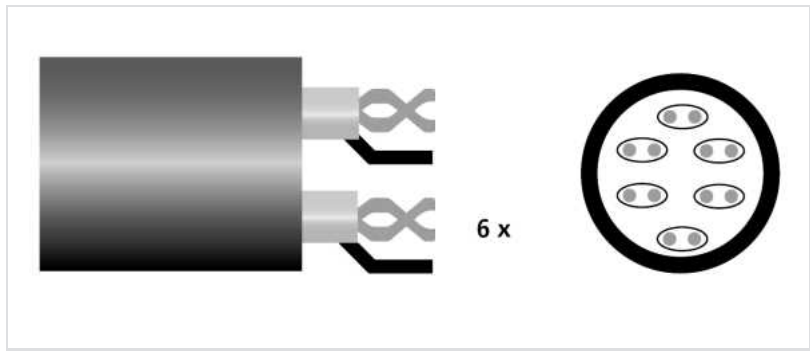
### Technical data

Parameter	VIB 90007	VIB 90008	VIB 90009	VIB 90093
<b>ELECTRICAL</b>				
<b>Char. impedance</b>	50 Ohm			
<b>Line resistance</b>	---	38 Ohm/km (20 °C)	---	38 Ohm/km (20 °C)
<b>Capacitance</b>	95 nF/km	101 nF/km	101 nF/km	105 nF/km
<b>Attenuation<sup>1</sup></b>	28 dB/100m	32 dB/100m	38 dB/100m	46 dB/100m
<b>STRUCTURE</b>				
<b>Type</b>	RG 142 B/U	RG 58		
<b>Inner conductor</b>	Steel, Cu + Ag	Cu strand, tinned		
<b>Dielectric</b>	PTFE	MDPE white	PEX (PE cross-linked)	Rayolin™
<b>Shield</b>	2x Cu braiding, Ag	Cu braid, tinned		
<b>Cable sheath</b>	FEP, brown	MDPE black	RADOX GWK S, black	Thermorad® S, black
<b>MECHANICAL</b>				
<b>Temperature range</b>	-65°C ... + 165°C	-40°C ... + 80°C	-25°C ... + 105°C	-50°C ... + 125°C
<b>Bending radius</b>	50 mm			
<b>Diameter</b>	5 mm			
<b>Weight</b>	6.4 kg / 100 m	4 kg / 100 m	4 kg / 100 m	3.5 kg / 100 m
<b>Specific features</b>	oil-resistant, 2x shielded	silicone-free, halogen-free IEC 60708	halogen-free, flame resistant	oil-resistant

<sup>1</sup>at 400 MHz / 25°C / sea level

## Multi-core sensor cable (Multi-TP)

This cable features 12 cores stranded in pairs and is used as line section for up to six sensor cables in Online CMS.



### Features

- 6 x 2 cores
- Halogen-free
- UV-resistant
- Interference-resistant

Multi-TP cable with 6 shield cores stranded in pairs and external shielding (schematic illustration).

### Ordering information

Item No.	Description
VIB 90070	Multi-core sensor cable (Multi-TP)

Note: The item number refer to 1 meter cable.

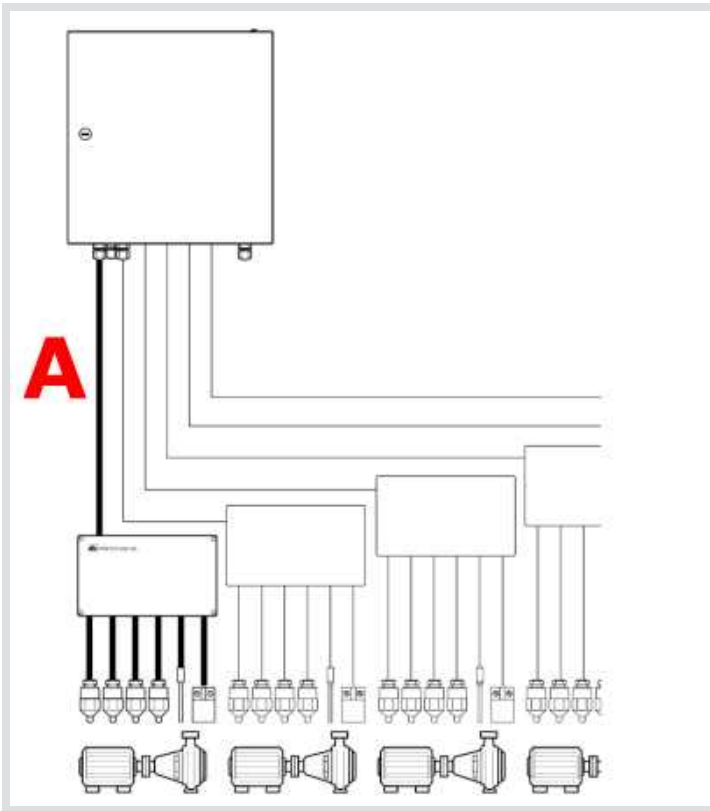
## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 90070
<b>ELECTRICAL</b>	
Characteristic impedance	approx. 65 Ohm
Operating capacitance (A/A)	approx. 140 nF/km
Inductance	approx. 0.65 mH/km
<b>STRUCTURE</b>	
Conductor	6 x 2 x 0.25 mm <sup>2</sup> , copper strand, finely stranded
Shielding	Pair: Cu spinning Outside: Cu braiding, galvanized
Sheath	Polyurethane PUR, black, halogen-free, UV-stabilized
<b>MECHANICAL</b>	
Temperature range	-30°C ... + 80 °C, permanently routed
Bending radius	> 108 mm, permanently routed
Diameter	approx. 17.5 mm ± 0.5 mm
Color code, cores	one core each white (WH), the second wire per DIN 47100 ff.

## Installation example

Multi-TP cable (A) routes 6 sensor cables as line section to the base unit.





# Triaxial cable

These cables are double-shielded and are used by default for the transfer of high-frequency signals in the industrial area with high EMC load.



Triaxial cable with double shielding.

## Features

- Type: RG 58
- Silicone-free
- Flame retardant (IEC 60332-1-2)
- UV-resistant

## Ordering information

Item No.	Description
VIB 90080	Triaxial cable

Note: The item number refer to 1 meter cable.

## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 90080
Characteristic impedance	50 Ohm
Capacitance	105 nF/km (1kHz)
Attenuation <sup>1</sup>	34 dB/100m
Type	RG 58
Inner conductor	Cu strand, galvanized
Dielectric 1/2	PE
Shielding 1/2	Cu braiding, galvanized
Cable sheath	Polyurethane PUR, black
Temperature range	-40°C ... + 80°C
Bending radius	50 mm
Diameter	10 mm
Weight	12.6 kg / 100 m
Specific features	silicone-free, UV-resistant, flame retardant (IEC 60332-1-2), RoHS-conform (2002/95/EC)

<sup>1</sup>at 300 MHz / 20°C

## Two-core sensor cable

This shielded cable is used by default for wiring of sensors with 2-conductor output.



Sensor cable with PUR sheath

### Suitable for the following sensor types:

- Accelerometer "Wind" (CLD), VIB 6.195
- Accelerometer "100 mV/g" (IEPE), VIB 6.172
- VIBROTECTOR vibration transmitter, VIB 5.73x

### Ordering information

Item No.	Description
VIB 90061	Sensor cable with PUR sheath, two-core, shielded

Note: The item number refer to 1 meter cable.

## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 90061
<b>ELECTRICAL</b>	
Characteristic impedance	72 Ohm
Operating capacitance (A/A)	approx. 86 nF/km ±10%
Inductance	approx. 0.75 mH/km
Rated voltage $U_0/U$	300 / 500 V
<b>STRUCTURE</b>	
Conductor	2 x 0.50 mm <sup>2</sup>
Wire insulation	Co-polymer
Shield	Cu braiding, galvanized,
Cable sheath	PUR polyurethane, black
<b>MECHANICAL</b>	
Temperature range	-40°C ... + 85°C, permanently routed
Bending radius, flexibly routed	> 84 mm
Bending radius, permanently routed	> 34 mm
Diameter	approx. 5.6 mm
Weight	---
Color code	BN (brown), WH (white)

Parameter	VIB 90061
<b>Specific features</b>	Resistant to mineral oils and hydraulic fluid; Notch- and wear-resistant; Resistant to electrical radiated interference; Free from paint-wetting substances; Halogen-free and flame retardant (IEC60332-1-2)

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## Cable accessories and installation material

<b>Intrinsic safety barriers</b> .....	<b>174</b>
<b>Junction boxes for the extension of cables</b> .....	<b>176</b>
<b>Protective sleeve and heat shrink sleeve</b> .....	<b>180</b>
<b>Conduit for coaxial cable</b> .....	<b>181</b>
<b>Plugs, sockets, terminal holders for bulkhead connectors</b> .....	<b>182</b>
<b>Switchbox channel switch for 12 channels</b> .....	<b>185</b>
<b>Other consumables</b> .....	<b>187</b>

## Intrinsic 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

Item No.	Reference	Description
5147415	VIB 3.550	Limiting device for intrinsically safe CLD accelerometers — VIB 6.1xx EX0 / VIB 6.202-6XD
5297164	0 2088 0009	Safety barrier for intrinsically safe IEPE accelerometers
5151518	0 2088 0010	Transmitter power supply unit for intrinsically safe VIBROTECTOR

## TECHNICAL INFORMATION

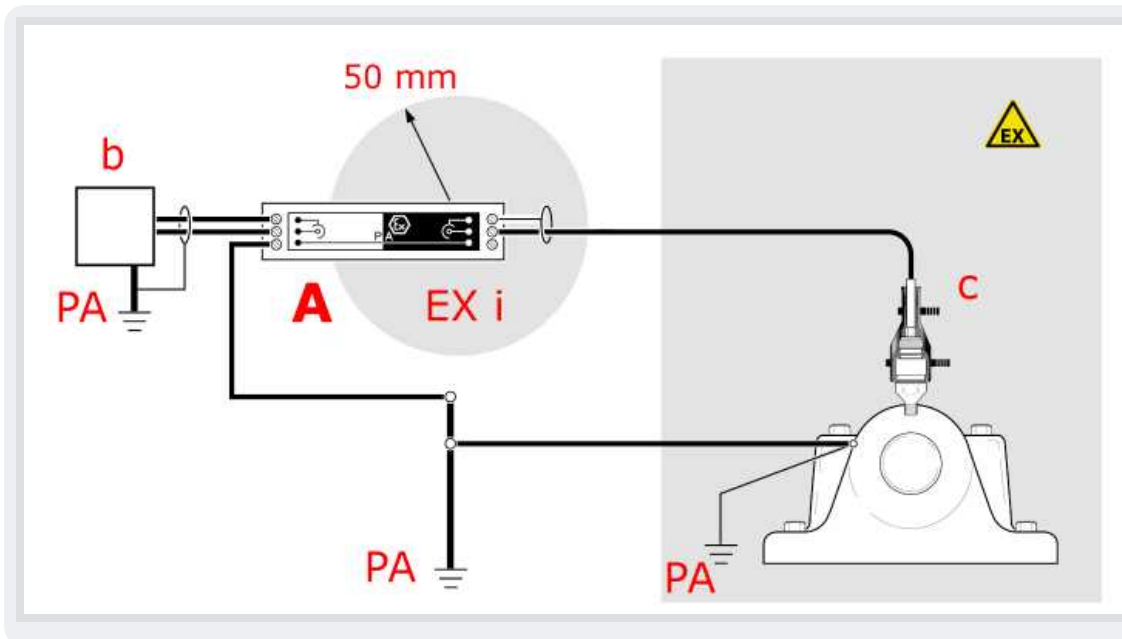
### Technical data

Parameter	VIB 3.550						
<b>ELECTRICAL</b>							
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 <sub>0</sub> = 13 V I <sub>0</sub> = 18 mA P <sub>0</sub> = 240 mW						
L <sub>0</sub> [mH]	1,00	0,50	0,20	0,10	0,05	0,02	
C <sub>0</sub> [μF]	0,50	0,59	0,75	0,92	1,00	1,00	
<b>GENERAL</b>							
Temperature range T <sub>A</sub>	-10 °C to 50 °C (14 °C to 122 °C)						
Case material	PA6.6, green						

Parameter	VIB 3.550
Environmental protection	IP 20
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 EX0  
PA: Potential equalization line

## 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.







### Features:

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

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

### Ordering information

Item No.		Description
<b>VIB 6.775/9</b>		Junction box for extension of two cables — coaxial to triaxial; TNC to M16 connection fitting
<b>VIB 6.775/13</b>		Junction box for extension of two cables — coaxial to triaxial; TNC to M20 connection fitting
<b>VIB 6.776</b>		Junction box for extension of one cable — 2-pin to 2-pin; M12 to M12 connection fitting
<b>VIB 6.770/9</b>		Junction box for extension of one cable — coaxial to coaxial; TNC to M16 connection fitting
<b>VIB 6.770/13</b>		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.




## TECHNICAL INFORMATION

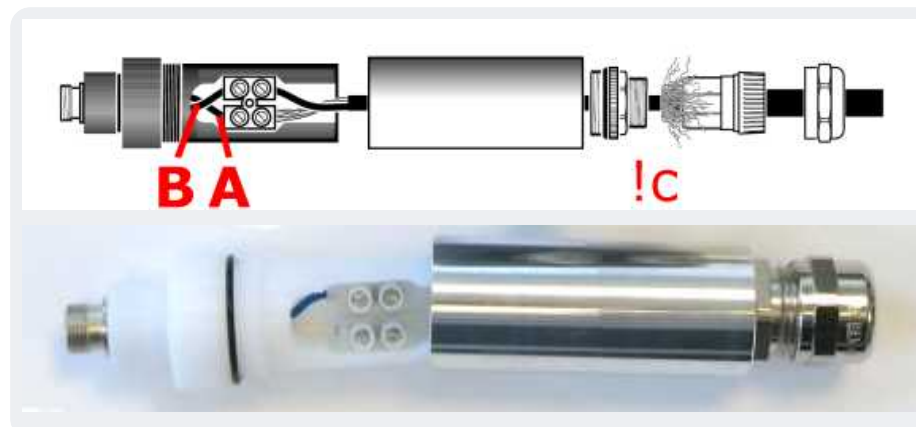
### Accessories

Item No.	Description
Miscellaneous	"Dust caps for industrial CLD accelerometers", p. 117

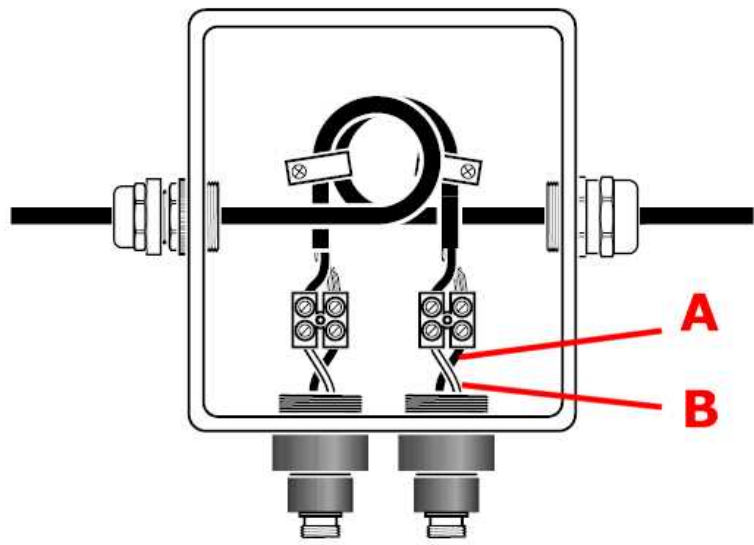
### Technical data

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

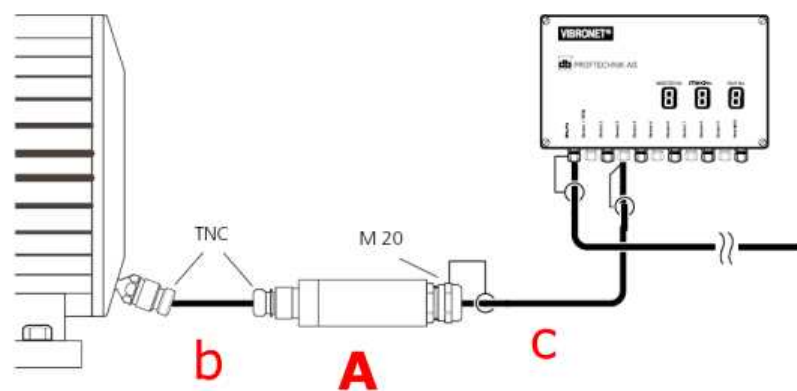
A: Shield (blue)

B: Signal (white)



### Application example

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



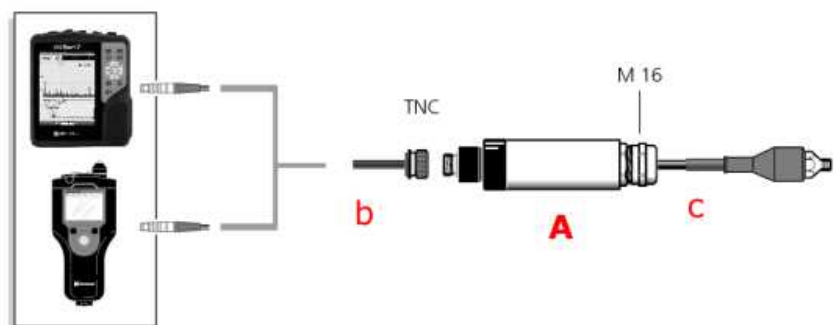
A: Junction box for one sensor cable VIB 6.770/13 (mounted electrically insulated)

b: Coaxial sensor cable;

2 x TNC

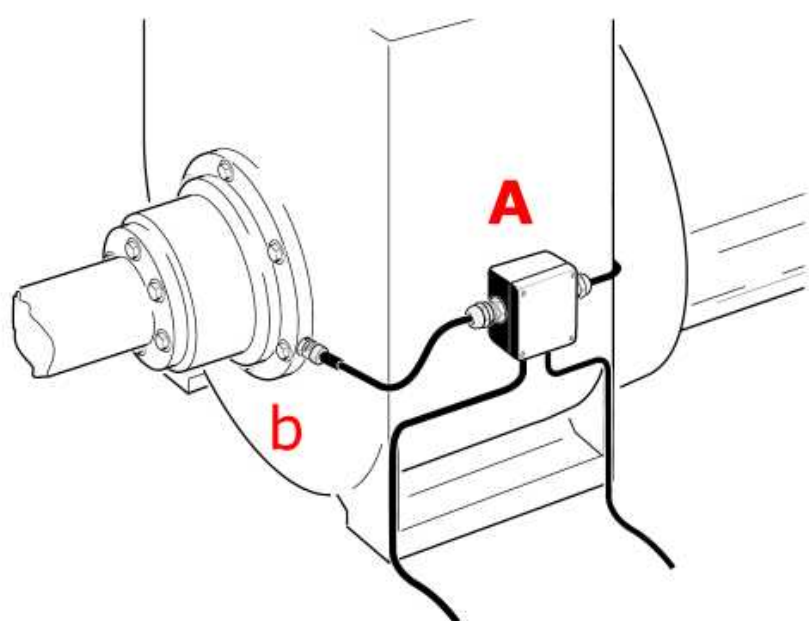
c: Triaxial cable to field multiplexer

### 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

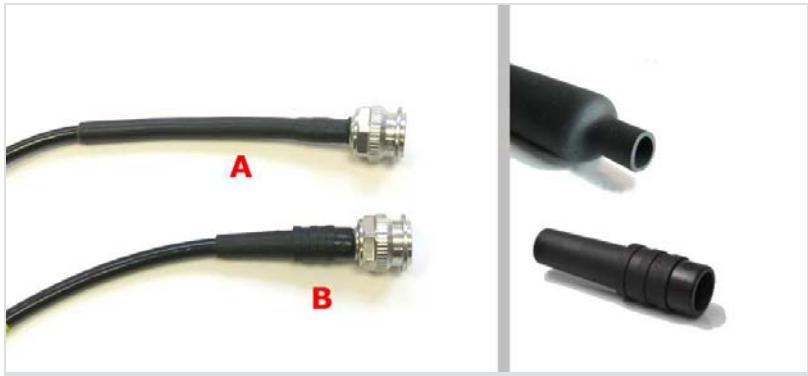
### Extending two sensor cables and the measurement location



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

## Protective sleeve and heat shrink sleeve

These components are used during the pre-assembly of customized cables. They provide mechanical protection, strain relief and electrical insulation for the cable connections.



### Features

- Heat shrink sleeve: Flexible and flame retardant
- Protective sleeve: For connectors using crimp cable entry

Coaxial cable pre-assembled with a TNC connector and a heat shrink sleeve (A) or protective sleeve (B)

### Ordering information

Item No.	Description
VIB 81018	Protective sleeve, halogen-free
0 0338 0082	Heat shrink sleeve

## TECHNICAL INFORMATION

### Technical data

Parameter	Protective sleeve	Heat shrink sleeve
Material	Ethylene-vinyl acetate (EVA)	Polyolefin (PO)
Temperature range	-40 °C to 70 °C (-40 °F to 158 °F)	-55 °C to 135 °C (-67 °F to 275 °F)
Length	38 mm (1 1/2")	---
Specific features	Halogen-free	Resistant to water, lubrication oil, hydraulic fluids and aviation fuel

## Conduit for coaxial cable

The conduit is made resistant plastic and protects coaxial cables against mechanical damage. Suitable conduit clamps used for strain relief are available.




Coaxial cable in a conduit

### Features

- Material: Polyamide
- Flame-retardant
- Self-extinguishing in accordance with UL94 V0
- Free of silicone, cadmium and halogen

### Ordering information

Item No.		Description
VIB 6.730		Conduit for coaxial cable
VIB 8.718		Conduit clamp, 1 piece

Note: When ordering, add the required conduit length to the part number.  
 Example: 250 m conduit length  
 Order number: VIB 6.730-250

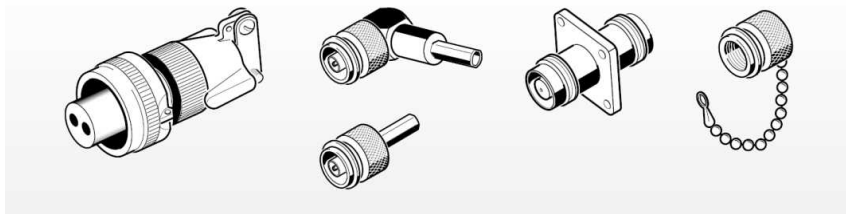
## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 6.730
<b>CONSTRUCTION</b>	
Material	Polyamide 6; Color: Black
Nominal diameter	6.5 mm
External diameter	10 mm
Bend radius	13 mm
<b>MECHANICAL</b>	
Temperature range	-40 °C to 115 °C (-40 °F to 239 °F)
Resistance	Oil, petrol
Environment	UV and weather resistant
Specific features	Flame-retardant, self-extinguishing in accordance with UL94 V0, free of silicone, cadmium and halogen

## Plugs, sockets, terminal holders for bulkhead connectors

These components are used in the pre-assembly of cables that are connected to measurement systems or sensors. They may also be used to create defined interfaces for connection to other components.



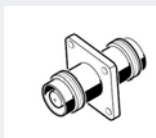

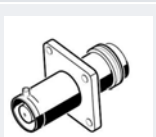

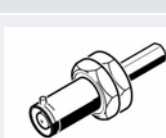


### Application

- Pre-assembly of coaxial or twisted-pair cables
- Feeding coaxial cables through through covers and housing

### Ordering information

Item No.	Illustration	Description – plug and socket
VIB 91002		TNC plug to TNC socket – angled
VIB 93022		TNC plug to crimp contact – straight
VIB 93033		TNC socket to TNC socket – straight
VIB 93047		TNC socket to crimp contact – straight
VIB 93055		TNC plug to BNC plug – straight
VIB 93060		BNC plug to crimp contact – straight
VIB 93062		TNC socket to BNC plug – straight
VIB 93067		TNC plug to BNC socket – straight
VIB 93077		TNC plug to crimp contact – angled
VIB 94010		2-pin plug-in connector – straight
VIB 94011		2-pin plug-in connector – angled

Item No.	Illustration	Description – bulkhead connectors
VIB 91000		Chassis connector, TNC socket to crimp contact
VIB 93035		Dust cap for TNC socket
VIB 93036 F		Bulkhead connector with fastening flange – TNC socket to TNC socket
VIB 93036 S		Bulkhead connector single hole screw version – TNC socket to TNC socket
VIB 93056		Bulkhead connector with fastening flange – BNC socket to TNC socket
VIB 93061		Dust cap for BNC socket
VIB 93090		Chassis connector, BNC socket to crimp contact
VIB 6.780	See 'Installation example'	Terminal holder for 12 bulkhead connectors
VIB 10473		Dust cap for TNC connector at the bulkhead

Note: The bulkhead connectors must be electrically insulated at installation. Suitable insulating washers are required for this purpose. During installation care must be taken to ensure that the dust caps do not come into contact with electrically conductive components.

