

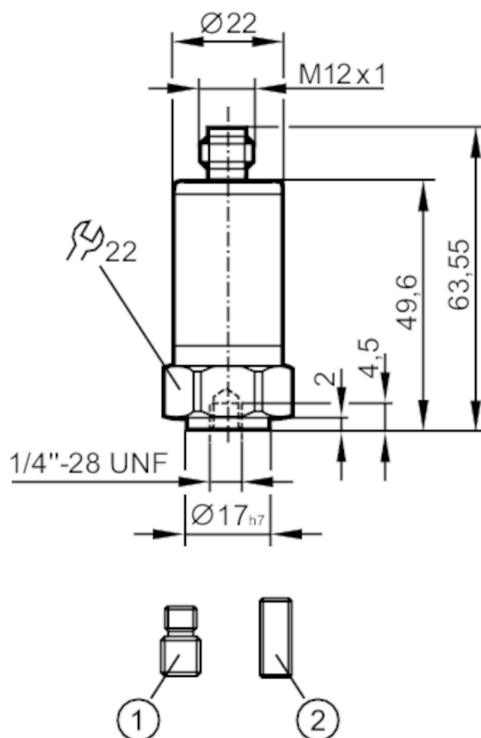
# VVB020



## Vibration sensor

VIBRATION IO-LINK SWITCH

the hardware version BC has a temporarily changed ambient temperature range



- 1 set screw 1/4"-28 UNF / M8  
2 set screw 1/4"-28 UNF



### Product characteristics

Frequency range [Hz]	2...10000
Measuring principle	capacitive

### v-RMS

Measuring range of vibration [mm/s]	0...45
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### a-Peak / a-RMS

Measuring range of vibration	0...50 g	0...490.3 m/s <sup>2</sup>
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### Application

Application	medium-sized machines, power < 300 kW, rotational speed > 600 rpm
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### Electrical data

Operating voltage [V]	18...30 DC
Current consumption [mA]	< 50
Min. insulation resistance [MΩ]	100; (500 V DC)
Protection class	III
Reverse polarity protection	yes
Sensor type	microelectromechanical system (MEMS)

### Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 2
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Outputs		
Output signal	switching signal; IO-Link	
Electrical design	PNP/NPN; (configurable)	
Number of digital outputs	2	
Output function	normally open / normally closed	
Max. voltage drop switching output DC [V]	2	
Max. current load per output [mA]	100	
Short-circuit protection	yes	
Type of short-circuit protection	pulsed	
Overload protection	yes	
Measuring/setting range		
Note on setpoint SP	parameterisable	
Frequency range [Hz]	2...10000	
Measuring principle	capacitive	
Number of measurement axes	1	
v-RMS		
Measuring range of vibration [mm/s]	0...45	
Set point SP [mm/s]	0.2...45	
Reset point rP [mm/s]	0...44.8	
In steps of [mm/s]	0.2	
a-Peak / a-RMS		
Measuring range of vibration	0...50 g	0...490.3 m/s <sup>2</sup>
Set point SP	0.2...50 g	2...490.3 m/s <sup>2</sup>
Reset point rP	0...49.8 g	0...488.3 m/s <sup>2</sup>
In steps of	0.2 g	2 m/s <sup>2</sup>
Crest		
Measuring range of vibration	1...50	
Set point SP	2...50	
Reset point rP	1...49	
In steps of	1	
Temperature measurement		
Measuring range [°C]	-30...80	
Resolution [°C]	0.1	
Set point SP [°C]	-28...80	
Reset point rP [°C]	-30...78	
In steps of [°C]	2	
Accuracy / deviations		
Accuracy	≤ 4 kHz +/-10 %; ≥ 4...10 kHz: < 3 dB	
Accuracy [K]	± 2,5 K + (0,2 x (Umgebungstemperatur - Oberflächentemperatur))	
Linearity deviation	2 %	

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Software / programming							
Parameter setting options	Software						
Diagnostic functions	self-test						
Interfaces							
Communication interface	IO-Link						
Transmission type	COM2 (38,4 kBaud); COM3 (230,4 kBaud)						
IO-Link revision	1.1						
SDCI standard	IEC 61131-9: 2013-07						
Profiles	Blob (0x0030); Measuring sensor (0x800A); Common Profile (0x4000)						
SIO mode	yes						
Required master port type	A						
Process data analogue	10						
Process data binary	2						
Min. process cycle time [ms]	3.6						
IO-Link functions (acyclical)	filter for v-RMS, a-RMS, a-Peak; Hysteresis; window; switch points; switching logic						
Supported DeviceIDs	<table border="1"><thead><tr><th>Type of operation</th><th>DeviceID</th></tr></thead><tbody><tr><td>Status A (COM2)</td><td>1257</td></tr><tr><td>Status B (COM2 / COM3)</td><td>1369</td></tr></tbody></table>	Type of operation	DeviceID	Status A (COM2)	