## TECHNICAL INFORMATION

### Technical data

Parameter	VIB 94010 / VIB 94011
Material	Aluminium alloy
Surface	Zinc Nickel (A 240); RoHS compliant; Protection against salt spray (500h) and shielding according to VG95234
Clamping range	< 7 mm
Specification	MIL-C-5015

Parameter	VIB 6.780	VIB 10473
Material	Plastic PA	Silicone (HTV R 701)
Resistance	---	aliphatic hydrocarbons (mineral oils)
Temperature range	0 °C to 85 °C (32 °F to 185 °F)	< 200 °C (392 °F)
Environmental protection	---	IP 65
Clamping range	12.2 – 14.8 mm	

### Installation example: Terminal holder for bulkhead connectors

Terminal holder for bulkhead connectors – VIB 6.780	
	<p>A: Terminal holder VIB 6.780</p> <p>B: Dust cap for TNC connector VIB 10473</p> <p>c: TNC plug to crimp contact – straight VIB 93022</p> <p>d: Bulkhead connector single hole screw version, TNC socket to TNC socket VIB 93036 S</p> <p>e: Dust cap for TNC socket VIB 93035</p> <p>f: Dust cap for industrial sensor (e.g. VIB 6.700)</p>
	<p>The terminal holder may be sawed to the desired length if necessary. The TNC dust cap (B) hermetically seals the connection between the sensor cable and the bulkhead connector. To seal the connection between the sensor and the cable, a dust cap with a larger diameter is required (f).</p>
	<p><b>Engineering drawing for terminal holder</b></p>



## Switchbox channel switch for 12 channels

The switchbox channel switch joins up to 12 sensor lines at one output. The sensor signals can be recorded reliably and easily using a portable measuring device at the point of installation of the switchbox. The channels are selected by means of a rotary switch.



The sensor signal can be picked up at a TNC or MIL output.

### Features

- 12 measuring channels at one connection (TNC or MIL connector)
- Quick and secure data acquisition at one location
- No power consumption required
- For vibration sensors with a power or voltage output (CLD, IEPE)
- Operation in the Ex-zone possible

### Compatible with the following measuring devices:

- VIBXPERT II / VIBSCANNER 2 / VIBSCANNER
- VIBXPERT EX / VIBSCANNER EX

### Ordering information

Item No.	Reference	Name
5301972	VIB 6.784	Switchbox - channel switch for CLD and IEPE accelerometers, 12 channels

## TECHNICAL INFORMATION

### Accessories

Item No.	Reference	Name
5158813	VIB 5.436	"Pre-assembled sensor cables and adapters for CLD accelerometers (portable devices)", p. 135
5158739	VIB 5.422	"Cable adapter for VIBXPERT II", p. 136

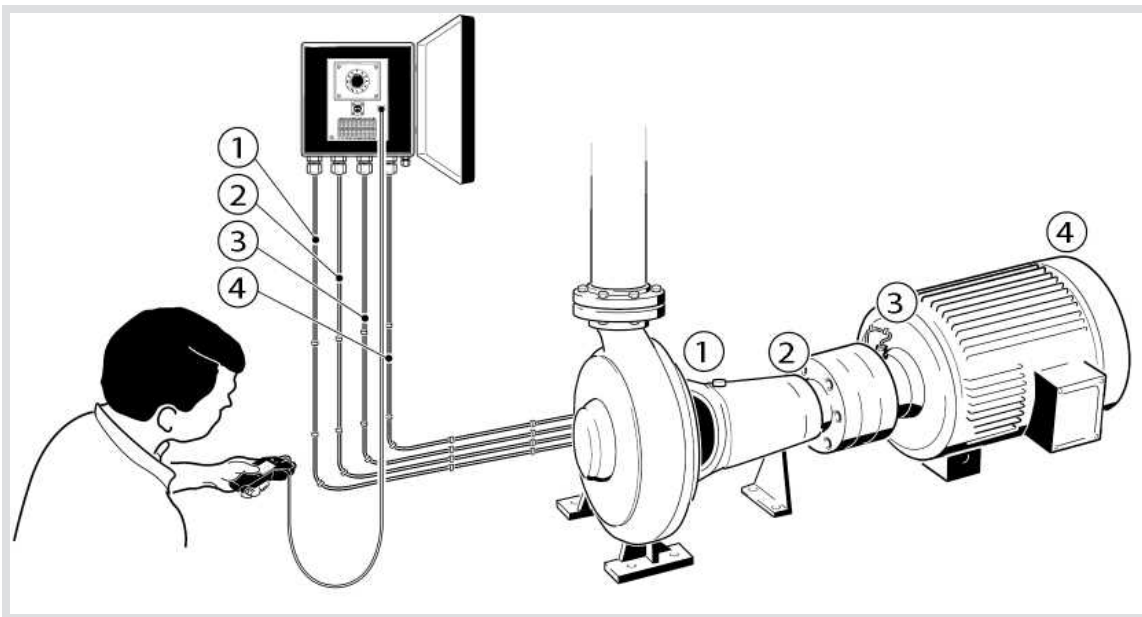
### Technical data

Parameter	5301972 (VIB 6.784)
Input	12 accelerometers (CLD / IEPE)
Output	one, via TNC socket or MIL socket
Temperature range	-20°C... +60°C
Protection class	IP 65

Parameter	5301972 (VIB 6.784)
<b>Dimensions</b>	

### Application example

Data acquisition with VIBSCANNER and switchbox on 4 channels.



## Other consumables

RFID tags are used to clearly identify measure locations. This makes it possible for defined measure tasks to be applied at the correct measure locations.

### Order information

Item No.	Reference	Description
5153442	ALI 50.628-25	RFID tags, 25 pieces
5245509	ALI 50.628 EX0-25	Intrinsically safe RFID tags, 25 pieces

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## Software for Condition Monitoring

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<b>OMNITREND Asset View</b> .....	<b>191</b>
<b>OMNITREND PC Software</b> .....	<b>192</b>
<b>VIBXPERT utility</b> .....	<b>194</b>

# OMNITREND Center

OMNITREND Center is a software platform for the following PRÜFTECHNIK measuring systems: VIBGUARD, VIBGUARD compact, VIBRONET Signalmaster, VIBXPERT II, VIBSCANNER 2.



OMNITREND Center is multi-screen-capable.

## Features

- Modern system architecture – ideal for distributed networks and cloud-based solutions
- Central data management
- Single-user and client-server version
- Advanced Modbus support
- Interactive report function
- User-friendly operation
- Multi-screen-capable
- Available in 13 languages
- Attractive license conditions
- Free software updates

## Ordering information

Item No.	Reference	Description
5347050	VIB 8.200-KEY	OMNITREND Center, client-server version The version contains one floating user license and 5 database licenses
5347061	VIB 8.210-KEY	OMNITREND Center, single user version
<b>Licenses for user, database, server</b>		
5139600/5139617	VIB 8.201/ 8.202	Floating user licenses: 1 / 5
5139621/5139639	VIB 8.203 / 8.204	Fixed user licenses: 1 / 5
5139642	VIB 8.205	10 additional database licenses

# OMNITREND Asset View

OMNITREND Asset View is a server-based software used to display current machine condition data. The user interface is structured in a clear manner that is ideal for managers and machine operators. The software supports these PRUFTECHNIK online condition monitoring systems: VIBGUARD IIoT (20 and 16 channels); VIBGUARD compact; VIBRONET Signalmaster



OMNITREND Asset View is multi-screen-capable.

### Features

- Real-time query of machine status via the Internet
- Traffic light colors immediately signal the current machine status
- Worldwide data access via MQTT data interface
- Exceeded alarm values are displayed
- Trend data visualization
- Runs on all PCs, smartphones, and tablets with an Internet connection
- Multi-screen-capable

### Order information

Item No.	Reference	Description
5291705	AV.100	Asset View display software 1 year site license

# OMNITREND PC Software

OMNITREND is the universal software platform for all data-acquiring PRÜFTECHNIK measuring systems (stationary and portable).



OMNITREND PC software on CD-ROM.

## Features

- Trend acquisition and forecast
- Comprehensive signal analyses
- Configurable reports
- Data exchange with CMMS systems
- User-friendly operation
- Available in 13 languages
- Attractive license conditions
- Free software updates

## Ordering information

Item No.	Reference	Description
<b>OMNITREND for VIBXPART II</b>		
<b>5347045</b>	<b>VIB 8.981-KEY</b>	OMNITREND for VIBXPART II, software package (incl. OMNITREND web single user)
<b>5138951</b>	<b>VIB 5.312-P</b>	PC license for VIBXPART II (Not part of 5347045)
<b>OMNITREND for VIBSCANNER</b>		
<b>5347023</b>	<b>VIB 8.955-KEY</b>	OMNITREND for VIBSCANNER, software package
<b>5139251</b>	<b>VIB 5.480-P</b>	PC license for VIBSCANNER
<b>5139880</b>	<b>VIB 8.961</b>	OMNITREND module "Gearbox Editor"
<b>5139898</b>	<b>VIB 8.962</b>	OMNITREND module "Signal Analysis"

Notes: Every software package and device driver contain a printed pocket guide and PC license in addition to a CD ROM.

A **device driver** is a file that enables the operation of an already present software with the respective device type.

A **PC license** is a password that enables communication between OMNITREND and the respective measuring device.

After initial installation, OMNITREND runs in demo mode. To enable the full version, a **registration password** is required, which must be requested by the user during startup.



## TECHNICAL INFORMATION

### OMNITREND for VIBSCANNER, "Signal Analysis" module

The OMNITREND "Signal Analysis" software module is available as extension of an already registered OMNITREND installation and enables display and analysis of the following VIBSCANNER measurements:

Software package	VIBSCANNER measurements
OMNITREND for VIBSCANNER	Time signal (multimode & route), Orbit (multimode)

By registering the "Signal Analysis" module, the "Gearbox Editor" module is enabled as well.

## VIBXPERT utility

This practical utility for the family of VIBXPERT devices supports the user during data transfer, data management and reporting. The software which includes the features Advanced File Export (UFF, IEEE) and Excel Report Module is available for downloading free of charge on the PRÜFTECHNIK website.



Export measurement data as MS Excel file with VIBXPERT utility.

### Features

- Download of screenshots, PDF files
- Backup & restore
- Transfer company logo to measuring device
- Firmware update
- Data export into CSV format
- Data export into Excel format (optional)
- Data export into UFF / IEEE (optional)

Notes: The **Advanced File Export** function comprises the conversion of spectra, time signals, as well as measurement results of impact tests and phase measurements into the UFF resp. IEEE file format for analysis in other analysis programs.

Using the **Excel Report Module**, you can export the following measurement data into a formatted MS Excel file:

Characteristic overall value, FFT spectrum, balancing result, time signal, coast-down measurement (amplitude-phase and characteristic overall value), 2-channel measurements.

The Excel files are based on templates that can be adjusted by the expert user as needed.

Version: Excel 2003, Excel 2007

## Shaft alignment systems

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<b>OPTALIGN touch– Shaft alignment .....</b>	<b>200</b>
<b>SHAFTALIGN touch – sets the benchmark for solving common shaft alignment problems .....</b>	<b>203</b>
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<b>Live Trend Add-on .....</b>	<b>213</b>
<b>Multi-Coupling add-on (sensALIGN 7) .....</b>	<b>214</b>
<b>Multi-Coupling add-on (sensALIGN 5) .....</b>	<b>216</b>

# ROTALIGN touch– Intelligent Shaft Alignment

ROTALIGN touch is the first cloud-enabled shaft alignment system featuring touchscreen display, intelligent sensor technology and built-in mobile connectivity.



## Application

- Alignment of horizontal, vertical and flange-mounted rotating machines
- Coupled, uncoupled and non-rotatable shafts
- Cardan shafts
- Multiple Coupling, Live Trend
- Live Trend in multiple coupling

## Features

- sensALIGN 7 sensor with IntelliSWEEP technology
- Intelligent measurement modes such as the uncoupled mode methods IntelliPASS and IntelliPOINT
- Multi-Coupling simultaneous Live Move with acoustic assistance
- Capacitive touchscreen
- Measurement table showing the different alignment jobs
- Customized tolerances (including asymmetric)
- Interactive real 3-D format for machines
- Communication using WiFi, Bluetooth and RFID
- Built-in camera

## Order information

ROTALIGN touch is available in these variants:

Item No.	Reference	Variant
Variants with ROW (Rest of World) radio approvals		
<b>5144693</b>	<b>ALI 50.000 FULL</b>	ROTALIGN touch, full version
<b>5144700</b>	<b>ALI 50.000 MOB</b>	ROTALIGN touch, mobile connectivity version
<b>5144687</b>	<b>ALI 50.000 CAM</b>	ROTALIGN touch, built-in camera version
<b>5144717</b>	<b>ALI 50.000 STD</b>	ROTALIGN touch, standard version
Variants with EU and North America radio approvals		
<b>5517960</b>	<b>ALI 50.001 FULL</b>	ROTALIGN touch, full version
<b>5517997</b>	<b>ALI 50.001 MOB</b>	ROTALIGN touch, mobile connectivity version
<b>5517936</b>	<b>ALI 50.001 CAM</b>	ROTALIGN touch, built-in camera version
<b>5518021</b>	<b>ALI 50.001 STD</b>	ROTALIGN touch, standard version

The items delivered within the box are shown in the overview.

**Note:** For each variant only one touch device is applicable. The device could be either ROW certified or EU & North America certified.

### Scope of supply

Item No.	Content		Variant			
	Description	Details	Full	Connectivity	Camera	Standard
ALI 50.200-FULL/ ALI 50.201-FULL	touch device FULL	p. 220	✓	✗	✗	✗
ALI 50.200-MOB/ ALI 50.201-MOB	touch device MOB	p. 220	✗	✓	✗	✗
ALI 50.200-CAM/ ALI 50.201-CAM	touch device CAM	p. 220	✗	✗	✓	✗
ALI 50.200-STD/ ALI 50.200-STD	touch device STD	p. 220	✗	✗	✗	✓
ALI 50.651	Power supply / Charger for touch device	p. 227	✓	✓	✓	✓
ALI 4.901	sensALIGN 7 sensor	p. 222	✓	✓	✓	✓
ALI 4.910	sensALIGN 7 laser	p. 222	✓	✓	✓	✓
ALI 4.960	sensALIGN 7 rechargeable battery	---	✓, 2x	✓, 2x	✓, 2x	✓, 2x
ALI 4.651	sensALIGN 7 AC power supply charger	p. 227	✓	✓	✓	✓
ALI 4.922-2	sensALIGN 7 sensor cable, 2 m (78 3/4" )	---	✓	✓	✓	✓
ALI 4.905	sensALIGN 7 vibration check probe	p. 228	✓	✓	✓	✓
ALI 50.801	Ruggedized trolley case, ROTALIGN touch		✓	✓	✓	✓
ALI 50.628-25	RFID tags, 25 pieces		✓	✓	✗	✗
ALI 3.589	Tape measure, mm/inch	---	✓	✓	✓	✓
2687537	Cleaning cloth	---	✓	✓	✓	✓
ALI 12.502-2	PC/USB cable, 2 m (78 3/4" )	---	✓	✓	✓	✓
5306155	USB flash drive to save reports		✓	✓	✓	✓
ALI 2.118	Compact chain-type bracket	p. 242	✓, 2x	✓, 2x	✓, 2x	✓, 2x
0 0593 0105	Storage pouch for compact chain type bracket set		✓	✓	✓	✓
ALI 2.170	115 mm (4 1/2") support post, white	p. 284	✓, 4x	✓, 4x	✓, 4x	✓, 4x

Content			Variant			
Item No.	Description	Details	Full	Connectivity	Camera	Standard
ALI 2.171	150 mm (5 15/16") support post, black	p. 284	✓, 4x	✓, 4x	✓, 4x	✓, 4x
ALI 2.173	250 mm (9 7/8") support post, green	p. 284	✓, 4x	✓, 4x	✓, 4x	✓, 4x
ALI 2.174	300 mm (11 13/16") support post, yellow	p. 284	✓, 4x	✓, 4x	✓, 4x	✓, 4x
ALI 2.114	300 mm tension chain	p. 243	✓, 2x	✓, 2x	✓, 2x	✓, 2x
0 0739 1055	Hexagon wrench (2.5 mm)		✓	✓	✓	✓
DOC 50.101	Pocket guide		✓	✓	✓	✓
DOC 50.601	Safety and general information		✓	✓	✓	✓
ALI 17.000-50	ARC 4.0 device activation for touch device	p. 292	✓	✓	✗	✗

**Note:** The items in the box for the variants are fixed.

Optional items may be ordered for any of the four variants.

#### Optional accessories

Item No.	Description – optional accessory	Note	Details
<b>PC software</b>			
ALI 17.000-50	ARC 4.0 device activation for touch device	optional for Camera and Standard versions	p. 292
<b>Application related add-ons</b>			
ALI 4.005/2-10	Live Trend Add-on, Magnet	w/ Magnetic Bracket for Horizontal and Vertical Surfaces	p. 213
ALI 4.005/2-20	Live Trend Add-on, PERMAFIX	w/ PERMAFIX bracket	p. 213
ALI 50.900	Multi Coupling Add-on for sensALIGN 7	for the alignment of multiple couplings	p. 214
ALI 50.901	Multi Coupling Add-on for sensALIGN 5	for the alignment of multiple couplings	p. 216
<b>Brackets</b>			
ALI 2.112 SET-S	Compact magnetic bracket set, standard		p. 248
ALI 2.230-1	Magnetic sliding bracket for flange		p. 261
ALI 2.109 SET	Extra-thin bracket set		p. 250
ALI 2.109 LSET	Small extra-thin bracket set		p. 250
ALI 2.761 SET iS	Universal magnetic bracket set for flanges and bores		p. 257
ALI 2.220 SET	Universal magnetic sliding bracket for flanges and bores, set		p. 263
ALI 2.450	Cardan shaft chain-type bracket with rotating arm, set		p. 245
ALI 2.460	Chain-type bracket for large diameter, set		p. 245
ALI 2.893 SET iS	Cardan shaft bracket set (for offsets up to 1000 mm)		p. 245

Item No.	Description – optional accessory	Note	Details
<b>ALI 2.874 SET iS</b>	Cardan shaft bracket Lite set (for offsets up to 400 mm)		p. 245
<b>Miscellany</b>			
<b>ALI 50.250</b>	Carrying strap		
<b>ALI 2.116</b>	1500 mm tension chain		
<b>ALI 2.191</b>	Anti torsion bridge for 2 support posts		p. 278

## TECHNICAL DATA

touch device p. 220

sensALIGN 7 sensor p. 222

sensALIGN 7 laser p. 223

# OPTALIGN touch– Shaft alignment

OPTALIGN touch is a cloud-enabled shaft alignment system featuring touchscreen operation and built-in mobile connectivity.



## Application

- Alignment of horizontal, vertical and flange-mounted rotating machines
- Coupled, uncoupled and non-rotatable shafts
- Cardan shafts

## Features

- sensALIGN 5 sensor featuring Single-Laser technology and 2 position detectors
- Simultaneous Live Move with acoustic assistance
- Capacitive touchscreen
- Measurement table showing the different alignment jobs
- Customized tolerances (including asymmetric)
- Interactive real 3-D format for machines
- Communication using WiFi, Bluetooth and RFID
- Built-in camera

## Ordering information

OPTALIGN touch is available in these variants.

Item No.	Reference	Variant
Variants with ROW (Rest of World) radio approvals		
<b>5144885</b>	<b>ALI 51.000 FULL</b>	OPTALIGN touch, full version
<b>5144897</b>	<b>ALI 51.000 MOB</b>	OPTALIGN touch, mobile connectivity version
<b>5144872</b>	<b>ALI 51.000 CAM</b>	OPTALIGN touch, built-in camera version
<b>5144904</b>	<b>ALI 51.000 STD</b>	OPTALIGN touch, standard version
Variants with EU and North America radio approvals		
<b>5517985</b>	<b>ALI 51.001 FULL</b>	OPTALIGN touch, full version
<b>5518017</b>	<b>ALI 51.001 MOB</b>	OPTALIGN touch, mobile connectivity version
<b>5517951</b>	<b>ALI 51.001 CAM</b>	OPTALIGN touch, built-in camera version
<b>5518042</b>	<b>ALI 51.001 STD</b>	OPTALIGN touch, standard version



The items delivered within the box are shown in the overview.

**Note:** For each variant only one touch device is applicable. The device could be either ROW certified or EU & North America certified.

### Scope of supply

Content			Variant			
Item No.	Description	Details	Full	Connectivity	Camera	Standard
ALI 50.200-FULL/ ALI 50.201-FULL	touch device FULL	p. 220	✓	✗	✗	✗
ALI 50.200-MOB/ ALI 50.201-MOB	touch device MOB	p. 220	✗	✓	✗	✗
ALI 50.200-CAM/ ALI 50.201-CAM	touch device CAM	p. 220	✗	✗	✓	✗
ALI 50.200-STD/ ALI 50.201-STD	touch device STD	p. 220	✗	✗	✗	✓
ALI 50.651	Power supply / Charger for touch device	p. 227	✓	✓	✓	✓
ALI 3.901	sensALIGN 5 sensor	p. 224	✓	✓	✓	✓
ALI 3.910	sensALIGN 5 laser including batteries	p. 225	✓	✓	✓	✓
ALI 3.955	Universal USB charger, 5V	p. 225	✓	✓	✓	✓
ALI 3.952	Micro USB cable (for charging the sensor)		✓	✓	✓	✓
ALI 51.800	Ruggedized trolley case, OPTALIGN touch		✓	✓	✓	✓
ALI 50.628-25	RFID tags, 25 pieces		✓	✓	✗	✗
ALI 3.589	Tape measure, mm/inch	---	✓	✓	✓	✓
2687537	Cleaning cloth	---	✓	✓	✓	✓
ALI 12.502-2	PC/USB cable, 2 m (78 3/4" )	---	✓	✓	✓	✓
5306155	USB flash drive to save reports		✓	✓	✓	✓
ALI 2.118	Compact chain-type bracket	p. 242	✓, 2x	✓, 2x	✓, 2x	✓, 2x
DOC 51.101	Pocket guide		✓	✓	✓	✓
DOC 50.601	Safety and general information		✓	✓	✓	✓
ALI 17.000-50	ARC 4.0 device activation for touch device	p. 292	✓	✓	✗	✗

**Note:** The items in the box for the four variants are fixed.

Optional items may be ordered for any of the four variants.

### Optional accessories

Item No.	Description – optional accessory	Note	Details
<b>PC software</b>			
<b>ALI 17.000-50</b>	ARC 4.0 device activation for touch device	optional for Camera and Standard versions	p. 292
<b>Application related add-ons</b>			
<b>ALI 50.900</b>	Multi Coupling Add-on for sensALIGN 7 sensor	for the alignment of multiple couplings	p. 214
<b>Brackets</b>			
<b>ALI 2.112 SET-S</b>	Compact magnetic bracket set, standard		p. 248
<b>ALI 2.230-1</b>	Magnetic sliding bracket for flange		p. 261
<b>ALI 2.109 SET</b>	Extra-thin bracket set		p. 250
<b>ALI 2.109 LSET</b>	Small extra-thin bracket set		p. 250
<b>ALI 2.761 SET iS</b>	Universal magnetic bracket set for flanges and bores		p. 257
<b>ALI 2.220 SET</b>	Universal magnetic sliding bracket for flanges and bores, set		p. 263
<b>ALI 2.460</b>	Chain-type bracket for large diameter, set		p. 245
<b>ALI 2.893 SET iS</b>	Cardan shaft bracket set (for offsets up to 1000 mm)		p. 245
<b>ALI 2.874 SET iS</b>	Cardan shaft bracket Lite set (for offsets up to 400 mm)		p. 245
<b>Posts, chains and miscellany</b>			
<b>ALI 2.170</b>	115 mm (4 1/2") support post, white	2 pieces required for each bracket	p. 284
<b>ALI 2.171</b>	150 mm (5 15/16") support post, black	2 pieces required for each bracket	p. 284
<b>ALI 2.173</b>	250 mm (9 7/8") support post, green	2 pieces required for each bracket	p. 284
<b>ALI 2.174</b>	300 mm (11 13/16") support post, yellow	2 pieces required for each bracket	p. 284
<b>ALI 2.114</b>	300 mm tension chain		
<b>ALI 2.116</b>	1500 mm tension chain		
<b>ALI 50.250</b>	Carrying strap		
<b>ALI 2.191</b>	Anti torsion bridge for 2 support posts		p. 278

## TECHNICAL DATA

touch device p. 220

sensALIGN 5 sensor p. 224

sensALIGN 5 laser p. 225

# SHAFTALIGN touch – sets the benchmark for solving common shaft alignment problems

SHAFTALIGN touch provides digital and cloud advancements to the alignment of machinery, mastering any alignment task on machines driven by rotating shafts. It offers simple and quick set-up, intuitive handling through a computer-based and guided user interface, and an insightful visualization of results on the bright colored 3D rugged tablet-like display.



## Application

- Alignment of horizontal, vertical and flange-mounted rotating machines
- Coupled, uncoupled and non-rotatable shafts

## Features

- Adaptive Alignment
- Thermal growth calculator
- Cloud-based data transfer
- Automatic measurement during shaft rotation (Active Clock)
- Automatic evaluation of alignment condition using smileys and ANSI tolerances
- Monitoring of both horizontal and vertical Live Move corrections
- Measurement report saved as a PDF file directly to a USB memory stick
- Mobile connectivity integrated: WLAN, Bluetooth, RFID, Camera
- ARC 4.0 PC software including auto activation for data transfer via cloud

## Ordering information

Item No.	Reference	Variant
5245378	ALI 26.000	SHAFTALIGN touch package kit
5245445	ALI 26.000-CA	SHAFTALIGN touch package kit for Canadian market

The items delivered within the box are shown in the following overview. Items for both packages are the same, save for the rugged device.

### Scope of supply

Content				
Item No.	Reference	Description	Details	Quantity
5245450 or 5279958	ALI 26.200 or ALI 26.200-CA	SHAFTALIGN touch rugged device		1
5237155	ALI 21.901	sensALIGN 3 sensor including dust cap		1
5144366	ALI 5.110	Reflector (prism) including dust cap		1
5168024	ALI 3.955	Universal USB charger	p. 225	2
5245492	ALI 3.956	USB C to USB A cable		1
5153070	ALI 3.952	Micro USB cable		1
5245530		USB C – USB Adapter cable		1
2687537		Cleaning cloth		1
5153019	ALI 3.589	Tape measure mm/inch		1
5306155		USB flash drive to save reports		1
4503916	ALI 24.118	Chain-type bracket	p. 242	2
5140638	ALI 26.800	SHAFTALIGN touch case		1
5245527	DOC 26.101	Quick reference guide		1
	DOC 26.100	SHAFTALIGN touch safety and general information		1

### Optional accessories

Item No.	Reference	Description - optional accessories	Note	Details
<b>Brackets</b>				
5140858	ALI 2.112 SET-S	Compact magnetic bracket set, standard		p. 248
5141028	ALI 2.230-1	Magnetic sliding bracket for stationary shafts		p. 261
5140812	ALI 2.109 SET	Extra-thin bracket set		p. 250
5140820	ALI 2.109 LSET	Small extra-thin bracket set		p. 250
5141322	ALI 2.761 SETIS	Magnetic bolt hole bracket set for shaft and bore alignment		p. 257
5152846	ALI 2.893 SETIS	Cardan shaft bracket set (for offsets up to 1000 mm)		p. 245
5152822	ALI 2.874 SETIS	Cardan shaft bracket Lite set (for offsets up to 400 mm)		p. 245
<b>Support posts, tension chains and miscellany</b>				
5151936	ALI 2.170	115 mm (4 1/2"½") support post, white	2 pieces required for each bracket	p. 284
5151949	ALI 2.171	150 mm (5 15/16") support, black	2 pieces required for each bracket	p. 284

Item No.	Reference	Description - optional accessories	Note	Details
5151960	ALI 2.173	250 mm (9 7/8") support post, green	2 pieces required for each bracket	p. 284
5151972	ALI 2.174	300 mm (11 13/16") support post, yellow	2 pieces required for each bracket	p. 284
5151881	ALI 2.114	300 mm tension chain		
5151908	ALI 2.116	1500 mm tension chain		
<b>Miscellany</b>				
5153354	ALI 5.020	External inclinometer		
5152039	ALI 2.191	Anti torsion bridge for 2 support posts		p. 278

## TECHNICAL INFORMATION

### Technical data

SHAFTALIGN touch technical data	
<b>Rugged device</b>	
<b>CPU</b>	Processor: Exynos 9810, 2.7GHz, 1.7GHz Octa-Core Memory: 4 GB RAM, 64 GB Flash memory
<b>Display</b>	Technology: TFT Integrated light sensor for automated adjustment of the brightness to the display according to the lighting conditions hence extending battery life Resolution: 1920 x 1200 Pixel Size: 203.1 mm (8")
<b>Connectivity</b>	Wi-Fi: 802.11 a/b/g/n/ac/ax 2.4G+5GHz, HE80, MIMO, 1024-QAM Wireless: 5.0 NFC
<b>Camera</b>	Rear Camera – Resolution: 13.0 MP Auto Focus Front Camera – Resolution: 5.0 MP
<b>Environmental protection</b>	IP68 (dustproof, submersible 1.5 m)
<b>Temperature range</b>	Operation: -20°C to 50°C (-4°F to 122°F)
<b>Battery</b>	Type: Li-Ion rechargeable battery 3.8 V / 5050 mAh / 19.2 Wh Operating time: Up to 11 hours
<b>Dimensions</b>	Approx. 256 x 149 x 35 mm (10 5/64" x 5 55/64" x 1 3/8")
<b>Weight (without hand straps)</b>	Approx. 710 g (1.6 lbs)
<b>sensALIGN 3 sensor</b>	
<b>Measurement principle</b>	Coaxial, reflected laser beam
<b>LED indicators</b>	1 LED for laser beam status and battery status 1 LED for wireless communication
<b>Power supply</b>	Battery: Lithium-Ion rechargeable battery 3.7 V / 5 Wh Operating time: 10 hours (continuous use) Charging time: Using charger – 2.5 h for up to 90%; 3.5 h for up to 100%; Using USB port – 3 h for up to 90%; 4 h for up to 100%
<b>Environmental protection</b>	IP65 (dustproof and water jets resistant), shockproof Relative humidity: 10% to 90% (non-condensing)
<b>Ambient light protection</b>	Yes
<b>Temperature range</b>	Operation: -10°C to 50°C (14°F to 122°F) Charging: 0°C to 40°C (32°F to 104°F) Storage: -20°C to 60°C (-4°F to 140°F)
<b>Dimensions</b>	Approx. 105 x 69 x 55 mm (4 9/64" x 2 23/32" x 2 11/64")
<b>Weight</b>	Approx. 210 g (7.4 oz) with dust cap
<b>Detector</b>	Measurement area: unlimited, dynamically extendible Resolution: 1 µm (0.04 mil) and angular 10 µRad Accuracy (avg): > 98%

**SHAFTALIGN touch technical data**

<b>Inclinometer</b>	Measurement range: 0° to 360° Resolution: 0.1° Inclinometer error (Ta = 22°C): +0.3 % read out
<b>Laser</b>	Type: Semiconductor laser diode Wavelength: 630 – 680 nm (red, visible) Safety class: Class 2 according to IEC 60825-1:2014 The laser complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007. Beam power: < 1 mW Beam divergence: 0.3 mrad Safety precautions: Do not look into laser beam
<b>External interface</b>	Wireless communication
<b>Transmission distance</b>	Up to 30 m (98 ft) direct line of sight
<b>CE conformity</b>	Refer to the CE compliance certificate in <a href="http://www.pruftechnik.com">www.pruftechnik.com</a>
<b>Country radio certifications</b>	Approvals granted for specific regions (refer to the provided 'Safety and general information' document)
<b>Reflector (prism)</b>	
<b>Type</b>	90° roof prism
<b>Accuracy (avg)</b>	> 99 %
<b>Environmental protection</b>	IP67 (submersible, dustproof)
<b>Temperature range</b>	Operation: -20°C to 60°C (-4°F to 140°F) Storage: -20°C to 80°C (-4°F to 176°F)
<b>Dimensions</b>	Approx. 100 x 41 x 35 mm (4" x 1 5/8" x 1 3/8")
<b>Weight</b>	Approx. 65 g (2.3 oz)



# ROTALIGN touch EX– Shaft alignment in Zone 1

ROTALIGN touch EX is the premium alignment system for hazardous environments. The ruggedized EX tablet intuitive user-interface combined with comprehensive shaft alignment features breaks new ground for maintenance personnel.



## Application

- Horizontal, vertical and flange-mounted rotating machines
- Coupled, uncoupled and non-rotatable shafts
- Cardan shafts

## Features

- ATEX certified for Zone 1
- sensALIGN 5 featuring single-beam laser technology
- SWEEP and PASS measurement mode
- Wireless data transmission
- Automatic evaluation of alignment condition using smileys
- Simultaneous monitoring of both horizontal and vertical Live Move corrections
- Consideration of alignment targets and thermal growth
- Soft foot Diagnosis
- Mobile connectivity integrated: WLAN, Bluetooth, RFID, Camera
- ARC 4.0 PC software including auto activation for data transfer via cloud

## Order information

ROTALIGN touch EX is available in two variants.

Item No.	Variant
ALI 52.000-Z1	ROTALIGN touch EX package, Zone 1
ALI 52.000-Z1.NA	ROTALIGN touch EX package, Zone 1, Canada

The items delivered within the box are shown in the following overview.

## Scope of supply

Content		
Item No.	Description	Details
ALI 52.200-Z1 or ALI 52.200-Z1.NA	ROTALIGN touch EX, ruggedized and intrinsically safe tablet for Zone 1, Canada incl. charger, plug adapters (4x), cable and operating instructions	p. 210
ALI 3.900 EX	Intrinsically safe sensALIGN 5 sensor	p. 210
ALI 3.910 EX	Intrinsically safe sensALIGN 5 laser, incl. batteries	p. 211



Content		
Item No.	Description	Details
ALI 4.621 EX	Intrinsically safe RF module	p. 211
ALI 3.905-0.28	Cable for intrinsically safe RF module	
ALI 3.952	Micro USB cable	
ALI 52.800 EX	Case for ROTALIGN touch EX system	---
ALI 2.118	Compact chain-type bracket, 2x	p. 242
ALI 2.114	300 mm tension chain, 2x	
ALI 2.170	115 mm (4 1/2") support post, white, 4x	p. 284
ALI 2.171	150 mm (5 15/16") support post, black, 4x	p. 284
ALI 2.173	250 mm (9 7/8") support post, green, 4x	p. 284
ALI 2.174	300 mm (11 13/16") support post, yellow, 4x	p. 284
0 0739 1055	Hexagon wrench (2.5 mm)	---
2687537	Cleaning cloth	---
ALI 3.589	Tape measure mm/inch	---
5306155	USB flash drive to save reports	---
DOC 52.101.EN	ROTALIGN touch EX pocket guide	---
DOC 52.200	Control drawing, intrinsic safety and operating instructions for the ruggedized tablet, multiple languages	---
DOC 52.201	ROTALIGN touch EX safety information, multiple languages	---
DOC 04.202	RF module EX operating instructions	

### Optional accessories

Item No.	Description - optional accessories	Details
<b>Brackets</b>		
ALI 2.112 SET-S	Compact magnetic bracket set, standard	p. 248
ALI 2.230-1	Magnetic sliding bracket for flange	p. 261
ALI 2.109 SET	Extra-thin bracket set	p. 250
ALI 2.109 LSET	Small extra-thin bracket set	p. 250
ALI 2.761 SET iS	Universal magnetic bracket set for flanges and bores	p. 257
ALI 2.893 SET iS	Cardan shaft bracket set (for offsets up to 1000 mm)	p. 245
ALI 2.874 SET iS	Cardan shaft bracket Lite set (for offsets up to 400 mm)	p. 245
ALI 2.450	Cardan shaft chain-type bracket with rotating arm, set	
ALI 2.460	Chain-type bracket for large diameter, set	
<b>Tension chains</b>		
ALI 2.116	1500 mm tension chain	---
<b>Miscellany</b>		
ALI 5.020	External inclinometer	---
ALI 2.191	Anti-torsion bridge	p. 278

## TECHNICAL INFORMATION

### Technical data

Parameter	ROTALIGN touch EX technical data
	<b>TABLET</b>
<b>CPU</b>	Exynos 7 Octa, 1.6 GHz Octa-Core (Cortex (R)-A53)
<b>Memory</b>	3 GB RAM, 16 GB Flash
<b>Display</b>	8" TFT, 1280 x 800 Pixel
<b>Connectivity</b>	Wi-Fi 802.11 a/b/g/n/ac (2.4 GHz + 5 GHz)
<b>Cameras</b>	8 MP AF + 5 MP
<b>Power supply</b>	Li-Ion rechargeable battery 3.8 V / 4450 mAh / 16.91 Wh
<b>Operating time</b>	approx. 11 h
<b>Environmental protection</b>	IP 68
<b>Temperature range</b>	Operation: -20 °C to 50 °C (-4 °F to 122 °F)
<b>Dimensions</b>	approx. 162 x 256 x 33 mm (6 1/3" x 10" x 1 1/3")
<b>Weight</b>	approx. 1250 g (2.75 lb)
	<b>INTRINSICALLY SAFE sensALIGN 5 sensor</b>
<b>Type</b>	5-axis receiver: 2 planes (4 displacement axes and angle) Measurement area: unlimited, dynamically extendible (U.S. Patent 6,040,903) Resolution: 1 µm (0.04 mil) and angular 10 µRad Accuracy (avg): > 98% Measurement rate: approx. 20 Hz
<b>Environmental protection</b>	IP65 (dustproof and water jets resistant) Relative humidity 10% to 90%
<b>Ambient light protection</b>	Yes
<b>Temperature range</b>	Operation: -10 °C to 50 °C (14 °F to 122 °F) / Storage: -20 °C to 60 °C (-4 °F to 140 °F)
<b>Dimensions</b>	Approx. 105 x 67 x 47 mm (4 5/32" x 2 5/8" x 1 55/64")
<b>Weight</b>	Approx. 190 g (6 7/10 oz.)

Parameter	ROTALIGN touch EX technical data
	<b>INTRINSICALLY SAFE sensALIGN 5 laser</b>
<b>Type</b>	Semiconductor laser diode
<b>Beam divergence</b>	0.3 mrad
<b>Beam power</b>	< 1 mW
<b>Wavelength</b>	630 – 680 nm (red, visible)
<b>Safety class</b>	Class 2 according to IEC 60825-1:2014 The laser complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007. Safety precautions: Do not look into laser beam
<b>Power supply</b>	Batteries: 2 x 1.5 V IEC LR6 ("AA"), only use Duracell Industrial ID 1500 or Energizer E91 Operating time: 120 hours
<b>Environmental protection</b>	IP65 (dustproof and water jets resistant) Shockproof Relative humidity 10% to 90%
<b>Temperature range</b>	Operation: -10 °C to 50 °C (14 °F to 122 °F) / Storage: -20 °C to 60 °C (-4 °F to 140 °F)
<b>Dimensions</b>	Approx. 105 x 74 x 47 mm (4 5/32" x 2 15/16" x 1 55/64")
<b>Weight</b>	Approx. 225 g (8 oz.)
	<b>INTRINSICALLY SAFE RF MODULE</b>
<b>Details</b>	2.4 GHz Class 1 connectivity Transmitting power: 100 mW Transmission distance: Up to 10 m (33 ft.) direct line of sight FCC-ID POOWML-C40
<b>LED indicators</b>	1 LED for wireless communication 3 LEDs for battery status
<b>Power supply</b>	2 x 1.5 V IEC LR6 ("AA") batteries, only use Duracell Industrial ID 1500 or Energizer E91 Operating time: 14 hours typical use (based upon an operating cycle of 50% measurement, 50% standby)
<b>Temperature range</b>	Operation: -10 °C to 40 °C (14 °F to 104 °F)
<b>Environmental protection</b>	IP 65 (dustproof and water jets resistant) Shockproof Relative humidity 10% to 90%
<b>Dimensions</b>	Approx. 81 x 41 x 34 mm (3 1/8" x 1 11/16" x 1 5/16")
<b>Weight</b>	Approx. 133 g (4.7 oz.) including batteries and cable

### Intrinsic safety details

ROTALIGN touch EX	Marking (ATEX)	Ambient temperature (Ta)
Tablet PC	II 2G Ex db ia op is IIC T5 Gb	-20 °C ...+50 °C (-4 °F to 122 °F)
Sensor	II 2G Ex ib IIC T4 Gb	-10 °C ...+50 °C (14 °F to 122 °F)
Laser	II 2G Ex ib op is IIC T4 Gb	-10 °C ...+50 °C (14 °F to 122 °F)
RF module	II 2 G Ex ib IIC T4 Gb	-10 °C ...+40 °C (14 °F to 104 °F)

## Live Trend Add-on

With this add-on packages you can use an existing PRÜFTECHNIK system for **short-term monitoring of positional changes** during operation.

The Live Trend add-on packages are intended for the following alignment systems:

- ROTALIGN touch,
- ROTALIGN Ultra iS, with firmware 3.x



### Features

- Continuous acquisition of positional changes during operation
- Precise measurement of thermal target values
- Live view of horizontal and vertical correction values at the coupling and at the machine feet
- Trend of horizontal and vertical correction values at the coupling and at the machine feet
- Flexible definition of markers for result viewing during the measurement
- Bluetooth module for wireless data communication between sensor and computer.

### Ordering information

The following Live Trend add-on variants are available:

Item No.	Variant
ALI 4.005/2-10	Live Trend add-on, Magnet
ALI 4.005/2-20	Live Trend add-on, PERMAFIX

The scope of delivery results from the following overview:

### Scope of delivery

Item No.	Description	Details	Variant	
			Magnet	PERMAFIX
ALI 14.310	Magnetic Bracket for Horizontal and Vertical Surfaces	p. 260	✓, 2x	✗
0 0739 1055	Hexagon wrench, DIN 911, size 2.5	---	✓	✗
ALI 2.193	Live Trend case for magnetic bracket	---	✓	✗
ALI 2.197	Live Trend ruggedized trolley case	---	✗	✓
ALI 2.190	PERMAFIX bracket	p. 265	✗	✓, 2x
ALI 2.194	Striking cone	p. 265	✗	✓
ALI 4.740 <sup>1</sup>	ROTAGIGN Ultra Shaft Expert registration certificate	---	✓	✓
5306155	USB flash drive to save reports	---	✓	✓
DOC 04.100	Pocket guide, ROTALIGN Ultra Live Trend	---	✓	✓

<sup>1</sup>For ROTALIGN Ultra iS with firmware "Lite" or "Standard" the firmware 'Advanced' is additionally required. The corresponding firmware certificate can be requested with part no. **ALI 4.741**.

## Multi-Coupling add-on (sensALIGN 7)

With this add-on package you can use an existing PRÜFTECHNIK system for shaft alignment on a machine train with more than one coupling. The Multi-Coupling add-on package is intended for the following alignment systems:

- ROTALIGN touch,
- OPTALIGN touch
- ROTALIGN Ultra iS, with firmware 3.x



### sensALIGN 7 benefits

- Real-time measuring quality with IntelliSWEEP™
- 7-axis measuring system with HD PSD, XXL detector
- Integrated vibration measurement
- Considered vibration influenced from the surroundings
- Integrated precision inclinometers with MEMS
- Laser-sensor communication via laser beam
- Wireless communication via Bluetooth
- Rechargeable Li-polymer battery of the latest generation

### Ordering information

Item No.	Variant
<b>ALI 50.900</b>	Multi-Coupling add-on for shaft alignment with sensALIGN 7 (ROTAGLIGN touch, OPTALIGN touch)
<b>ALI 40.900</b>	Multi-Coupling add-on for shaft alignment with sensALIGN 7 (ROTAGLIGN Ultra iS)

The scope of delivery results from the following overview:

### Scope of delivery

Item No.	Description	Details	Add-on	
			ALI 50.900	ALI 40.900
ALI 4.901	sensALIGN 7 sensor	p. 222	✓	✓
ALI 4.910	sensALIGN 7 laser	p. 222	✓	✓
ALI 4.960	sensALIGN 7 rechargeable battery, 2x	---	✓	✓
ALI 4.651	sensALIGN 7 charger for rechargeable batteries, international	p. 227	✓	✓
ALI 4.922-2	sensALIGN 7 cable (ROTAGLIGN touch) , 2 m (78 3/4" )	---	✓	✗
ALI 4.921-2	sensALIGN 7 cable, 2 m (78 3/4" )	---	✗	✓
ALI 3.589	Tape measure, mm/inch	---	✓	✓
2687537	Cleaning cloth	---	✓	✓
ALI 2.113 SET	Compact chain-type bracket, set	p. 242	✗	✓
ALI 2.118	Compact chain-type bracket	p. 242	✓, 2x	✗

CONTENT			Add-on	
Item No.	Description	Details	ALI 50.900	ALI 40.900
ALI 2.170	115 mm (4 1/2") support post, white	p. 284	✓, 4x	✗
ALI 2.171	150 mm (5 15/16") support post, black	p. 284	✓, 4x	✗
ALI 2.173	250 mm (9 7/8") support post, green	p. 284	✓, 4x	✗
ALI 2.174	300 mm (11 13/16") support post, yellow	p. 284	✓, 4x	✗
0 0557 0391	Support post clip	---	✓, 8x	✗
ALI 2.114	300 mm tension chain	p. 243	✓, 2x	✗
ALI 4.905	sensALIGN 7 vibration measuring probe	p. 228	✓	✓
ALI 4.741	ROTALIGN Ultra Shaft Advanced reg. cert.	---	✗	✓
ALI 4.740	ROTALIGN Ultra Shaft Expert registration cert.	---	✗	✓
0 0739 1055	Hexagon wrench, DIN 911, size 2.5	---	✓	✓
ALI 4.826	Case for ROTALIGN Ultra iS Shaft Alignment	---	✗	✓
ALI 4.817	Case for Multi-Coupling add-on	---	✓	✗
DOC 40.109	Getting started, Multiple Coupling	---	✗	✓
DOC 50.101	Pocket guide, ROTALIGN touch	---	✓	✗
DOC 51.101	Pocket guide, OPTALIGN touch	---	✓	✗
DOC 50.601	Safety and general information, touch device	---	✓	✗
5306155	USB flash drive to save reports	---	✓	✓

In addition, optional accessories are available:

### Optional accessories

Item No.	Description - optional accessories	Details
<b>Brackets</b>		
ALI 2.109 SET	Extra thin bracket set	p. 250
ALI 2.112 SET-S	Compact magnetic bracket, 2 pcs,, packaged	p. 248
ALI 2.220 SET	Universal magnetic sliding bracket, set	p. 263
ALI 2.230-1	Magnetic Sliding Bracket for Flanges	p. 261
ALI 2.450	Cardan shaft chain-type bracket with rotating arm, set	p. 245
ALI 2.460	Chain-type bracket for large diameter, set	p. 245
ALI 2.761 SETIS	Universal magnetic bracket for flanges and bores, set	p. 257
<b>Miscellaneous</b>		
ALI 4.410	Dust protection cap for ROTALIGN Ultra sensor socket	---
ALI 4.605	ROTALIGN Ultra battery housing	---
ALI 2.116	Tension chain, 1500 mm	---
ALI 2.191	Anti torsion bridge for 2 support posts	p. 278



## Multi-Coupling add-on (sensALIGN 5)

With this add-on package you can use an existing ROTALIGN touch system for shaft alignment on a machine train with more than one coupling.



### sensALIGN 5 benefits

- Concurrent monitoring of horizontal and vertical correction moves through single-laser technology and 2 position detectors
- Bluetooth integrated
- Precision built-in inclinometer
- Ambient light compensation
- Faster data transmission

### Ordering information

Item No.	Variant
<b>ALI 50.901</b>	Multi-Coupling add-on for shaft alignment with sensALIGN 5

The scope of delivery results from the following overview:

### Scope of delivery

Item No.	Description	Details	Quantity
<b>ALI 3.901</b>	<b>sensALIGN 5 sensor</b>	<b>p. 224</b>	1
<b>ALI 3.910</b>	<b>sensALIGN 5 laser including batteries</b>	<b>p. 225</b>	1
<b>ALI 3.955</b>	<b>Universal USB charger, 5V</b>	<b>p. 225</b>	1
<b>ALI 3.952</b>	<b>Micro USB cable (for charging the sensor)</b>	<b>p. 227</b>	1
<b>ALI 3.589</b>	<b>Tape measure, mm/inch</b>	---	1
<b>2687537</b>	<b>Cleaning cloth</b>	---	1
<b>ALI 2.118</b>	<b>Compact chain-type bracket</b>	<b>p. 242</b>	2
<b>ALI 2.170</b>	<b>115 mm (4 1/2") support post, white</b>	<b>p. 284</b>	4
<b>ALI 2.171</b>	<b>150 mm (5 15/16") support post, black</b>	<b>p. 284</b>	4
<b>ALI 2.173</b>	<b>250 mm (9 7/8") support post, green</b>	<b>p. 284</b>	4
<b>ALI 2.174</b>	<b>300 mm (11 13/16") support post, yellow</b>	<b>p. 284</b>	4
<b>0 0557 0391</b>	<b>Support post clip</b>	---	8
<b>ALI 2.114</b>	<b>300 mm tension chain</b>	<b>p. 243</b>	2
<b>0 0739 1055</b>	<b>Hexagon wrench, DIN 911, size 2.5</b>	---	1
<b>ALI 4.817</b>	<b>Case for Multi-Coupling add-on</b>	---	1
<b>DOC 50.101</b>	<b>Pocket guide, ROTALIGN touch</b>	---	1
<b>DOC 51.101</b>	<b>Pocket guide, OPTALIGN touch</b>	---	1



Item No.	Description	Details	Quantity
DOC 50.601	Safety and general information, touch device	---	1
5306155	USB flash drive to save reports	---	1

In addition, optional accessories are available:

#### Optional accessories

Item No.	Description - optional accessories	Details
<b>Brackets</b>		
ALI 2.109 SET	Extra thin bracket set	p. 250
ALI 2.112 SET-S	Compact magnetic bracket, 2 pcs,, packaged	p. 248
ALI 2.220 SET	Universal magnetic sliding bracket, set	p. 263
ALI 2.230-1	Magnetic Sliding Bracket for Flanges	p. 261
ALI 2.460	Chain-type bracket for large diameter, set	p. 245
ALI 2.761 SETIS	Universal magnetic bracket for flanges and bores, set	p. 257
<b>Miscellaneous</b>		
ALI 2.116	Tension chain, 1500 mm	---
ALI 2.191	Anti torsion bridge for 2 support posts	p. 278

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## Shaft alignment systems, spare parts

<b>touch device</b> .....	<b>220</b>
<b>SHAFTALIGN touch rugged device</b> .....	<b>221</b>
<b>sensALIGN 7 sensor and laser</b> .....	<b>222</b>
<b>sensALIGN 5 sensor and laser</b> .....	<b>224</b>
<b>sensALIGN 3 sensor and reflector</b> .....	<b>226</b>
<b>AC power supply / Battery charger</b> .....	<b>227</b>
<b>Vibration measuring probe</b> .....	<b>228</b>
<b>Compact shaft alignment demo machine</b> .....	<b>229</b>
<b>PULLALIGN – Precise belt pulley alignment</b> .....	<b>230</b>

## touch device



### Features

- Capacitive touchscreen
- Interactive real 3-D format for machines
- Communication using WiFi, Bluetooth and RFID
- Built-in camera
- Robust, nonslip housing
- Industrial-proofed interfaces
- Long operating time with lithium-ion battery

## TECHNICAL DATA

Parameter	touch device
<b>CPU</b>	1.0 GHz quad core ARM Cortex-A9
<b>Memory</b>	Memory: 2 GB RAM, 1 GB Internal Flash, 32 GB SD-Card Memory
<b>Display</b>	Projective capacitive multi-touchscreen Transmissive (sunlight-readable) backlit TFT color graphic display; optically bonded, protective industrial display, integrated light sensor for automated adjustment of the brightness to the display Resolution: 800 x 480 Pixel Dimensions: 178 mm (7") diagonal
<b>LED indicators</b>	3 LEDs for battery status 1 LED for WiFi communication
<b>Power supply</b>	Lithium-ion rechargeable battery 3.6 V / 80 Wh 12 hours typical use* AC adapter/charger: 12 V / 36 W; standard barrel connector *(based upon an operating cycle of 25% measurement, 25% computation, 50% 'sleep' mode)
<b>External interface</b>	USB host for memory stick USB slave for PC communication, charging (5 V DC / 1.5 A) RS-232 (serial) for sensor, RS-485 (serial) for sensor, I-Data for sensor, Bluetooth, WiFi, RFID integrated Integrated Wireless LAN IEEE 802.11 b/g/n up to 72.2 Mbps
<b>Camera</b>	5 MP
<b>Environmental protection</b>	IP 65 (dustproof and water jets resistant) Shockproof Relative humidity: 10% to 90%
<b>Drop test</b>	1 m (3 1/4 ft)
<b>Temperature range</b>	Operation / Charging: 0 °C to 40 °C (32 °F to 104 °F) Storage: -10 °C to 50 °C (14 °F to 122 °F)
<b>Dimensions</b>	Approx. 273 x 181 x 56 mm (10 3/4" x 7 1/8" x 2 3/16")
<b>Weight</b>	Approx. 1.88 kg (4.1 lbs)

## SHAFTALIGN touch rugged device



### Features

- Rugged device
- Adaptive Alignment
- Active Situational Intelligence
- High performance and precise results
- Cloud transfer capability

### Order information

Item No.	Reference	Description
5245450 or 5279958	ALI 26.200 or ALI 26.200-CA	SHAFTALIGN touch rugged device

## TECHNICAL DATA

p. 206

## sensALIGN 7 sensor and laser



### Features

- Real-time measuring quality with IntelliSWEEP™
- 7-axis measuring system with HD PSD, XXL detector
- Integrated vibration measurement
- Considered vibration influenced from the surroundings
- Integrated precision inclinometers with MEMS
- Laser-sensor communication via laser beam
- Wireless communication via Bluetooth
- Rechargeable Li-polymer battery of the latest generation

### TECHNICAL DATA

Parameter	sensALIGN 7 sensor
<b>Measurement range</b>	Unlimited, dynamically extendible (US. Patent 6,040,903)
<b>Measurement resolution</b>	1 µm
<b>CPU</b>	ARM Cortex™ M3 2 GB Flash Memory
<b>LED indicators</b>	4 LEDs for laser adjustment 1 LED for Bluetooth® communication 1 LED for battery status
<b>Power supply</b>	Operating time: 12 hours maximum Battery: Lithium Polymer rechargeable battery 3.7 V / 1.6 Ah 6 Wh
<b>External interface</b>	Integrated Bluetooth® Class 1 wireless communication, RS232, RS485, IData
<b>Vibration measurement</b>	mm/s, RMS, 10Hz to 1kHz, 0 mm/s – 5000/f • mm/s² (f in Hertz [1/s])
<b>Inclinometer</b>	Resolution: 0.1° Error: ± 0,25 % full scale
<b>Environmental protection</b>	IP 65 (dustproof and water jets resistant) Shockproof Relative humidity: 10% to 90%
<b>Ambient light protection</b>	Yes
<b>Temperature range</b>	Operation: -10 °C to 50 °C (14 °F to 122 °F) Charging: 0 °C to 40 °C (32 °F to 104 °F) Storage: -20 °C to 60 °C (-4 °F to 140 °F)
<b>Dimensions</b>	Approx. 103 x 84 x 60 mm (4 1/16" x 3 5/16" x 2 3/8")
<b>Weight</b>	Approx. 310 g (10.9 oz)

Parameter	sensALIGN 7 laser
<b>Type</b>	Semiconductor laser
<b>Beam power</b>	< 1 mW
<b>Wavelength</b>	630– 680nm (red, visible)
<b>Safety class</b>	Class 2 according to IEC 60825-1:2007 The laser complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007. Safety precaution: Do not look into laser beam
<b>Beam divergence</b>	0.3 mrad
<b>Inclinometer</b>	Resolution: 0.1° Error: ± 0.25 % full scale
<b>LED indicators</b>	1 LED for laser transmission 1 LED for battery status
<b>Power supply</b>	Lithium Polymer rechargeable battery 3.7 V / 1.6 Ah 6 Wh AC adapter/charger: 5 V / 3 A Operating time: 70 hours continuous use
<b>Environmental protection</b>	IP 65 (dustproof and water jets resistant) Shockproof Relative humidity: 10% to 90%
<b>Temperature range</b>	Operation: -10 °C to 50 °C (14 °F to 122 °F) Charging: 0 °C to 40 °C (32 °F to 104 °F) Storage: -20 °C to 60 °C (-4 °F to 140 °F)
<b>Dimensions</b>	Approx. 103 x 84 x 60 mm (4 1/16" x 3 5/16" x 2 3/8")
<b>Weight</b>	Approx. 330 g [11.6 oz]

#### Order information

Item No.	Reference	Description
<b>5382606</b>	<b>ALI 4.901</b>	sensALIGN 7 sensor with inspection certificate
<b>5144178</b>	<b>ALI 4.910</b>	sensALIGN 7 laser with inspection certificate

## sensALIGN 5 sensor and laser



### Features

- Simultaneous monitoring of horizontal and vertical correction moves through single-laser technology and 2 position detectors
- Bluetooth integrated
- Precision built-in inclinometer
- Ambient light compensation
- Faster data transmission
- Laser and sensor battery status warning
- Longer laser and sensor runtime

## TECHNICAL DATA

Parameter	sensALIGN 5 sensor
<b>Type</b>	5-axis sensor: 2 planes (4 displacement axes and angle) Measurement area: unlimited, dynamically extendible (U.S. Patent 6,040,903) Resolution: 1 $\mu\text{m}$ (0.04 mil) and angular 10 $\mu\text{Rad}$ Accuracy (avg): > 98% Measurement rate: approx. 20 Hz
<b>LED indicators</b>	1 LED for laser adjustment and battery status 1 LED for Bluetooth communication
<b>Power supply</b>	Lithium-Ion rechargeable battery: 3.7 V / 5 Wh Operating time: 10 hours (continuous use) Charging time: Using charger – 2.5 h for up to 90%; 3.5 h for up to 100% Using USB port – 3 h for up to 90%; 4 h for up to 100%
<b>External interface</b>	Integrated Bluetooth 4.1 Smart Ready wireless communication USB 2.0 Full Speed
<b>Transmission distance</b>	Up to 30 m [98 ft] direct line of sight
<b>Environmental protection</b>	IP 65 (dustproof and water jets resistant) Shockproof Relative humidity: 10% to 90%
<b>Ambient light protection</b>	Yes
<b>Temperature range</b>	Operation: -10 °C to 50 °C (14 °F to 122 °F) Storage: -20 °C to 60 °C (-4 °F to 140 °F) Charging: 0 °C to 40 °C (32 °F to 104 °F)
<b>Dimensions</b>	Approx. 105 x 74 x 58 mm (4 9/64" x 2 29/32" x 2 1/4")
<b>Weight</b>	Approx. 235 g (8 1/3 oz.)



Parameter	Universal USB charger (5 V) for sensor
<b>Input</b>	100 - 240 VAC / 50 - 60 Hz / 0.45 A
<b>Output</b>	5 VDC / 3.2 A / 16 W
<b>Protection</b>	Class II / IP 52
<b>Connector</b>	Four plug adapters for North America, Japan, Australia, UK, EU
<b>Device connection</b>	USB cable
<b>Temperature range</b>	Operation: 0 ... +40°C (32 °F to 104 °F); Storage: -40 ..+80°C (-40 °F to 176 °F)
<b>Dimensions</b>	approx. 71 x 41 x 31 mm [ 2 13/16" x 1 5/8" x 1 1/4" ]

Parameter	sensALIGN 5 laser
<b>Type</b>	Semiconductor laser diode
<b>Beam divergence</b>	0.3 mrad
<b>Beam power</b>	< 1 mW
<b>Wavelength</b>	630 – 680 nm (red, visible)
<b>Laser class</b>	Class 2 according to IEC 60825-1:2007 The laser complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007. Safety precaution: Do not look into laser beam
<b>Power supply</b>	Batteries: 2 x 1.5 V IEC LR6 ("AA") Operating time: 180 hours
<b>Protection</b>	IP 65 (dustproof and water jets resistant) Shockproof Relative humidity: 10% to 90%
<b>Temperature range</b>	Operation: -10 °C to 50 °C (14 °F to 122 °F) Storage: -20 °C to 60 °C (-4 °F to 140 °F)
<b>Dimensions</b>	Approx. 105 x 74 x 47 mm (4 9/64" x 2 29/32" x 1 27/32")
<b>Weight</b>	Approx. 225 g (7 15/16 oz.)

#### Order information

Item No.	Reference	Description
<b>5143342</b>	<b>ALI 3.901</b>	sensALIGN 5 sensor with inspection certificate
<b>5143363</b>	<b>ALI 3.910</b>	sensALIGN 5 laser with inspection certificate

## sensALIGN 3 sensor and reflector



### Features

- Single laser technology
- Easy to set up
- Adaptive Alignment
- Rugged and light weight
- IP 65 (sensor) IP 67 (reflector)

### Order information

Item No.	Reference	Description
5237155	ALI 21.901	sensALIGN 3 sensor including dust cap and inspection certificate
5144366	ALI 5.110	Reflector (prism) including dust cap

### TECHNICAL DATA

p. 206

### UNIVERSAL USB CHARGER

p. 225

## AC power supply / Battery charger

With this power device you can supply the computer with mains power (e.g. in the office) or charge the built-in rechargeable battery.



### Features

- Protection class II
- Five replaceable plug adapters for various world regions:
  - North America, Japan
  - Australia
  - UK
  - EU
  - China

Power supply / Battery charger incl. five plug adapters.

### Order information

Item No.*	Name	Included in the scope of delivery of ...
<b>ALI 12.651-I</b>	AC power supply / battery charger, International, 12V	OPTALIGN smart RS5 BT ROTALIGN smart RS5 EX
<b>ALI 50.651</b>	AC power supply / battery charger, International, 12V	ROTALIGN touch, OPTALIGN touch, VIBSCANNER 2
<b>ALI 4.651</b>	Battery charger, International, 5V	ROTALIGN touch Multi-Coupling add-on for shaft alignment with sensALIGN 7

\* The different item numbers are due to different device connectors

## TECHNICAL INFORMATION

### Technical Data

Parameter	12 V power supply / battery charger	5 V battery charger
<b>Input</b>	100 - 240 VAC / 50 - 60 Hz / 1.0 A	100 - 240 VAC / 50 - 60 Hz / 0.6 A
<b>Output</b>	12 VDC / 3.0 A / 36 W	5 VDC / 3.0 A / 15 W
<b>Protection</b>	Class II / IP 52	
<b>Temperature range</b>	0 ... +40°C (Operation); -40 ..+80°C (Storage)	
<b>Dimensions</b>	approx. 43 x 74 x 35 mm	

## Vibration measuring probe

This measuring probe is used together with the sensALIGN 7 sensor for vibration measurement.



### Features

- Stainless steel tube with plastic probe
- Direct coupling to the sensor housing for optimal signal transmission
- Stable fixation by clamping lever
- Measured variable: Vibration velocity
- Length: 100 mm

### Order information

Item No.	Name
<b>ALI 4.905</b>	Vibration measuring probe

Note: The hole for the measuring tip on the sensALIGN 7 sensor is marked with a vibration symbol.

## Compact shaft alignment demo machine

This shaft alignment simulator is the ideal tool for live demonstrations of alignment measurements and foot corrections. It is suitable for training in both coupled and uncoupled shafts.



### Features

- Rugged and light weight
- Comes with handle for easy movement
- Robust transport case with wheels for easy transportation
- Coupling play may be simulated
- Length: ca. 465 mm

### Order information

Item No.	Name
ALI 2.070	Compact shaft alignment demo machine

# PULLALIGN – Precise belt pulley alignment

PULLALIGN is the standard tool for precise alignment of machines with belt drive. Ease of use and clear visualization of angle and offset errors reduce the work effort to a minimum.



## Features

- Efficient and easy: One-person operation
- Time-saving: Displays parallel offset, vertical and horizontal angle corrections all at once with only one system set-up.
- No cross-check: Measure once and correct.
- Reduces vibration and belt noise
- Reduces downtime and energy costs
- Prolongs belt, pulley and bearing life.
- Higher precision due to laser beam reflection
- Affordable entry solution with targets

## Ordering information



PULLALIGN is available in the following variants:

Item No.	Variant
ALI 2.002SET	PULLALIGN
ALI 2.004 SET	PULLALIGN Lite 2

The scope of delivery results from the following overview:

## Scope of delivery

Item No.	CONTENT		VARIANT	
	Description	Details	ALI 2.002SET	ALI 2.004 SET
ALI 2.100	PULLALIGN Laser (red)	p. 232	✓	✗
ALI 2.131	PULLALIGN Lite 2 Laser (green)	p. 232	✗	✓
ALI 2.300	PULLALIGN Reflector	p. 232	✓	✗
ALI 2.303	PULLALIGN Adjustable Target		✗	✓ 3x
ALI 2.801	AAA battery 1.5 V alkaline mangan		✓ 4x	✓ 4x
ALI 2.805	PULLALIGN Pouch		✓	✓
DOC 02.201	PULLALIGN Safety information		✓	✓

Variant	Overview
<p><b>PULLALIGN</b> <b>ALI 2.002SET</b></p>	
<p><b>PULLALIGN Lite 2</b> <b>ALI 2.004 SET</b></p>	

**Note:** The scope of delivery of the variants is preset and cannot be changed.

## TECHNICAL INFORMATION

### Technical data

Parameter	PULLALIGN technical data
<b>LASER</b>	
<b>Wavelength</b>	ALI 2.100: 630 - 680 nm (red) ALI 2.131: 505 - 535 nm (green)
<b>Laser type</b>	Semiconductor laser diode
<b>Beam power</b>	< 1.0 mW (acc. to IEC 60825-1:2014 condition 3)
<b>Maximum beam power</b>	< 3.0 mW
<b>Beam divergence</b>	< 1.0 mrad
<b>Beam opening angle</b>	70 °
<b>Measuring distance</b>	max. 10 m (32.8 ft)
<b>Classification</b>	Class 2 per IEC 60825-1:2014. The laser complies with the 21 CFR 1040.10 and 1040.11 standards, deviations excluded, per "Laser Notice No. 50" dated June 24, 2007.
<b>Supply</b>	4x AAA 1.5V battery
<b>Operating time</b>	ALI 2.100: 25 h ALI 2.131: 6 h
<b>Operating temperature</b>	-5 °C ... + 40 °C (23 .. 104 °F)
<b>Fastening</b>	Magnetic
<b>Weight</b>	ALI 2.100: approx. 300 g with batteries ALI 2.131: approx. 320 g with batteries
<b>Reflector</b>	
<b>Accuracy</b>	0.2 °
<b>Dimensions, mirror</b>	21 x 32 mm [ 13/16" x 1 1/4" ]
<b>Weight</b>	approx 270 g [ 9.5 oz ]
<b>Fastening</b>	Magnetic



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# Systems for Machine Geometry Measurements

<b>LEVALIGN expert – Geometrical 2D Measurements .....</b>	<b>234</b>
------------------------------------------------------------	------------

## LEVALIGN expert – Geometrical 2D Measurements

ROTALIGN Ultra iS is a versatile measurement system with intelligent solutions for machine geometry measurements. For an existing ROTALIGN Ultra iS system, the additional components required for flatness measurement are included in the LEVALIGN expert add-on package.



### Typical applications (examples)

- Flatness and parallelism of wind tower segment flanges on wind turbines
- Levelness of machine foundations
- Flatness and straightness measurement in ship building
- Flatness, straightness, parallelism, perpendicularity and levelness of machine components.

### Features

- Easy operation using automated and self-leveling spinning laser
- PC software for data analysis and reporting
- Powerful software functions to compare two surfaces, e.g., in a press, and to extend the measuring range to large surfaces
- Wireless communication.

### LEVALIGN expert features

- Spinning laser with motorized drive and self-leveling
- Ideal for large measuring segments
- Large detector area (70 mm)
- Sensor with reading display and zero position.
- Compatible with sensALIGN 7 sensor

### Ordering information

Item No.	Reference	Description
5143580	ALI 4.046	LEVALIGN expert, add-on package for flatness measurements with ROTALIGN Ultra iS

The scope of delivery results from the following overview:

### Scope of delivery

CONTENT			
Item No.	Name	Details	5143580 (ALI 4.046)
ALI 4.749	LEVALIGN expert flatness certificate	---	✓
5153474	Flatness plunger	p. 282	✓
ALI 6.960-LI	Battery charger for LEVALIGN expert Laser, International	---	✓
ALI 6.930-LIB	LEVALIGN expert laser with wireless data transmission (Bluetooth)	p. 236	✓
ALI 6.940	LEVALIGN expert sensor	p. 236	✓
ALI 9.613	Inspection certificate for LEVALIGN expert laser	---	✓
ALI 9.614	Inspection certificate for LEVALIGN expert sensor	---	✓
ALI 6.966	LEVALIGN expert sensor holder for posts 8mm	p. 279	✓
ALI 4.501-IS	Magnetic Foot Holder for Laser and Sensor	p. 254	✓
ALI 2.173	Post 250 mm [9 13/16"]	p. 284	✓, 2x
ALI 2.778	Anti-torsion bridge	p. 278	✓
ALI 6.985	Case for LEVALIGN expert (wireless / BT)	---	✓
DOC 69.100	Quick reference guide, Menu settings for LEVALIGN expert laser	---	✓
DOC 6.800	Operating instructions, Getting started with LEVALIGN expert	---	✓
5306155	USB flash drive to save reports	p. 293	✓

In addition, optional accessories are available:

### Optional accessories

Item No.	Description - optional accessories	Notes	Details
<b>Laser / Sensor accessories</b>			
<b>ALI 6.956</b>	Tripod stand for LEVALIGN laser		p. 273
<b>ALI 6.957-1</b>	Tripod case	Case for tripod stand	
<b>ALI 6.958</b>	LEVALIGN Expert Laser tripod adapter	Adapter for ground-level installation	p. 273
<b>Accessories for Scribed Line measurements</b>			
<b>ALI 6.967</b>	LEVALIGN Expert floor stand with rotatable sensor holder		<a href="#">more...</a>

## TECHNICAL INFORMATION

### Technical data

Parameter	LEVALIGN expert laser technical data	
<b>Wavelength</b>	635 nm (red)	
<b>Laser class</b>	II (<1mW)	
<b>Range</b>	100 meters (Ø 200 meters) [328 ft, Ø 656 ft]	
<b>Leveling</b>	Vertical or horizontal (can be switched off)	
<b>Self-leveling range</b>	±5 %	
<b>Direction adjustment</b>	±5 %	
<b>Rotating speed</b>	max. 800 RPM	
<b>Total error</b>	< ±25 µm + ±24 µm/m incl. conical + step + leveling error)	
<b>Power supply</b>	Internal rechargeable battery or external power supply	
<b>Operating time</b>	16 hours	
<b>Dimensions</b>	Ø 130 mm x 270 mm	
<b>Weight</b>	3.4 kg [7 1/2 lb]	
<b>Charger</b>	Input: 100 - 240 VAC / 50 - 60 Hz / 340 mA Output: 12 VDC / 1200 mA / 14.4 W	



Parameter	LEVALIGN expert sensor technical data	
<b>Resolution</b>	0.01 mm	
<b>Accuracy</b>	±0.02 mm	
<b>Measuring range</b>	70 mm [2 3/4"]	
<b>Zero-point adjustment</b>	70 mm	
<b>Internal memory</b>	2600 points	
<b>Communication</b>	Bluetooth	
<b>Power supply</b>	2 x AA batteries	
<b>Dimensions</b>	214 x 70 x 40 mm [[ 8 7/16" x 2 3/4" x 1 9/16"]	
<b>Weight</b>	0.62 kg [ 21.9 oz ]	



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# Brackets

<b>Brackets selection guide</b> .....	<b>240</b>
<b>Chain-type Brackets</b> .....	<b>242</b>
<b>Measuring Fixtures for Cardan Shafts</b> .....	<b>245</b>
<b>Compact Magnetic Bracket</b> .....	<b>248</b>
<b>Extra-thin Brackets</b> .....	<b>250</b>
<b>Universal Holder</b> .....	<b>252</b>
<b>Magnetic Foot Holder for Laser and Sensor</b> .....	<b>254</b>
<b>Universal Magnetic Bracket</b> .....	<b>257</b>
<b>Magnetic Bracket for Horizontal and Vertical Surfaces</b> .....	<b>260</b>
<b>Magnetic Sliding Bracket for Shafts and Flanges</b> .....	<b>261</b>
<b>Universal Magnetic Sliding Bracket</b> .....	<b>263</b>
<b>PERMAFIX Bracket</b> .....	<b>265</b>
<b>Universal Pointer Bracket - UPB</b> .....	<b>267</b>
<b>Universal Mounting Bridge</b> .....	<b>271</b>
<b>Tripod stand for LEVALIGN Laser</b> .....	<b>273</b>
<b>Rotatable Magnetic Bracket</b> .....	<b>277</b>
<b>Anti-torsion Bridges</b> .....	<b>278</b>
<b>Mounting Adapters</b> .....	<b>279</b>
<b>Plunger for Flatness Measurement</b> .....	<b>282</b>
<b>Posts</b> .....	<b>284</b>

# Brackets selection guide

## Shaft Alignment and Bore Measurement

Application	Shaft Alignment					Bore Measurement			
Measuring task	Coupling		Cardan	Live Trend		Center		Center + Concentricity	
Mounting	magnetic	nonmagn.	---	magn.	nmagn.	magn.	nmagn.	magn.	nmagn.
Item no. / Page									
ALI 2.118 / p. 242		++							
ALI 2.461 / p. 245		++	++						
ALI 2.451 / p. 245		+	++						
ALI 2.112 / p. 248	++			++					
ALI 2.109 / p. 250		++							
ALI 2.109L / p. 250		++							
ALI 2.894 / p. 245			++						
ALI 2.875 / p. 245			++						
ALI 14.310 / p. 260				++					
ALI 2.230-1 / p. 261	++								
ALI 2.220 / p. 263	++			+		++		++	
ALI 2.761 IS / p. 257	++			++		+		++	
ALI 2.190 / p. 265				+	++				
ALI BV26 / p. 252	+	++		++	++	++			
ALI 2.719 / p. 267						+	+	++	++
ALI 2.715 / p. 271						++		++	

++ : intended use + : optional use



## Levelness and Straightness

Application	Levelness	Straightness
Item no. / Page		
ALI 6.956 / p. 273	++	++
ALI 6.967 / <a href="#">more...</a>		++
ALI 4.501-IS / p. 254	++	++
ALI 6.773 / p. 282	++	++

## Chain-type Brackets

Chain-type brackets are the standard brackets for shaft alignment. They can be used universally and ensure secure and stable mounting of the measuring components on the shaft or coupling flange.



### Features

- Quick and easy mounting
- Robust and high-quality design
- Exact bores
- Torsion-resistant body

### Order information


The following chain-type brackets are available:

Item No.	Reference	Name	Scope of delivery
5140886	ALI 2.118	Compact chain-type bracket	Bracket frame Tension chain 600 mm Post 200 mm, 2x Allen key 4 mm
5140864	ALI 2.113 SET	Compact chain-type bracket, set with 2 pcs	Bracket frame, 2x Tension chains 300 mm / 600 mm, 2 each Posts 115, 150, 200, 250, 300 mm, 4 each Allen key 4 mm, 2x Roll-up case
5152088	ALI 2.461	Chain-type bracket for large shaft diameter	Bracket frame, large Tension chain 1500 mm Post 300 mm, 3x Anti-torsion bridge, 2x
4503916	ALI 24.118	Chain type bracket for shaft diameters up to 200 mm (7 7/8")	Bracket frame Tension chain 600 mm Post 150 mm, 2x Allen key 4 mm
5141096	ALI 2.451	Cardan shaft chain-type bracket with rotating arm	Bracket frame, large Tension chain 1500 mm Post 300 mm, 3x Anti-torsion bridge, 2x

Instructions: An anti-torsion bridge is required for posts longer than 200 mm.  
The maximum post length for the compact chain-type bracket amounts to 300 mm.

In addition, optional accessories and/or individual components are available as spare part:

### Optional accessories

Item No.	Name	Notes	Details
<b>Various</b>	Posts	available in 10 different lengths	p. 284
<b>Tension chains</b>			
<b>ALI 2.114</b>	Tension chain 300 mm [11 13/16"]		
<b>ALI 2.115</b>	Tension chain 600 mm [23 5/8"]		
<b>ALI 2.116</b>	Tension chain 1500 mm [59 1/16"]		
<b>Body</b>			
<b>ALI 2.117</b>	Body for compact chain-type bracket	incl. hexagon wrench	
<b>ALI 2.452</b>	Body, rotating arm		
<b>ALI 2.462</b>	Body, large		
<b>Miscellaneous</b>			
<b>ALI 2.191</b>	Anti-torsion bridge for 2 posts		p. 278
<b>ALI 2.463</b>	Anti-torsion bridge for 3 posts		p. 278
<b>ALI 5.020</b>	External inclinometer		
<b>ALI 2.244-IS</b>	Offset adapter for brackets, short posts	axial offset: 18 mm	p. 279
			

## TECHNICAL INFORMATION

To ensure stable mounting of the chain-type bracket, it must be possible to securely brace the chain around the circumference of the shaft/coupling. Here, the length of the chain and - for large diameters - the body are essential.

Shaft/coupling flange diameter	Tension chain		
	300 mm	600 mm	1500 mm
$D_{max}$	100 mm [3 15/16"]	200 mm [7 7/8"]	500 mm (400 mm*) [19 11/16" (15 3/4")*]
$D_{min}$	20 mm [ 13/16"]		50 mm (20 mm*) [1 15/16" ( 13/16" )]*

\* with compact chain-type bracket

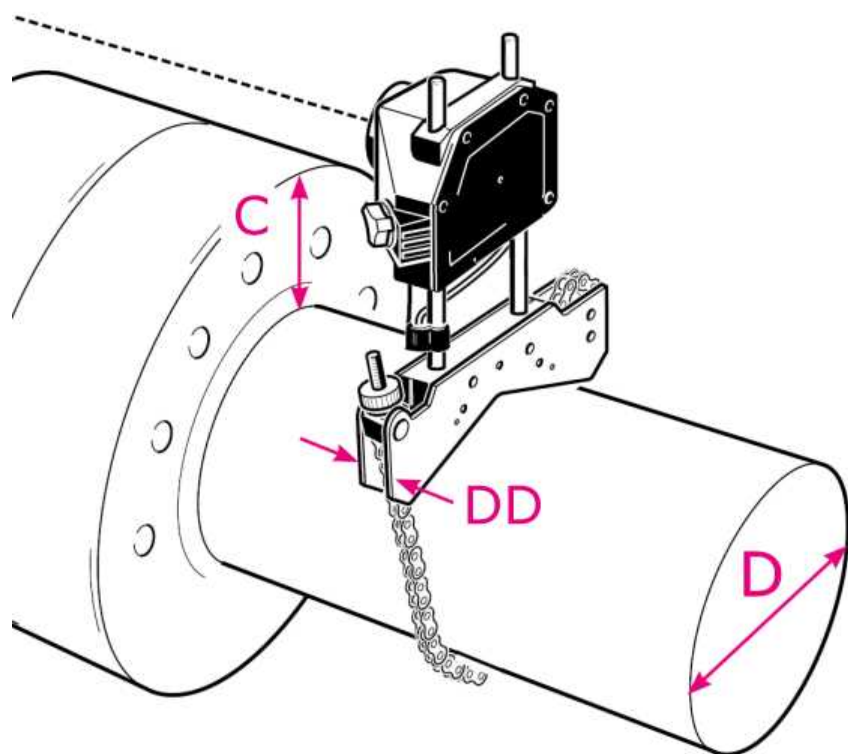
The space on the shaft/flange must be sufficient to mount the chain-type bracket. **Design depth DD** of the body is essential here.

Design depth	Body		
	Compact	Large	Rotating arm
$DD_{min}$	20 mm [ 13/16"]	35 mm [1 3/8"]	60 mm [2 3/8"]

**Clearance C** is the distance of the shaft surface to the coupling rim and defines the height, from which the laser beam hits above the coupling. Length L of the post is essential here:

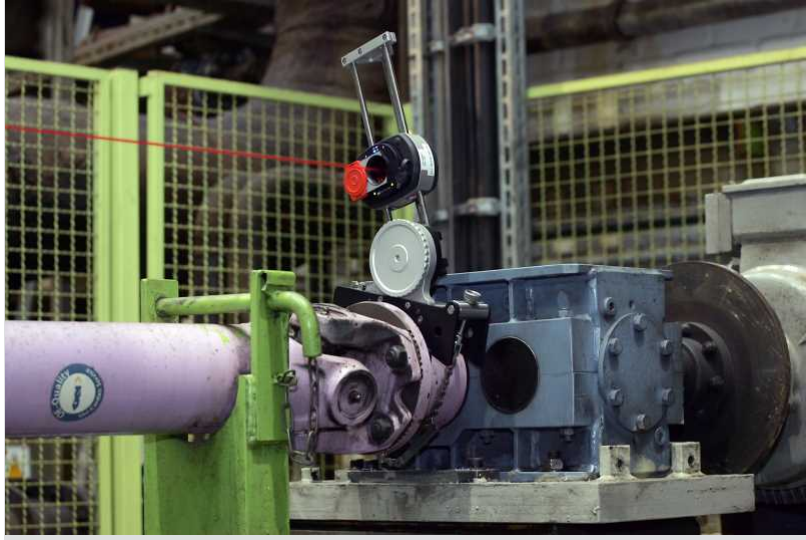
	Clearance
$C_{max}$	L ... L - 30 mm*

\* for minimum shaft diameter



## Measuring Fixtures for Cardan Shafts

Four measuring fixtures are available for cardan shaft alignment. The selection criteria are based on the circumstances on site and the used measuring equipment consisting of sensor system and computer firmware.



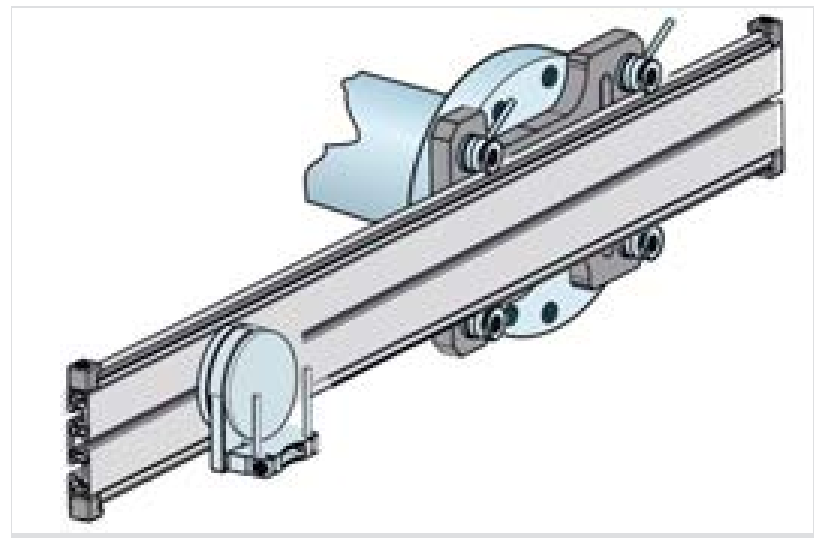
Cardan shaft chain-type bracket with rotating arm, ALI 2.450

### Features

- Measurement with installed and removed cardan shaft
- Shaft offset up to 900 mm [35 7/16"] possible
- Ideal for limited rotation angle in installed condition
- Compatible with all PRÜFTECHNIK sensors



Chain-type bracket for large diameter, ALI 2.460




Cardan shaft bracket, ALI 2.893 SETIS

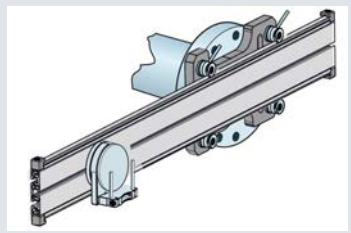
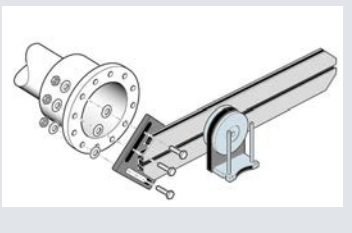
### Order information

Item No.	Measuring fixture
<b>ALI 2.450</b>	Cardan shaft chain-type bracket with rotating arm, set
<b>ALI 2.460</b>	Chain-type bracket for large diameter, set
<b>ALI 2.893 SETIS</b>	Cardan shaft bracket, set
<b>ALI 2.874 SETIS</b>	Cardan shaft bracket Lite, set

The scope of delivery results from the following overview:

## Scope of delivery

CONTENT			Measuring fixture	
Item No.	Name		ALI 2.450	ALI 2.460
ALI 2.451	Cardan shaft chain-type bracket with rotating arm	p. 242	✓	✗
ALI 2.461	Chain-type bracket for large diameter	p. 242	✓	✓, 2x
ALI 2.178	Post 400 mm	p. 242	✓, 6x	✓, 6x
ALI 2.179	Post 495 mm	p. 242	✓, 6x	✓ 6x
ALI 5.020	External inclinometer , 2 pcs	p. 242	✓ 2x	✓ 2x
0 0739 1056	Hexagon wrench, DIN 911, size 3		✓ 2x	✗
0 0739 1055	Hexagon wrench, DIN 911, size 2.5		✗	✓ 2x
ALI 2.480	Case		✓	✓
DOC 99.201	Operating instructions, Getting started		✓	✓
				

CONTENT			Measuring fixture	
Item No.	Name		ALI 2.893 SETIS	ALI 2.874 SETIS
ALI 2.894	Extension arm for cardan shaft bracket		✓	✗
ALI 2.896	Case for cardan shaft bracket		✓	✗
ALI 2.875	Extension arm for cardan shaft bracket lite		✗	✓
ALI 2.876	Case for cardan shaft bracket lite		✗	✓
DOC 99.201	Operating instructions, getting started		✓	✓
				



## TECHNICAL INFORMATION

The following overview shows, which measuring fixture is compatible with which measuring equipment and on-site circumstances.

Property	Measuring fixture	
	ALI 2.450	ALI 2.460
sensALIGN 7 sensor system	✓	✓
sensALIGN 5 sensor system	✗	✗
sensALIGN 3 sensor system	✗	✗
ROTALIGN touch	✓	✓
ROTALIGN Ultra Shaft v 3.03	✓	✓
ROTALIGN Ultra iS Shaft Advanced / Expert	✓	✓
ROTALIGN Ultra iS Shaft Standard	✓	✓
Cardan shaft installed	✓	✓
Maximum shaft offset in mm	400	300

Property	Measuring fixture	
	ALI 2.893 SETIS	ALI 2.874 SETIS
sensALIGN 7 sensor system	✓	✓
sensALIGN 5 sensor system	✓, with Multipoint	✓, with Multipoint
sensALIGN 3 sensor system	✓, with Active Clock	✓, with Active Clock
ROTALIGN touch	✓, with intelliPOINT	✓, with intelliPOINT
ROTALIGN Ultra Shaft v 3.03	✓	✓
ROTALIGN Ultra iS Shaft Advanced / Expert	✓, with intelliPOINT	✓, with intelliPOINT
ROTALIGN Ultra iS Shaft Standard	✓, with Multipoint	✓, with Multipoint
Cardan shaft installed	✗	✗
Maximum shaft offset in mm	900	350

## Compact Magnetic Bracket

This bracket allows quick and stable mounting of the sensor system onto any ferromagnetic machine components. During shaft alignment, it is mounted on the face on the coupling flange. During bore measurement, it is used as laser holder.



### Features

- Quick and easy mounting
- Stable magnetic coupling
- Low design depth
- Including posts (115 mm)
- Compatible with current sensor system

### Order information

Item No.	Name	Scope of delivery
<b>ALI 2.112</b>	Compact Magnetic Bracket	Body, magnetic bracket Post 115 mm, 2x Hexagon wrench, size 3
<b>ALI 2.112 SET-S</b>	Compact magnetic bracket, 2 pcs,	Body, magnetic bracket, 2x Post 115 mm, 4x Hexagon wrench, size 3



### Optional accessories

Item No.	Name	Notes	Details
ALI 2.244-IS	Offset adapter for brackets, short posts 	axial offset: 18 mm	p. 279

### TECHNICAL INFORMATION

Application	Magnetic bracket	
Shaft alignment		Magnetic bracket mounted on coupling flange
Dimensions	45 x 85 x 10 mm [ 1 3/4" x 3 3/8" x 3/8" ] (L x W x H), body	

## Extra-thin Brackets

These brackets have a low design depth (8 mm) and represent an ideal alternative to chain-type brackets for very limited spaces between coupling and housing.



### Features

- Quick and easy mounting
- Low space requirement: 8 mm
- Mounting with threaded rods and quick-mounting slip nuts
- Permanently installed posts for laser and sensor

### Order information

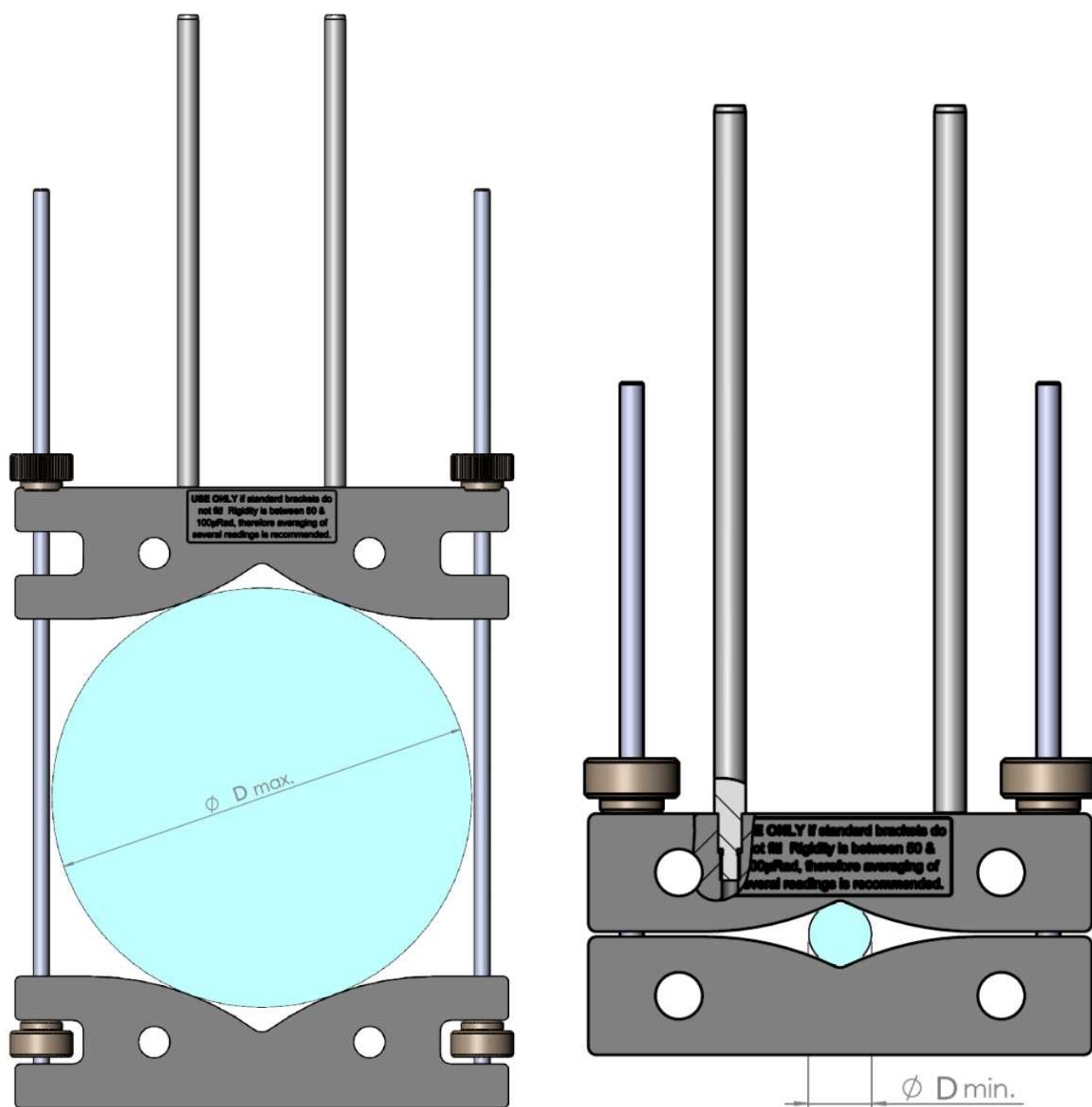
Extra-thin brackets are available in the following sets:

Item No.	Name	Scope of delivery	
<b>ALI 2.109 SET</b>	Extra-thin bracket, set	Extra-thin bracket, 2x Threaded rod, long, 4x Small, extra-thin bracket, 2x Case	
<b>ALI 2.109LSET</b>	Small, extra-thin bracket, set	Small, extra-thin bracket, 2x Case	

Instructions: Only use this brackets if there is not enough space for chain-type brackets.

## TECHNICAL INFORMATION

To ensure stable mounting, it must be possible to securely bolt the bracket onto the shaft. Here, the length of the threaded rods and the size of the body are essential.



Shaft diameter	Bracket	
	Extra-thin	Small, extra-thin
$D_{max}$	160 mm [6 5/16"]	96 mm [3 3/4"]
$D_{min}$	40 mm [1 9/16"]	16 mm [5/8"]

**Clearance C** is the distance of the shaft surface to the coupling rim and defines the height, from which the laser beam hits above the coupling. The length of the post is essential here:  $C_{max} = L = 150 \text{ mm [5 7/8"]}$

## Universal Holder

This compact holder can be diversely used for shaft alignment, measurement of positional changes (Live Trend) and bore measurements. It offers numerous mounting options for couplings, machine housings, and bores. Design depth and length of the posts are adjusted to the dimensions of the current sensor system (laser and sensor).



### Features

- Compact, lightweight design
- Ideal for Shaft Alignment and Live Trend
- Universal mounting options
- Quick, easy, and flexible application
- Including posts (100 mm)
- Compatible with current sensor system
- Dimensions: 80 x 80 x 40 mm [ 3 1/8" x 3 1/8" x 1 9/16" ], without posts

### Order information

Item No.	Reference	Name	Scope of delivery
5153627	ALI BV26	Universal holder without laser beam opening	Holder pre-assembled with 100 mm post Hexagon wrench, size 3



The following components are available as accessories:

### Optional accessories

Item No.	Reference	Name	Notes	Details
Various		Posts	available in 10 different lengths	p. 284
5145437	ALI BV26.MP	Three-point magnetic holder	For mounting on magnetic components with flat surfaces. Diameter magnetic holder: 58 mm [2 5/16"]	p. 253
5145443	ALI BV26.RE	Magnetic Z-adapter, 3 pcs	For mounting on magnetic components with flat surfaces. Maximum range of Z-adapter: 120 mm [4 3/4" ]	p. 253
ALI BV26.xx		Spanner socket for hexagon screws (bolts)	For mounting with existing hexagonal-shaped screws. Available for these widths across flats: 17 / 19 / 24 / 30 / 36 / 41 / 46 / 55. Corresponding wrench size in inch: 17 = 5/8", 19 = 3/4", 24 = 15/16", 30 = 1 1/8", 41 = 1 1/2", 46 = 1 11/16", 55 = 2 1/16"	p. 253

# TECHNICAL INFORMATION

## Mounting options

Option	Illustration	Application																											
<p><b>Three-point magnetic holder,</b> <b>ALI BV26.MP</b></p>		<p>Live Trend: Holder is secured magnetically on the machine housing.</p> <p>Shaft alignment: Holder is secured magnetically on the coupling flange.</p> <p>Note: ALI BV26 not included and must be ordered separately.</p>																											
<p><b>Magnetic Z-adapter,</b> <b>ALI BV26.RE</b></p>		<p>Live Trend: Holder is secured magnetically on the machine housing.</p> <p>Shaft alignment: Holder is secured magnetically on the coupling flange.</p> <p>Note: ALI BV26 not included and must be ordered separately.</p>																											
<p><b>Spanner socket,</b> <b>ALI BV26.xx</b></p>		<p>Live Trend: Holder is mounted to screw connection on the machine housing</p> <p>Note: ALI BV26 not included and must be ordered separately.</p> <table border="1"> <thead> <tr> <th>Item No.</th> <th>Width across faces (mm)</th> <th>Thread size (metric)</th> </tr> </thead> <tbody> <tr> <td>ALI BV26.17 (5145350)</td> <td>17 (16)</td> <td>M10</td> </tr> <tr> <td>ALI BV26.19 (5145361)</td> <td>19 (18)</td> <td>M12</td> </tr> <tr> <td>ALI BV26.24 (5145377)</td> <td>24</td> <td>M16</td> </tr> <tr> <td>ALI BV26.30 (5145389)</td> <td>30</td> <td>M20</td> </tr> <tr> <td>ALI BV26.36 (5145392)</td> <td>36</td> <td>M24</td> </tr> <tr> <td>ALI BV26.41 (5145404)</td> <td>41</td> <td>M27</td> </tr> <tr> <td>ALI BV26.46 (5145419)</td> <td>46</td> <td>M30</td> </tr> <tr> <td>ALI BV26.55 (5145428)</td> <td>55</td> <td>M36</td> </tr> </tbody> </table>	Item No.	Width across faces (mm)	Thread size (metric)	ALI BV26.17 (5145350)	17 (16)	M10	ALI BV26.19 (5145361)	19 (18)	M12	ALI BV26.24 (5145377)	24	M16	ALI BV26.30 (5145389)	30	M20	ALI BV26.36 (5145392)	36	M24	ALI BV26.41 (5145404)	41	M27	ALI BV26.46 (5145419)	46	M30	ALI BV26.55 (5145428)	55	M36
Item No.	Width across faces (mm)	Thread size (metric)																											
ALI BV26.17 (5145350)	17 (16)	M10																											
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ALI BV26.24 (5145377)	24	M16																											
ALI BV26.30 (5145389)	30	M20																											
ALI BV26.36 (5145392)	36	M24																											
ALI BV26.41 (5145404)	41	M27																											
ALI BV26.46 (5145419)	46	M30																											
ALI BV26.55 (5145428)	55	M36																											

## Magnetic Foot Holder for Laser and Sensor

This versatile holder is used to measure straightness and flatness of objects in the industry sector. The magnetic foot can be securely mounted on flat and curved surfaces (e.g., shafts) using its prismatic contact surface.



### Features

- Stable magnetic mounting on surfaces and shafts
- Magnetic force can be activated via rotary switch
- Universal mounting options
- Quick, easy and flexible application
- Including posts (100 mm)
- Compatible with current sensor and laser components

### Order information

Item No.	Name	Scope of delivery
<b>ALI 4.501-IS</b>	Magnetic Foot Holder for Laser and Sensor	Magnetic foot with post (100 mm and 50 mm) Universal mounting adapter with two mounting positions for laser and sensor Post 100 mm, 2x Hexagon wrench, size 3

### Optional accessories

Item No.	Name	Notes	Details
<b>ALI 6.773</b>	Flatness plunger	For point scanning of flat surfaces	p. 282
<b>ALI 6.966</b>	LEVALIGN Expert sensor holder for posts 8 mm	To mount the LEVALIGN Expert sensor on the magnetic foot bracket in horizontal or vertical position. The scope of delivery contains longer posts (150 mm)	p. 279
<b>Various</b>	Posts	available in 10 different lengths	p. 284
<b>ALI 3.194-IS</b>	Universal mounting adapter with two mounting positions for laser and sensor	Spare part	p. 280
<b>ALI 4.502</b>	Magnetic foot with post	Spare part	



# TECHNICAL INFORMATION

## Mounting options and dimensions

Mounting	Magnetic foot bracket	
<b>Foot with post</b>		Standard setup, if no structural restrictions are present
<b>Ground sensor</b>		Beam guidance close to the measuring surface; posts in the second, front mounting position
<b>Foot without post</b>		Low height, compact design

Mounting	Magnetic foot bracket	
<b>LEVALIGN Expert sensor</b>		longer posts (150 mm) required in vertical position
<b>Notes</b>	<p>With sensALIGN 7 and sensALIGN 5, sensor and laser each, all mounting options are possible</p> <p>The LEVALIGN Expert sensor requires adapter ALI 6.966 for mounting on the posts</p> <p>LEVALIGN laser and LEVALIGN Expert laser cannot be mounted with this holder. A sufficiently dimensioned tripod is available instead</p>	
<b>Dimensions</b>	65 x 50 x 55 mm (L x W x D), magnetic foot 100 mm, length of magnetic foot post	



# Universal Magnetic Bracket

This bracket can be diversely used for shaft alignment, measurement of positional changes (Live Trend) and bore measurements.



## Features

- Laser bracket and sensor measuring fixture
- Stable magnetic 4-point coupling
- Adjustable mounting bridges and magnets
- Including posts (150 mm)
- Bore diameter: 160 ... 500 mm [6 5/16" ... 19 11/16"]
- Two axial mounting positions for the posts
- Compatible with current sensor system

## Order information

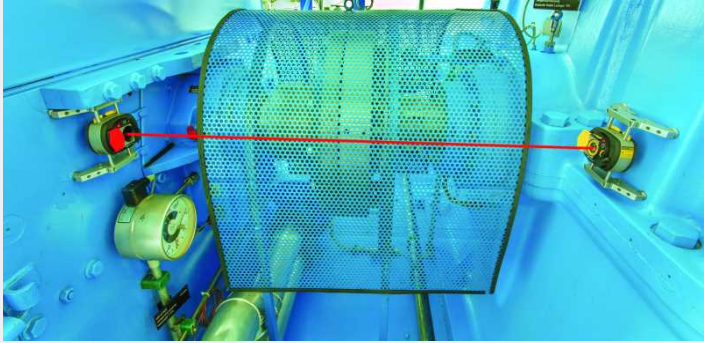
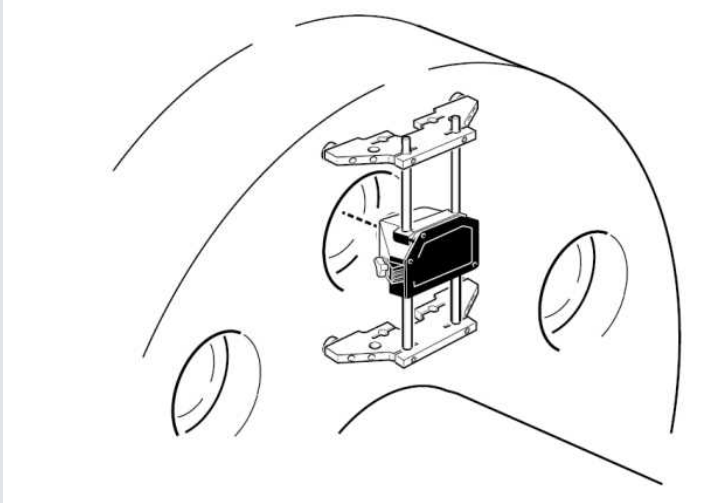

Item No.	Name	Scope of delivery
<b>ALI 2.761 SETIS</b>	Universal magnetic bracket for flanges and bores, set	2 magnetic brackets, pre-assembled with 150 mm posts Hexagon wrench, size 3 Case
<b>ALI 2.761-IS</b>	Universal magnetic bracket for flanges and bores	1 magnetic brackets, pre-assembled with 150 mm posts Hexagon wrench, size 3


In addition, optional accessories and/or individual components are available as spare part:

## Optional accessories

Item No.	Name	Notes	Details
<b>Various</b>	Posts	available in 10 different lengths	p. 284
<b>ALI 2.789</b>	sensALIGN 5 sensor holder for universal pointer bracket (UPB)	For measurement of concentric components	p. 280
<b>ALI 2.773-xxx</b>	Plungers in different lengths for UPB	Available lengths (xxx): 110, 270, 415, 500 mm For lengths > 110 mm, additional UPB components are required to stabilize the measuring fixture.	

## TECHNICAL INFORMATION

Application	Universal Magnetic Bracket	
<p><b>Live Trend</b></p>		<p>Magnetic bracket mounted on machine housing. Standard bracket for the measurement of positional changes using the Live Trend function.</p>
<p><b>Shaft alignment</b></p>		<p>Magnetic bracket mounted on coupling flange. Laser beam is directed through a bore hole</p> <p>In the case of couplings with respectively large bores, the magnetic bracket can replace the complete chain-type bracket. In this case, the laser beam is directed through a bolt hole. Thus, the sensor system does not protrude over the rim of the coupling.</p>
<p><b>Bore measurement</b></p>		<p>Laser mounted outside of the bore. Laser beam is directed into the bore, but can be rotated by 180°.</p>

Application	Universal Magnetic Bracket	
<p><b>Bore measurement</b></p>		<p>sensALIGN 5 sensor* with sensor holder and plunger mounted on magnetic bracket. Adjustment to greater diameters via longer posts.</p> <p>* without integrated BT module</p> <p>An optionally available sensor holder and a matching plunger are required for use as measuring fixture. The magnetic bracket is mounted to the outside of the bore. If space is tight and if used as measuring fixture, the posts can be axially moved towards the front.</p>
<p><b>Dimensions</b></p>	<p>57 x 163 x 32* mm (L x W x H)</p> <p>*Height with the mounting brackets pushed together; maximum height depending on length of posts</p>	

# Magnetic Bracket for Horizontal and Vertical Surfaces

This magnetic bracket is used by default for **Live Trend** measurements. It secures laser and sensor to magnetic surfaces on the machine. For mounting on vertical surfaces, the posts can be mounted offset by 90°.



## Features

- Flexible application
- Quick and easy mounting
- For flat and curved surfaces
- Stable magnetic coupling
- Including posts (115 mm)
- Compatible with current sensor system

## Order information


Item No.	Name	Scope of delivery
<b>ALI 14.310</b>	Magnetic Bracket for Horizontal and Vertical Surfaces	Base body including magnet and 90° adapter Post 115 mm, 2 pcs

In addition, optional accessories and/or individual components are available as spare part:

## Optional accessories

Item No.	Name	Notes	Details
<b>Various</b>	Posts	available in 10 different lengths	p. 284
<b>ALI 2.191</b>	Anti-torsion bridge for 2 posts	for posts with $L \geq 200$ mm	p. 278

## TECHNICAL INFORMATION

Application	Magnetic Bracket for Horizontal and Vertical Surfaces
<b>Live Trend</b> p. 213	 <p>Sensor bracket (left) on horizontal, laser bracket on vertical surface.</p>
<b>Dimensions</b>	108 x 50 x 33 mm (L x W x H), without post

## Magnetic Sliding Bracket for Shafts and Flanges

This magnetic bracket is used by default for shaft alignment, if a shaft cannot be rotated. The bracket is mounted on the coupling face or shaft end and shifted along the outer edge for the measurement.



### Features

- Quick and easy mounting
- For diameters > 80 mm [3 1/8"]
- Stable magnetic coupling
- Precise guiding along outer edge
- Including posts (150 mm)
- Compatible with current sensor system



### Order information

Item No.	Name	Scope of delivery
<b>ALI 2.230-1</b>	Magnetic Sliding Bracket for Flanges, Set	Sliding bracket pre-assembled with 150 mm post Hexagon wrench, size 3 Case

In addition, optional accessories and/or individual components are available as spare part:

### Optional accessories

Item No.	Name	Notes	Details
<b>Various</b>	Posts	available in 10 different lengths	p. 284
<b>ALI 2.464</b>	Anti-torsion bridge for 3 and 4 posts	for posts with $L \geq 200$ mm	p. 278

Item No.	Name	Notes	Details
<b>ALI 2.244-LIS</b>	Offset adapter for magnetic sliding brackets, long posts 	axial offset: 18 mm 	p. 279

## TECHNICAL INFORMATION

Application	Magnetic sliding bracket	
<b>Shaft alignment</b>		Sliding bracket mounted on coupling flange
<b>Dimensions</b>	70 x 160 x 55 mm (L x W x H), without post	

Note: High surface quality of the face end required for reproducible alignment results.



# Universal Magnetic Sliding Bracket

This bracket can be diversely used for shaft alignment and bore measurements. As measuring fixture, it secures the sensor to the coupling face and can be precisely shifted across the outer edge using the sliding stud. As laser holder, it can be mounted to both sides on a coupling or bore.



## Features

- Face-end mounting on surface area or outer edge
- Quick, easy, and flexible application
- For diameters > 60 mm [2 3/8"]
- Stable magnetic coupling
- Movable sliding studs
- Including posts (150 mm)
- Compatible with current sensor system

## Order information

Item No.	Name	Scope of delivery
<b>ALI 2.220 SET</b>	Universal magnetic sliding bracket for flanges and bores, set	Sliding bracket pre-assembled with 150 mm post Hexagon wrench, size 3 Case
<b>ALI 2.220</b>	Universal magnetic sliding bracket for flanges and bores	Sliding bracket pre-assembled with 150 mm post



In addition, optional accessories and/or individual components are available as spare part:

## Optional accessories

Item No.	Name	Notes	Details
<b>Various</b>	Posts	available in 10 different lengths	p. 284
<b>ALI 2.789</b>	sensALIGN 5 sensor holder for universal pointer bracket (UPB)	Sensor holder for bore measurements with pointer method.	p. 280
<b>ALI 2.773-xxx</b>	Plungers in different lengths for UPB	Available lengths (xxx): 110, 270, 415, 500 mm For lengths > 110 mm, additional UPB components are required to stabilize the measuring fixture.	---

Item No.	Name	Notes	Details
ALI 2.244-LIS	Offset adapter for magnetic sliding brackets, long posts	axial offset: 18 mm	p. 279

## TECHNICAL INFORMATION

Application	Universal sliding bracket	
<b>Shaft alignment</b>		Sliding bracket mounted on coupling flange
<b>Bore measurement with pointer method</b>		sensALIGN 5 sensor* with sensor holder and plunger mounted on magnetic bracket. Adjustment to greater diameters via longer posts. Using the pointer method, offset, eccentricity, and damage (Dents, notches, etc.) of the bore can be detected. The sliding method provides offset information only. * without integrated BT module
<b>Dimensions</b>	60 x 160 x 55 mm (L x W x H), without posts	

Note: High surface quality of the face end required for reproducible alignment results.



## PERMAFIX Bracket

This mechanical bracket is used for **Live Trend** measurements. It secures laser and sensor to the machine housing. Two ball joints enable alignment of the measuring components in nearly every direction. The posts can be mounted in the attachment unit offset by 90°.



### Features


- Bolted mounting
- Two ball joints for flexible alignment
- For magnetic and non-magnetic surfaces
- Including posts (115 mm)
- Compatible with current sensor system

### Order information

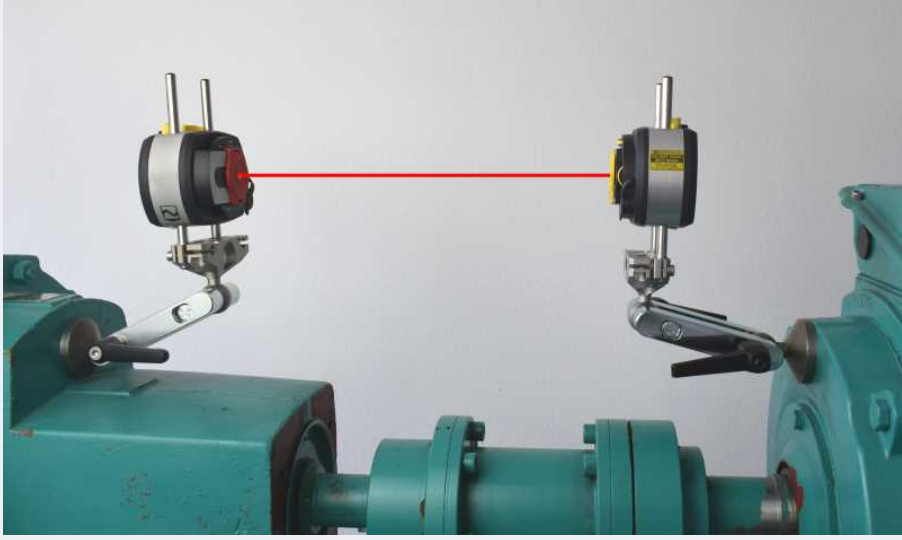
Item No.	Name	Scope of delivery
<b>ALI 2.190</b>	PERMAFIX Bracket	Bracket including attachment unit and mounting head Post 150 mm, 2 pcs

In addition, optional accessories and/or individual components are available as spare part:

### Optional accessories

Item No.	Name	Notes	Details
<b>Various</b>	Posts	available in 10 different lengths	p. 284
<b>ALI 2.191</b>	Anti-torsion bridge for 2 posts	for posts with $L \geq 200$ mm	p. 278
<b>ALI 2.194</b>	Striking cone with accessories	Tool for fastening the PERMAFIX bracket to the machine housing, includes: <ul style="list-style-type: none"> <li>• Striking cone (see figure)</li> <li>• Twist drill 4,2</li> <li>• Tap drill HSS M5</li> <li>• Hexagon wrench, size 3 and 4</li> </ul>	

## TECHNICAL INFORMATION

Application	PERMAFIX bracket	
<b>Live Trend</b> p. 213		Sensor and laser each mounted to machine housing with PERMAFIX.
<b>Dimensions</b>	180 x 150 x 50 mm (L x W x H), without post	

## Universal Pointer Bracket - UPB

This bracket is used to measure alignment and roundness of concentric components, such as bearing channels or cylinder bores. It is suitable for bores made of magnetic as well as non-magnetic material.



### Features

- High-quality mechanical components for high measuring accuracy
- Can be used in nor or on front face
- For magnetic and non-magnetic bores
- Standard equipment (d: 120-400 mm [4.72 - 15.74 inch])
- Optionally extensible for diameters up to 810 mm [31.89 inch]

### Order information

Item No.	Name
(ALI 2.719)*	UPB - universal pointer bracket for sensALIGN 5 sensor (w/ external RF module)
ALI 2.719-GEO	UPB - universal pointer bracket for sensALIGN 7 sensor
ALI 2.760 SET	UPB extension set for diameters up to 810 mm, magnetic and non-magnetic

### Scope of delivery - UPB, ALI 2.719


Item No.	Name	Quantity
ALI 2.789	sensALIGN 5 sensor holder for universal pointer bracket (UPB)	1
ALI 2.773-270	Plunger, 270 mm	1
ALI 2.783-S	Universal mounting bridge with sliding studs, small	1
ALI 2.173	Post 250 mm, green end caps	2
<b>Overview</b>		
<b>Bore diameter</b>	120 - 400 mm [4.72 - 15.74 inch]; the diameter range only applies in combination with the posts.	

### Scope of delivery - UPB, ALI 2.719-GEO

Item No.	Name	Quantity
ALI 2.789-GEO	sensALIGN 7 sensor holder for universal pointer bracket (UPB)	1
ALI 2.773-110	Plunger, 110 mm	1
ALI 2.783-S	Universal mounting bridge with sliding studs, small	1
ALI 2.170	Post 115 mm, white end caps	2
Overview		
Bore diameter	150 - 230 mm [5.90 - 9.05 inch]	

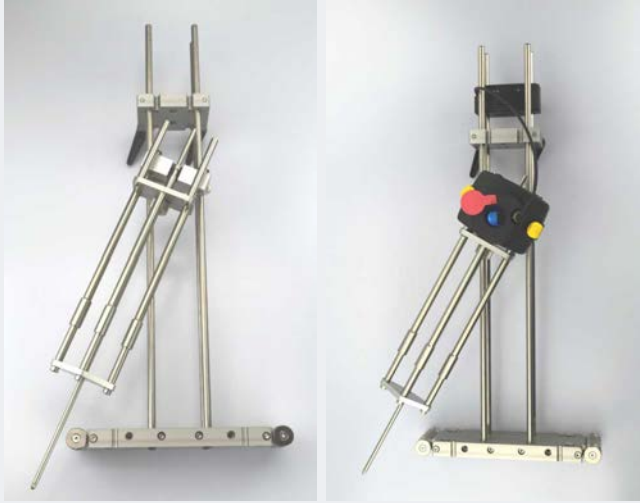
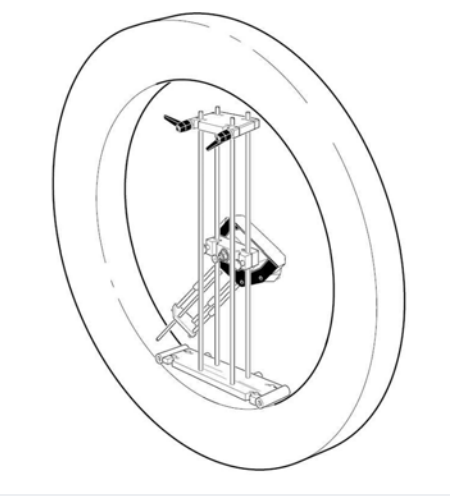

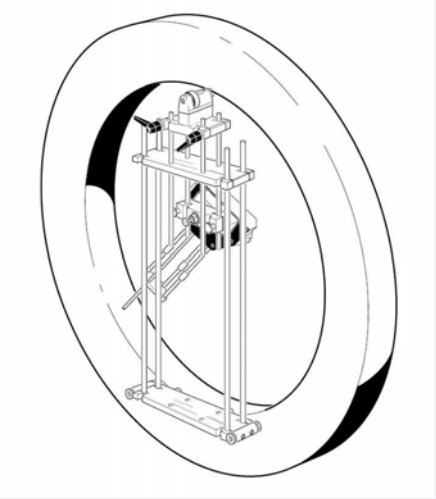
### Scope of delivery - UPB extension set, ALI 2.760 SET

Item No.	Name	Quantity
ALI 2.171	Post 150 mm, black end caps	2
ALI 2.172	Post 200 mm, gray end caps	2
ALI 2.173	Post 250 mm, green end caps	4
ALI 2.174	Post 300 mm, yellow end caps	4
ALI 2.175	Post 350 mm	4
ALI 2.177	Post 70 mm	2
ALI 2.178	Post 400 mm	4
ALI 2.179	Post 495 mm	4
ALI 2.2117	Post 100 mm	4
ALI 2.766	Extension post plunger guide plate, UPB	3
ALI 2.772	Plunger guide plate, UPB	1
ALI 2.773-415	Plunger, 415 mm	1
ALI 2.777-255	Stabilizing post, 255 mm, UPB	4
ALI 2.777-500	Stabilizing post, 500 mm, UPB	4
ALI 2.782-1	Clamping bridge, UPB	1
ALI 2.782-2	Eccentric head, UPB	1
ALI 2.782-3	Adapter, UPB	1
ALI 2.783-M	Universal mounting bridge with sliding studs, medium, UPB	1
ALI 2.783-P	Bore surface protector for universal mounting bridge, UPB (set of 4x magnet protectors and 6x sleeves)	1
ALI 2.784-M	Intermediate mounting bridge, medium, UPB	1

Item No.	Name	Quantity
---	Hexagon wrench, size 3 and size 4	1 each
<b>ALI 3.889</b>	Case	1
<b>Overview, without case</b>		
<b>Bore diameter</b>	120 - 810 mm [4.72 - 31.89 inch]; the diameter range only applies in combination with the UPB standard equipment	

## TECHNICAL INFORMATION

Bore	UPB - universal pointer bracket	
<b>Magnetic</b>		
	<p>The UPB can be placed in the bore or on the front face. Strong magnets secure the UPB; two sliding studs provide additional support for the measuring fixture when mounted outside of the bore.</p>	<p>The measuring probe is lowered onto the surface and moves the sensor into measuring position.</p>

Bore	UPB - universal pointer bracket		
<b>Magnetic,</b> <b>D: ≤ 810 mm</b>			
	<p>Additional components extend the area of application of the UPB to bores with larger diameter.</p>		<p>The measuring probe and sensor bracket are stabilized using additional components.</p>
<b>Non-magnetic,</b> <b>D: ≤ 810 mm</b>			
	<p>In the case of non-magnetic surfaces, the UPB is mechanically secured in the bore using the universal mounting bridge and the mounting bridge with eccentric head.</p>		<p>The UPB is mechanically secured on the front face of the bore. The sliding studs on the eccentric head and the universal mounting bridge are used as pads.</p>



## Universal Mounting Bridge

This mounting bridge can be diversely used for bore measurements. It is light-weight, consists of a few individual components only and can be quickly mounted using magnetic clamping feet. The universal mounting bridge can be used as laser/sensor holder or as measuring fixture for large half-shells.



### Features

- Light-weight aluminum construction
- For bore diameters from 120 to 900 mm [4 3/4" to 35 7/16"]
- Adjustable magnetic clamping feet
- Adjustable support post holder
- Can be used as holder or measuring fixture

### Order information

Item No.	Name	Scope of delivery
ALI 2.715	Universal Mounting Bridge	Aluminum rail 40x40x1000 mm Clamping bracket for magnetic foot, 2x Support post holder, ALI 2.718

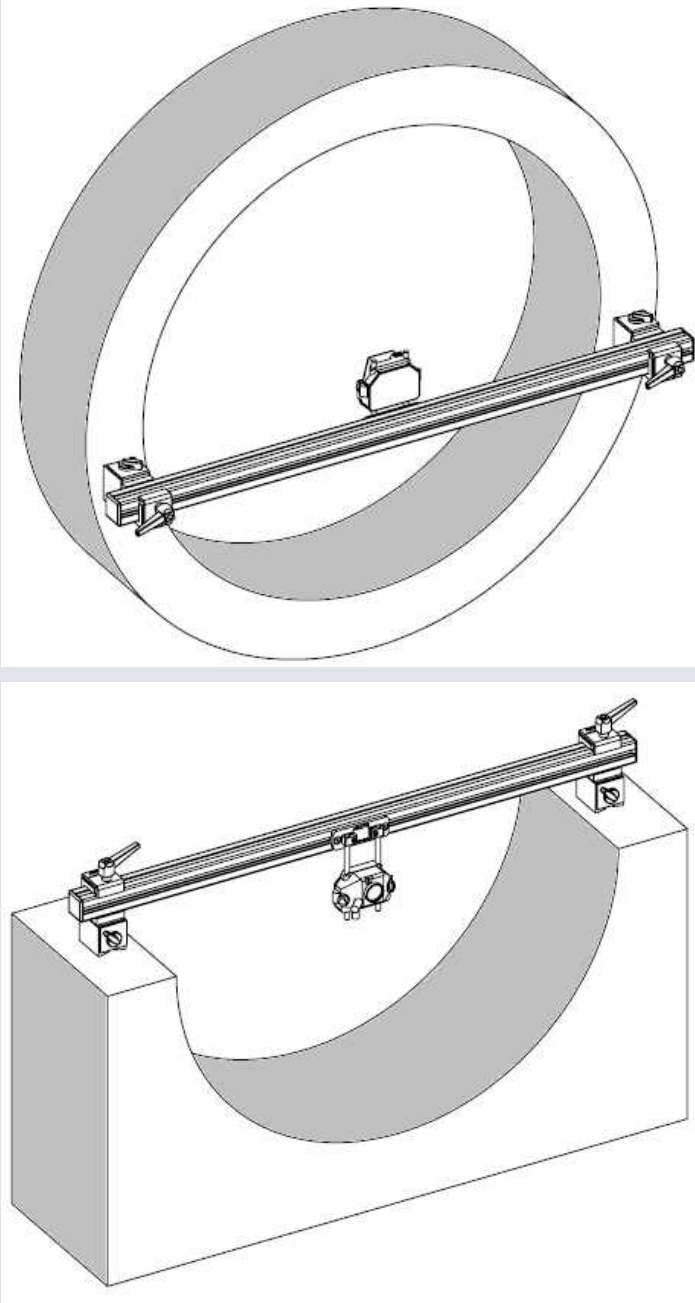
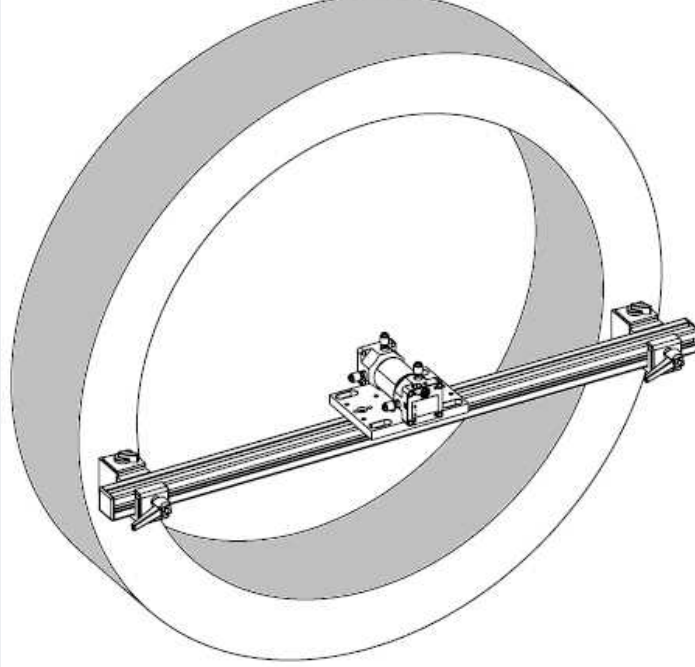
In addition, optional accessories and/or individual components are available as spare part:

### Optional accessories

Item No.	Name	Notes	Details
Various	Posts	Accessory item available in 10 different lengths	p. 284
ALI 2.717	Aluminum rail 40x40x1000 mm	Spare part	
ALI 2.716	Clamping bracket for magnetic foot	Spare part	
ALI 2.718	Support post holder	Spare part	

## TECHNICAL INFORMATION

Application	Universal mounting bridge	
Bore measurement		<p>Bracket for universal pointer bracket (UPB) on open half-shells or smaller turbines (tops-off). This requires the following components:</p> <ul style="list-style-type: none"> <li>ALI 2.171 - Posts 150 mm, 2x</li> <li>ALI 2.789 - sensALIGN 5 Sensor holder, UPB</li> <li>ALI 2.773-xxx - Plunger xxx mm long</li> <li>ALI 2.772 - Plunger guide plate</li> <li>ALI 2.766 - Extension post for plunger guide plate, 3x</li> </ul>

Application	Universal mounting bridge	
<p><b>Bracket for laser / control sensor</b></p>		<p>Laser/control sensor can be mounted outside the bore or on the half shell.</p> <p>This requires the following components:</p> <p>ALI 2.171 - Posts 150 mm, 2x</p>
<p><b>Bracket for long range laser</b></p>		<p>The mounting components are included in the scope of delivery of the laser.</p>
<p><b>Dimensions</b></p>	<p>40 x 40 x 1000 mm [ 1 9/16" x 1 9/16" x 39 3/8" ] (W x H x L)</p>	



## Tripod stand for LEVALIGN Laser

With this industrial tripod stand, the LEVALIGN Expert Laser can be set up quickly and stably. The laser can be mounted in two planes perpendicular to each other.



### Features

- Vertical and horizontal mounting of the laser
- High quality workmanship
- Large adjustment range
- Adapter for ground-level installation
- Manually adjustable center column with self-braking gear transmission
- Mounting adapter for LEVALIGN Ultra Laser (accessory)
- Robust transport case.

### Ordering information

Item No.	Reference	Name	Scope of delivery
5145153	ALI 6.956	Tripod stand for LEVALIGN Laser	Tripod stand w/out case and tripod adapter

### Optional accessories

Item No.	Reference	Name	Notes
5497212	ALI 6.957-1	LEVALIGN tripod case	Case for transport and storage
5145175	ALI 6.958	LEVALIGN Expert Laser tripod adapter	Adapter for ground-level installation





## TECHNICAL INFORMATION

### Technical data

Parameter	Tripod stand for LEVALIGN Laser, ALI 6.956
Transport length	101 cm [39 3/4"]
Weight	12 kg [ 423.3 oz ]

### Mounting options

Laser mounted ...	... vertically on center column	... horizontally on center column
Illustration		
H: laser - ground	115 cm ... 214 cm [45 1/4" ... 84 1/4" ]	99 cm ... 198 cm [39 " ...77 15/16" ]

Laser mounted ...	... vertically on tripod adapter	... horizontally on tripod adapter
Illustration		
H: laser - ground	49 cm ... 95 cm [19 5/16" ... 37 3/8" ]	31.5 cm ... 77.5 cm [12 3/8" ...30 1/2" ]

Laser mounted ...	... on offset slide	Application
<p><b>Illustration</b></p>		
	<p>Max. offset: 80 mm .[ 3 1/8" ]</p>	<p>Alignment of rotational axes</p>

## Rotatable Magnetic Bracket

This bracket is used as holder for the **sensALIGN 7 sensor** for flatness measurements. The rotating function of the bracket facilitates the adjustment of the **LEVALIGN Ultra iS laser** to the detector areas in the sensor.



### Features

- Simplified laser adjustment when the LEVALIGN Ultra iS laser is used.
- Stable mounting on the measuring surface using magnetic coupling or 3-point mounting base.
- Sensor attachment with posts (not included in scope of delivery)


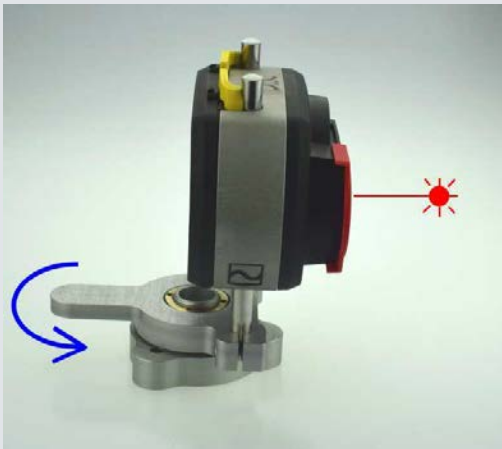
### Order information

Item No.	Name
ALI 6.954	Rotatable magnetic bracket for flatness measurements

### Optional accessories

Item No.	Name	Notes	Details
Various	Posts	available in 10 different lengths	p. 284

## TECHNICAL INFORMATION

Typical laser adjustment sequence	
#1	 <p>Center laser beam on the rear side of the sensor</p>
#2	 <p>Turn bracket by 180° -&gt; Laser beam hits both detector areas</p>

## Anti-torsion Bridges

Anti-torsion bridges are used to stabilize the setup of retaining and measuring fixtures with long posts ( $L > 200$  mm).

### Order information


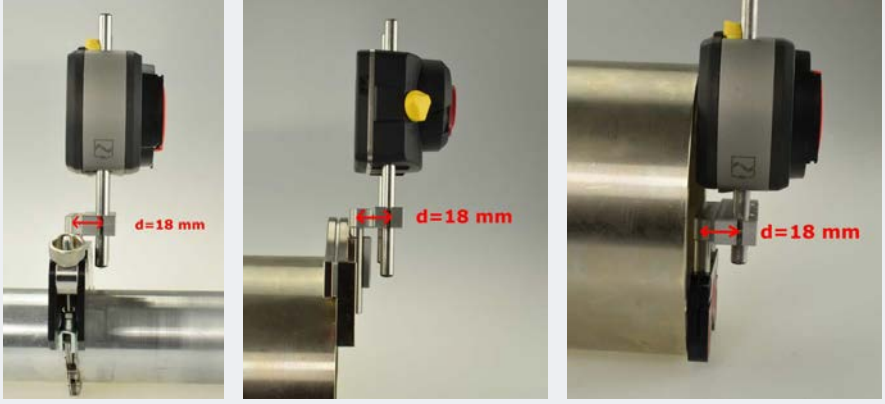
Item No.	Figure	Name	Application
ALI 2.191		Anti-torsion bridge for 2 posts	Shaft alignment and Live Trend measurements
ALI 2.778		Anti-torsion bridge for universal pointer bracket, UPB	Measurement of concentric components
ALI 2.463		Anti-torsion bridge for 3 posts	Alignment of cardan shafts and shafts with large diameter
ALI 2.464		Anti-torsion bridge for 3 and 4 posts	Shaft alignment with magnetic sliding bracket


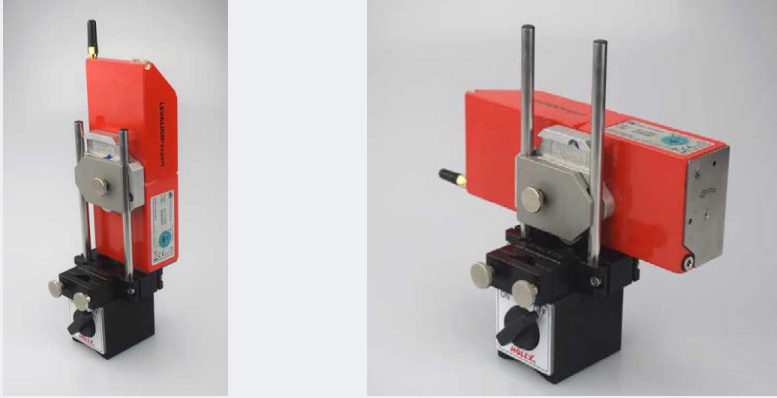




# Mounting Adapters



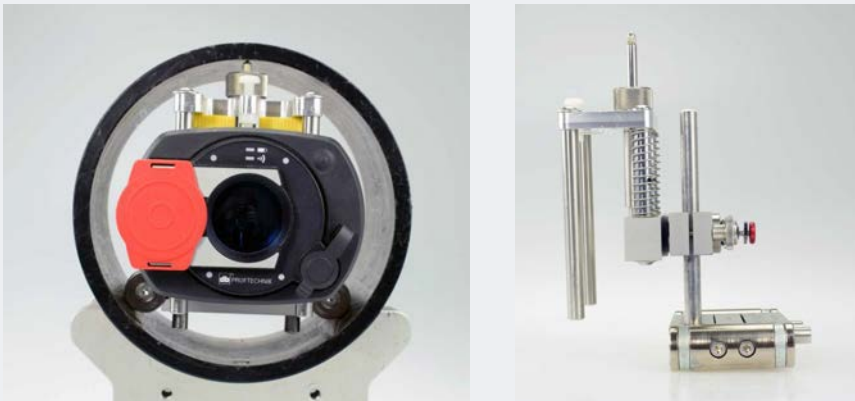
Mounting adapters are used for fastening measuring components on different brackets.

## Order information

Item No.	Figure	Name	Notes
<b>ALI 2.244-IS</b>		Offset adapter for brackets, short posts	With this adapter the measuring components can be axially offset by approx. 18 mm. Ideal in narrow spaces. Also ensures free movement during measurement. The adapter with the short posts (ALI 2.244-IS) is suitable for mounting on all chain-type brackets as well as on the compact magnetic holder (ALI 2.112).
<b>ALI 2.244- LIS</b>		Offset adapter for magnetic sliding brackets, long posts	The adapter with the long posts (ALI 2.244-LIS) is optimized for mounting on all magnetic sliding brackets (ALI 2.220, ALI 2.230-1).
			Offset adapter with sensor heads mounted on compact chain-type bracket (ALI 2.118), magnetic sliding bracket (ALI 2.220) and compact magnetic holder (ALI 2.112).

Item No.	Figure	Name	Notes
ALI 6.966		LEVALIGN Expert sensor holder for posts 8 mm	
			Sensor holder can be rotated by 90°, enables vertical and horizontal mounting
ALI 3.194-IS		Universal mounting adapter with two holding positions for laser and sensor	including M8 screw and 2 posts, 100 mm
ALI 4.502		Magnetic foot with post	<p>For magnetic surfaces with flat and curved profile (e.g., shaft)</p> <p>Magnetic force can be activated via rotary switch</p> <p>M8 thread for mounting of holding fixtures</p> <p>Weight: approx. 1 kg</p>
ALI 2.78-9		sensALIGN 5 sensor holder for Universal Pointer Bracket (UPB)	Application: Bracket for sensALIGN 5 sensor in connection with UPB (ALI 2.719) or universal magnetic sliding bracket (ALI 2.220).



Item No.	Figure	Name	Notes
			Sensor holder mounted on UPB with and without sensALIGN 5 sensor.
<b>ALI 2.789- GEO</b>		sensALIGN 7 sensor holder for Universal Pointer Bracket (UPB)	Application: Bracket for sensALIGN 7 sensor in connection with UPB (ALI 2.719-GEO) or universal magnetic sliding bracket (ALI 2.220).
			Sensor holder mounted on UPB with and without sensALIGN 7 sensor.

# Plunger for Flatness Measurement

This measuring probe is used for surface scanning.



## Features

- Point scanning of surface
- Stable mounting using magnetic foot ALI 4.502
- Compatible with Universal Mounting Adapter ALI 3.194-IS

## Order information

Item No.	Name
ALI 6.773	Flatness Plunger

## Optional accessories

Item No.	Name	Notes	Details
ALI 3.194-IS	Universal mounting adapter with two mounting positions for laser and sensor.	is used as a sensor holder in flatness measurement applications	p. 280
Various	Posts	available in 10 different lengths	p. 284
ALI 4.502	Magnetic foot	For stable mounting of the entire measuring fixture on the measuring surface	

## TECHNICAL INFORMATION

### Typical measuring fixture setup



Plunger mounted on magnetic foot



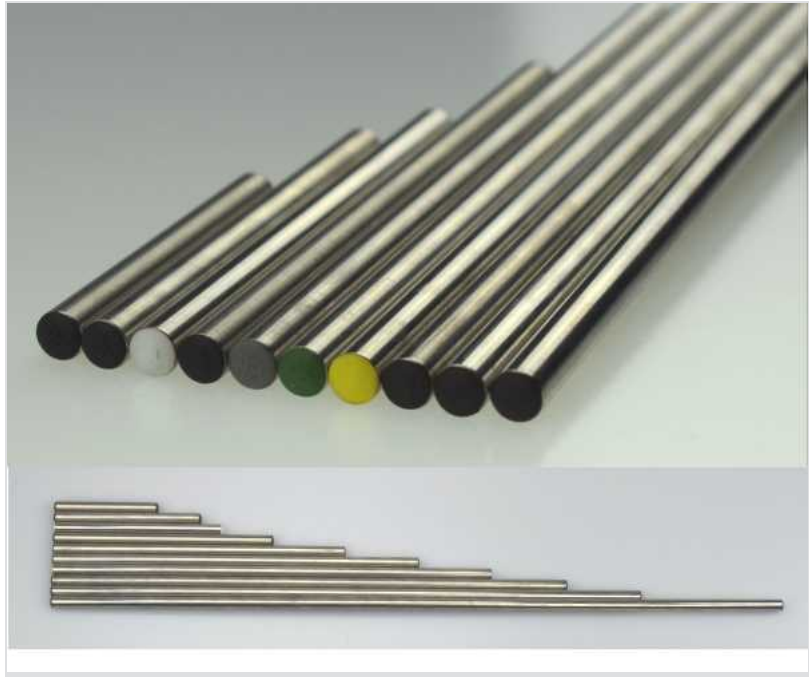
Universal mounting adapter mounted on plunger



sensALIGN 5 sensor mounted on universal mounting adapter

## Posts

Posts are used for mounting measuring components on different brackets.



### Features

- Stainless steel tubes in different lengths
- Stable and resistant to bending
- Colored end caps
- Wall thickness: 1 mm
- Diameter: 8 mm

### Order information

The following posts are available as accessory item or spare part:

Item No.	Name	Notes
ALI 2.2117	Post 100 mm [3 15/16"]	black end caps
ALI 2.170	Post 115 mm [4 1/2"]	white end caps
ALI 2.171	Post 150 mm [5 7/8"]	black end caps
ALI 2.172	Post 200 mm [7 7/8"]	gray end caps
ALI 2.173	Post 250 mm [9 13/16"]	green end caps
ALI 2.174	Post 300 mm [11 13/16"]	yellow end caps
ALI 2.175	Post 350 mm [13 3/4"]	black end caps
ALI 2.177	Post 70 mm [2 3/4"]	black end caps
ALI 2.178	Post 400 mm [15 3/4"]	black end caps
ALI 2.179	Post 495 mm [19 1/2"]	black end caps

Note: An anti-torsion bridge is required for posts longer than 200 mm.

# Shims

<b>PERMABLOC Precut Shims</b> .....	<b>286</b>
<b>LAMIBLOC Laminated Shims</b> .....	<b>290</b>

# PERMABLOC Precut Shims

Stainless steel precut shims in highest quality facilitate reliable and precise alignment of your machine.

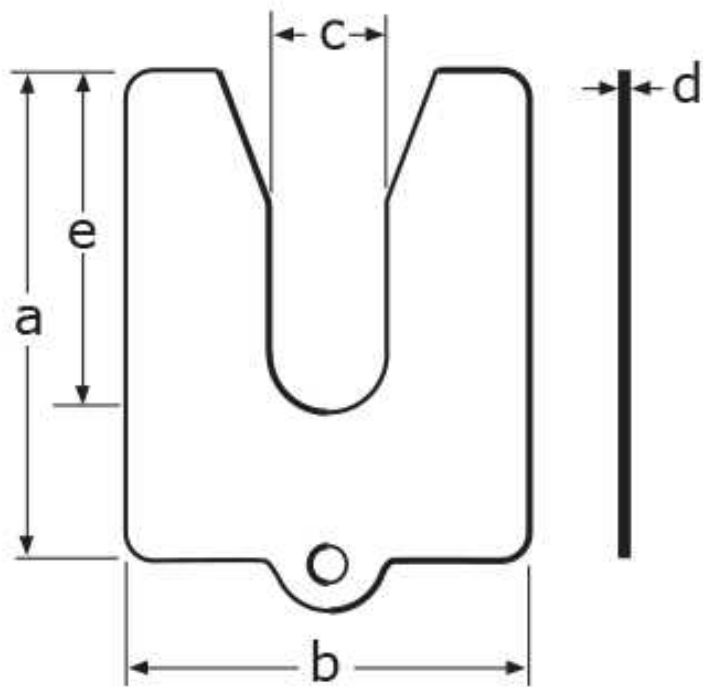


## Features

- High-quality stainless steel shims
- Resistant to corrosion, acids, and lyes
- Deburred edges and rounded corners for safe handling
- 5 different sizes and 9 thicknesses
- Thickness marked and quickly detectable
- In different assortment cases

## Order information

PERMABLOC shims are available in 5 sizes, each with different thicknesses. The minimum order quantity is 20 pieces.



## Size A, for M12 foot bolts

Item No.	a x b x c x e		Packaging Unit [pieces]
	d [mm]	d [inch]	
ALI 2.500 Ak	0.025	0.001	20
ALI 2.500 An	0.05	0.002	20
ALI 2.500 Ap	0.1	0.004	20

Item No.	a x b x c x e	2 3/8" x 1 15/16" x 9/16" x 1 43/64"	Packaging Unit [pieces]
	60 x 50 x 15 x 42.5 mm		
	d [mm]	d [inch]	
ALI 2.500 Ar	0.2	0.008	20
ALI 2.500 At	0.4	0.016	20
ALI 2.500 Av	0.7	0.028	20
ALI 2.500 Aw	1.0	0.040	20
ALI 2.500 Ax	2.0	0.080	10
ALI 2.500 Ay	3.0	0.118	4

#### Size B, for M18 foot bolts

Item No.	a x b x c x e	3 1/8" x 2 3/4" x 7/8" x 2 13/64"	Packaging Unit [pieces]
	80 x 70 x 22 x 56 mm		
	d [mm]	d [inch]	
ALI 2.500 Bk	0.025	0.001	20
ALI 2.500 Bn	0.05	0.002	20
ALI 2.500 Bp	0.1	0.004	20
ALI 2.500 Br	0.2	0.008	20
ALI 2.500 Bt	0.4	0.016	20
ALI 2.500 Bv	0.7	0.028	20
ALI 2.500 Bw	1.0	0.040	20
ALI 2.500 Bx	2.0	0.080	10
ALI 2.500 By	3.0	0.118	4

#### Size C, for M27 foot bolts

Item No.	a x b x c x e	3 15/16" x 3 1/8" x 1 1/4" x 2 63/64"	Packaging Unit [pieces]
	100 x 80 x 32 x 76 mm		
	d [mm]	d [inch]	
ALI 2.500 Ck	0.025	0.001	20
ALI 2.500 Cn	0.05	0.002	20
ALI 2.500 Cp	0.1	0.004	20
ALI 2.500 Cr	0.2	0.008	20
ALI 2.500 Ct	0.4	0.016	20
ALI 2.500 Cv	0.7	0.028	20
ALI 2.500 Cw	1.0	0.040	20
ALI 2.500 Cx	2.0	0.080	10
ALI 2.500 Cy	3.0	0.118	4

### Size D, for M36 foot bolts

Item No.	a x b x c x e		Packaging Unit [pieces]
	130 x 105 x 44 x 99.5 mm	5 1/8" x 4 1/8" x 1 3/4" x 3 59/64"	
	d [mm]	d [inch]	
ALI 2.500 Dk	0.025	0.001	20
ALI 2.500 Dn	0.05	0.002	20
ALI 2.500 Dp	0.1	0.004	20
ALI 2.500 Dr	0.2	0.008	20
ALI 2.500 Dt	0.4	0.016	20
ALI 2.500 Dv	0.7	0.028	20
ALI 2.500 Dw	1.0	0.040	20
ALI 2.500 Dx	2.0	0.080	10
ALI 2.500 Dy	3.0	0.118	4

### Size E, for M52 foot bolts

Item No.	a x b x c x e		Packaging Unit [pieces]
	200 x 165 x 58 x 146.5 mm	7 7/8" x 6 1/2" x 2 5/16" x 5 49/64"	
	d [mm]	d [inch]	
ALI 2.500 En	0.05	0.002	20
ALI 2.500 Ep	0.1	0.004	20
ALI 2.500 Er	0.2	0.008	20
ALI 2.500 Et	0.4	0.016	20
ALI 2.500 Ev	0.7	0.028	20
ALI 2.500 Ew	1.0	0.040	20
ALI 2.500 Ex	2.0	0.080	10
ALI 2.500 Ey	3.0	0.118	4



## PERMABLOC ASSORTMENT CASE

Fully equipped PERMABLOC assortment cases are practical to transport and offer safe storage and clear arrangement of all available shims.



### Properties

- Lightweight, extremely robust case shells
- Industry-grade with protection class IP67
- Clear arrangement of the shims
- Different configurations per size

### Order information

PERMABLOC assortment cases are available with different configurations. Every shim size is available in all thicknesses and the following quantities:

- **20 pieces** : all shims with thicknesses from 0.025 mm to 1.0 mm
- **10 pieces** : all shims with 2 mm thickness
- **8 pieces** : all shims with 3 mm thickness

Item No.	Configuration shim size	Shims total number	Weight (fully equipped case)		Exterior case dimensions	
			kg	lb	cm	inch
ALI 2.861-KP	A, B	316	8	17	41.1 x 32.3 x 16.8	[ 16 3/16" x 12 11/16" x 6 5/8" ]
ALI 2.862-KP	C	158	7	15.5	41.1 x 32.3 x 16.8	[ 16 3/16" x 12 11/16" x 6 5/8" ]
ALI 2.863-KP	D	158	10	21	41.1 x 32.3 x 16.8	[ 16 3/16" x 12 11/16" x 6 5/8" ]
ALI 2.864-KP	C, D	316	17	37.5	55.1 x 35.8 x 22.6	[ 21 11/16" x 14 1/8" x 8 7/8" ]
ALI 2.866-KP	E	138	24	52.5	55.1 x 35.8 x 22.6	[ 21 11/16" x 14 1/8" x 8 7/8" ]
ALI 2.860-KP	A, B, C, D	632	22	48.5	55.1 x 35.8 x 22.6	[ 21 11/16" x 14 1/8" x 8 7/8" ]

## LAMIBLOC Laminated Shims

LAMIBLOC laminated shims are used wherever precise and flexible corrections are required and conventional sizes are just not enough. 20 of these **0.05 millimeters** laminated shims are flat-rolled into a 1 mm package for easy handling. Using a peeling knife, the thickness required for corrections can be quickly and conveniently prepared.

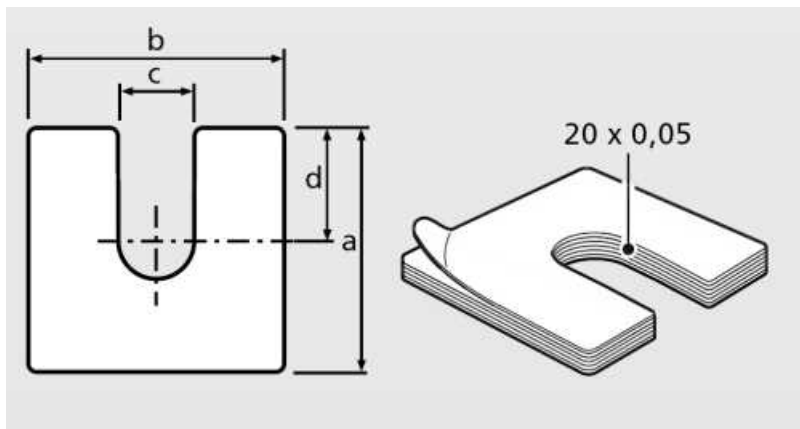


### Features

- High-quality stainless steel
- Resistant to corrosion, acids, and lyes
- Deburred edges and rounded corners for safe handling
- 9 different sizes
- Space-saving cardboard packaging

### Order information

LAMIBLOC laminated shims are available in the following dimensions:



Item No.	Dimensions in mm				PU*
	a	b	c	d	
ALI 2.521	43	43	12	22	10
ALI 2.522	53	53	14	27	10
ALI 2.523	68	68	16	34	10
ALI 2.524	98	98	25	49	10
ALI 2.525	118	118	30	59	10
ALI 2.526	200	200	36	100	10
ALI 2.527 (5141183)	300	200	36	240	1
ALI 2.528 (5141190)	400	200	42	330	1

\* PU: Packaging unit

# Software for Alignment Systems

<b>ARC 4.0 - ALIGNMENT RELIABILITY CENTER 4.0</b> .....	<b>292</b>
<b>ALIGNMENT CENTER</b> .....	<b>293</b>
<b>GEO CENTER</b> .....	<b>295</b>

# ARC 4.0 - ALIGNMENT RELIABILITY CENTER 4.0

ALIGNMENT RELIABILITY CENTER 4.0 (ARC 4.0) is a newly developed software platform for PRÜFTECHNIK alignment systems.



## Features

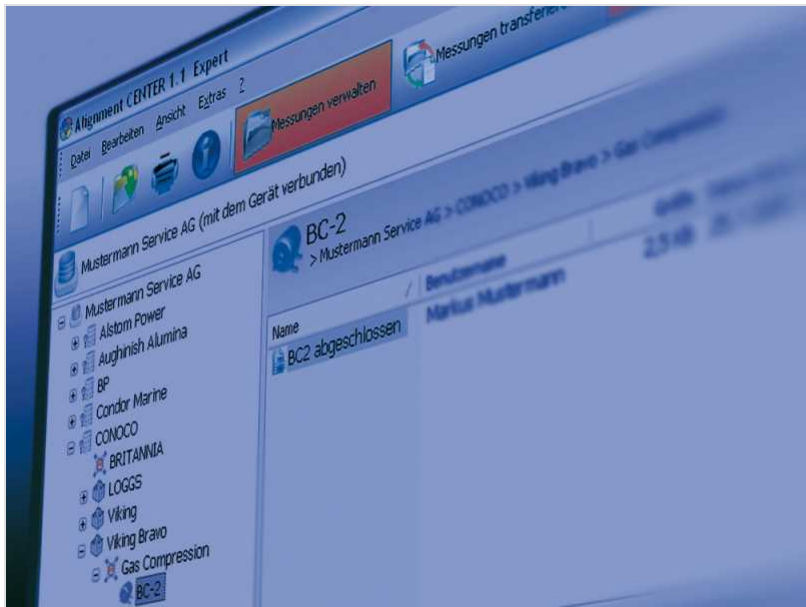
- Manage plants with an asset orientated machinery management
- Real-time communication via cloud to touch device
- Monitor the history and trend of the alignment status of assets
- Analyze measurement data in detail and report
- Consideration of bearing types and suggestion of adequate measurement modes
- Library with customizable templates for assets, couplings, industrial couplings tolerances, measurement modes and reports
- Coupling type optimized tolerances

## Order information

Item No.	Name
<b>ALI 17.000-4</b>	ARC 4.0, OPTALIGN smart device activation
<b>ALI 17.000-7</b>	ARC 4.0, ROTALIGN Ultra device activation
<b>ALI 17.000-21</b>	ARC 4.0, SHAFTALIGN device activation
<b>ALI 17.000-50</b>	ARC 4.0, touch device activation

# ALIGNMENT CENTER

ALIGNMENT CENTER is a software platform for PRÜFTECHNIK measuring systems. The Windows-based application helps you with many of the tasks involved in shaft alignment and geometrical measurements on machines, such as management of asset data, analysis and archiving of measurement results as well as documentation of the work performed.



## Features

- Prepares measurement tasks on the PC
- Considers targets, tolerances, thermal growth
- Organizes administrative information (plant, machine, user, ...)
- Analyzes measurement results
- Archives measurement files.
- Measurement reports includes company logo and information about the company

## Order information

Item No.	Name
<b>ALI 13.000-1</b>	ALIGNMENT CENTER, ALIGNEO device activation
<b>ALI 13.000-2</b>	ALIGNMENT CENTER, OPTALIGN PLUS device activation
<b>ALI 13.000-3</b>	ALIGNMENT CENTER, smartALIGN device activation
<b>ALI 13.000-4</b>	ALIGNMENT CENTER, OPTALIGN smart device activation
<b>ALI 13.000-5</b>	ALIGNMENT CENTER, ROTALIGN device activation
<b>ALI 13.000-6</b>	ALIGNMENT CENTER, ROTALIGN PRO device activation
<b>ALI 13.000-7</b>	ALIGNMENT CENTER, ROTALIGN Ultra device activation
<b>ALI 13.000-9</b>	ALIGNMENT CENTER, INCLINEO device activation
<b>ALI 13.000-11</b>	ALIGNMENT CENTER, PERMALIGN device activation
<b>ALI 13.000-21</b>	ALIGNMENT CENTER, SHAFTALIGN device activation

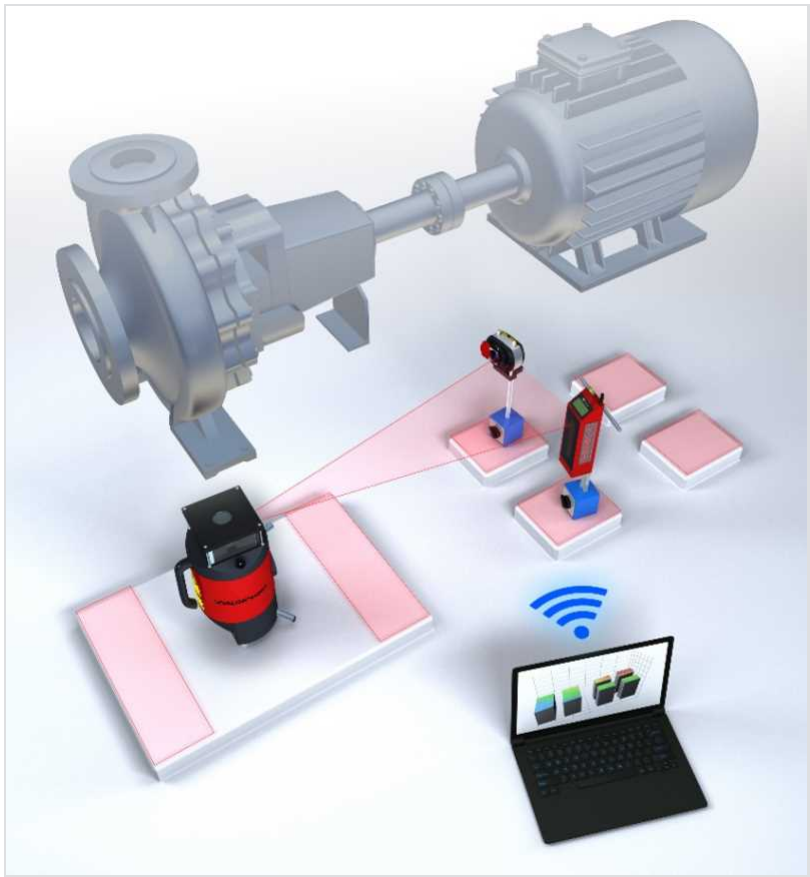
Note: The functionality of the software can be enhanced through the Professional function upgrades.

## Function Upgrades

Item No.	Name	Features
<b>ALI 13.500</b>	ALIGNMENT CENTER, Professional Shaft	<ul style="list-style-type: none"> <li>- Measurement post processing with ellipse representations</li> <li>- Analyse measurements taken with sensALIGN 7 sensor</li> <li>- Analyse measurements taken with sensALIGN 5 sensor</li> <li>- Vibration measurements accessible via UI and report</li> </ul>
<b>ALI 13.510</b>	ALIGNMENT CENTER, Professional Geometric	Compare assistant: <ul style="list-style-type: none"> <li>- Parallelism or surface comparison</li> <li>- Sensor direction</li> <li>- Flatness &amp; Straightness</li> </ul>
<b>ALI 13.520</b>	ALIGNMENT CENTER, Professional Reporting	<ul style="list-style-type: none"> <li>- Customized machine image option for Shaft Alignment</li> <li>- Application background picture</li> <li>- Ellipse</li> <li>- Result as Dial gauge values</li> <li>- Used Shims</li> <li>- Signature</li> <li>- Header and Footer</li> <li>- Modification of pictures</li> </ul>
<b>ALI 13.530</b>	ALIGNMENT CENTER, Professional Bore alignment	<ul style="list-style-type: none"> <li>- Control sensor</li> <li>- Splice function</li> <li>- LIVE Move on two planes</li> <li>- Turbine specific corrections</li> <li>- Rotor Sag</li> <li>- Machine and subassembly presets</li> <li>- Rotor position before overhaul</li> </ul>
<b>ALI 13.540</b>	ALIGNMENT CENTER, Professional Live Monitoring	<ul style="list-style-type: none"> <li>- Live Monitoring for more than one coupling</li> </ul>

## GEO CENTER

GEO CENTER is a software platform for geometrical measurements of straightness and flatness in the industrial sector. With the software, the measurements are performed directly from the laptop PC. No additional operating element is required. The software offers connection flexibility and can be used with different PRÜFTECHNIK laser and sensor components depending on the measurement task.



GEO CENTER communicates directly with the measuring components via Bluetooth.

### Features

- One software solution for measurements of straightness and flatness
- Direct measurement on laptop
- Flexible connection of measuring components
- Remote control enables "one-man operation"
- User-friendly operation
- Direct Bluetooth communication between sensor system and laptop
- Different measurement modes for straightness measurements: Line, bore, spindle, spindle & bore
- Custom add-on packages with measuring components

### Order information










Item No.	Reference	Name
5347077	ALI 13.200-KEY	Online GEO CENTER software registration and activation code

Notes: After installation, GEO CENTER runs in demo mode with some functional limitations. For the full scope of functions, the software must be unlocked using an activation code. This license is already included in the scope of delivery of the activation key.

GEO CENTER is available on the PRÜFTECHNIK website. In this case, the license must be requested from PRÜFTECHNIK for a fee.



## Laser and sensor system connection and possible measurement tasks

Laser system		Sensor system	
		sensALIGN 7 sensor	LEVALIGN expert sensor
			
sensALIGN 7 laser			---
LEVALIGN expert laser		 	 

 : Straightness |  : Flatness |

### Optional accessories

Measuring components and fixtures are available for GEO CENTER in the following optional packages:

Item No.	Reference	Description
5140531	ALI 13.211	<b>GEO LEVALIGN expert - Standalone (p. 297)</b> Target group: Users without a compatible PRÜFTECHNIK measuring system, who would like to perform straightness and flatness measurements.
5138612	ALI 13.241	<b>sensALIGN 7 - Add-on (p. 298)</b> Target group: Users without a compatible PRÜFTECHNIK measuring system, who would like to perform straightness and bore measurements.



Scope of delivery - GEO LEVALIGN expert - Standalone - ALI 13.211

Item No.	Name	Details
ALI 6.930-LIB	LEVALIGN expert laser with wireless data transmission (Bluetooth)	<a href="#">more...</a>
ALI 6.960-LI	Battery charger for LEVALIGN expert Laser, International	<a href="#">more...</a>
ALI 6.940	LEVALIGN expert Sensor	<a href="#">more...</a>
ALI 6.985	Case for LEVALIGN expert (wireless / BT)	---
ALI 4.501-IS	Magnetic Foot Holder for Laser and Sensor	
ALI 6.966	LEVALIGN Expert sensor holder for posts 8 mm	
ALI 2.778	Anti-torsion bridge for universal pointer bracket, UPB	
ALI 2.173	Post 250 mm, 2 pcs	
0 0739 1056	Hexagon wrench, DIN 911, size 3	---
2687537	Cleaning cloth	---
5306155	USB flash drive to save reports	---
ALI 9.613.DG	Inspection certificate for LEVALIGN expert Laser	---
ALI 9.614.DG	Inspection certificate for LEVALIGN expert Sensor	---
ALI 3.589	Tape measure, mm/inch	---
DOC 13.205	Manual for GEO CENTER with LEVALIGN expert	

**NOTE:** This standalone GEO LEVALIGN expert package (5140531) does NOT include GEO CENTER software registration and activation code (ALI 13.200-KEY [5347077]) which must be ordered and paid for separately.

Overview of the measuring fixture for LEVALIGN expert Sensor



Single parts (left); magnetic foot holder with LEVALIGN expert sensor mounted (center and right). Sensor holder ALI 6.966 is required for mounting the sensor to the posts.

**Scope of delivery - sensALIGN 7 - Add-on - 5138612 (ALI 13.241)**

Item No.	Name
5144157	sensALIGN 7 sensor
5144178	sensALIGN 7 laser
5144191	sensALIGN 7 rechargeable battery ALI 4.960, 2x
5153269	sensALIGN 7 AC power supply charger
5244022	GEO apps case
5153019	Tape measure mm/inch
2687537	Cleaning cloth
5306155	USB flash drive to save reports
5166271	Safety and general information

**NOTE: This sensALIGN 7 add-on package ( 5138612) does NOT include GEO CENTER software registration and activation code (ALI 13.200-KEY [5347077]) which must be ordered and paid for separately.**

**Overview**



Note: The brackets for the sensALIGN 7 sensor and the laser are not included and must be ordered separately.

## Equipment for induction heating of workpieces

<b>EDDYTHERM Portable – Simple bearing assembly .....</b>	<b>300</b>
<b>EDDYTHERM 2x – Reliable bearing assembly .....</b>	<b>302</b>

## EDDYTHERM Portable – Simple bearing assembly

EDDYTHERM Portable is a portable induction heater for small workpieces, such as roller bearings.



### Features

- Portable equipment for mobile use on-site
- Roller bearing up to maximum 10 kg
- Diameter (inside/outside): >20 mm / <160 mm
- Magnetic temperature probe up to 180 °C
- Line voltage selectable from 100, 115, 230 V
- No support yoke required
- High-frequency technology for optimum efficiency factor
- Automatic temperature monitoring against over-heating

### Ordering information

The following variants are available for EDDYTHERM Portable:

Item No.	Variant
ETH 15.100	EDDYTHERM Portable package 100V 50-60Hz
ETH 15.115	EDDYTHERM Portable package 115V 50-60Hz
ETH 15.230	EDDYTHERM Portable package 230V 50-60Hz

The scope of delivery results from the following overview:

### Scope of delivery

Item No.	CONTENT Description	Details	ETH 15		
			.100	.115	.230
ETH 15.010	EDDYTHERM Portable, 100V, 50-60Hz	p. 301	✓	✗	✗
ETH 15.015	EDDYTHERM Portable 115V 50-60Hz	p. 301	✗	✓	✗
ETH 15.023	EDDYTHERM Portable 230V 50-60Hz	p. 301	✗	✗	✓
ETH 15.340	Magnetic temperature probe		✓	✓	✓
ETH 15.330	Protective gloves		✓	✓	✓
ETH 15.390	Carry case		✓	✓	✓
ETH 15.310-EU	Power cable, EU		✗	✗	✓
ETH 15.310-UK	Power cable, UK		✗	✗	✓
ETH 15.310-US	Power cable, US		✓	✓	✗
DOC 15.202	Operating instructions		✓	✓	✓

## TECHNICAL INFORMATION

### EDDYTHERM - TECHNICAL DATA

Parameter	EDDYTHERM portable	EDDYTHERM 2x
<b>Voltage</b>	100...230 V /50-60Hz	200...460 V /50-60Hz
<b>Power consumption</b>	max. 1.5 kVA	max. 4.6 kVA
<b>Workpiece weight</b>	< 10 kg [ 22 lb. ]	< 80 kg [ 176.4 lb. ]
<b>Workpiece width</b>	> 20 mm (inner) < 160 mm (outer)	> 20 mm (inner) < 400 mm (outer)
<b>Thermal overload protection</b>	yes	yes
<b>Temperature</b>	< 180°C [ 356 °F ]	< 250°C [ 482 °F ]
<b>Temperature accuracy</b>	± 3°C /°F	± 3°C /°F
<b>Time setting</b>	0 - 10 min.	0 - 60 min.
<b>Residual magnetism after heating</b>	< 2 A/cm	< 2 A/cm
<b>Power reduction</b>	yes	yes
<b>Error indication</b>	yes	yes
<b>Dimensions</b>	340 x 250 x 121 mm [ 13 3/8" x 9 13/16" x 4 3/4" ]	420 x 280 x 420 mm [ 16 9/16" x 11" x 16 9/16" ]
<b>Distance between posts</b>	-	120 mm [ 4 3/4" ]
<b>Weight (Standard version)</b>	3.5 kg [ 7.7 lb ]	38 kg [ 83.8 lb ]

## EDDYTHERM 2x – Reliable bearing assembly

EDDYTHERM 2x is a compact induction heater for small to medium-sized workpieces.



### Features

- Compact table-top device
- Roller bearing up to maximum 80 kg
- Diameter (inside/outside): >20 mm / <400 mm
- Magnetic temperature probe up to 250 °C
- Mains voltage selectable from 200 to 460 V
- Swivel cross bar for ease of use
- Cross bars in 6 cross-sections
- Automatic demagnetization

### Ordering information

The following variants are available for EDDYTHERM 2x:

Item No.	Variant
ETH 16.200	EDDYTHERM 2x package 200V, 50Hz-60Hz / 230V 50Hz
ETH 16.400	EDDYTHERM 2x package 400V 50Hz / 460V 60Hz

The scope of delivery results from the following overview:

### Scope of delivery

CONTENT				
Item No.	Description	Details	.200	.400
ETH 16.020	EDDYTHERM 2x 200V, 50Hz-60Hz / 230V 50Hz	p. 304	✓	✗
ETH 16.040	EDDYTHERM 2x 400V / 460V, 50-60Hz	p. 304	✗	✓
ETH 16.303	Cross bar adapter, for mounting the small cross bars (14x14mm / 28x28mm)		✓	✓
ETH 16.314	Cross bar 14x14x275 mm	for $\varnothing^1 > 20$ mm	✓	✓
ETH 16.328	Cross bar 28x28x275 mm	for $\varnothing > 40$ mm	✓	✓
ETH 16.355	Cross bar 55x55x275 mm	for $\varnothing > 78$ mm	✓	✓
ETH 15.340	Magnetic temperature probe		✓	✓
ETH 15.330	Protective gloves		✓	✓
DOC 16.202	Operating Instructions		✓	✓

In addition, optional accessories are available:

### Optional accessories

Item No.	Description	Notes
ETH 16.310	Cross bar 10x10x275 mm	for $\varnothing > 15$ mm
ETH 16.320	Cross bar 20x20x275 mm	for $\varnothing > 30$ mm
ETH 16.340	Cross bar 40x40x275 mm	for $\varnothing > 60$ mm
ETH 16.301	Cross bar 55x55x100 mm, set	Spare part
ETH 16.302	Swivel cross bar	Spare part

<sup>1</sup>Bearing inner diameter

## TECHNICAL INFORMATION

### EDDYTHERM - TECHNICAL DATA

Parameter	EDDYTHERM portable	EDDYTHERM 2x
<b>Voltage</b>	100...230 V /50-60Hz	200...460 V /50-60Hz
<b>Power consumption</b>	max. 1.5 kVA	max. 4.6 kVA
<b>Workpiece weight</b>	< 10 kg [ 22 lb. ]	< 80 kg [ 176.4 lb. ]
<b>Workpiece width</b>	> 20 mm (inner) < 160 mm (outer)	> 20 mm (inner) < 400 mm (outer)
<b>Thermal overload protection</b>	yes	yes
<b>Temperature</b>	< 180°C [ 356 °F ]	< 250°C [ 482 °F ]
<b>Temperature accuracy</b>	± 3°C /°F	± 3°C /°F
<b>Time setting</b>	0 - 10 min.	0 - 60 min.
<b>Residual magnetism after heating</b>	< 2 A/cm	< 2 A/cm
<b>Power reduction</b>	yes	yes
<b>Error indication</b>	yes	yes
<b>Dimensions</b>	340 x 250 x 121 mm [ 13 3/8" x 9 13/16" x 4 3/4" ]	420 x 280 x 420 mm [ 16 9/16" x 11" x 16 9/16" ]
<b>Distance between posts</b>	-	120 mm [ 4 3/4" ]
<b>Weight (Standard version)</b>	3.5 kg [ 7.7 lb ]	38 kg [ 83.8 lb ]

Dimensioning EDDYTHERM 2x:





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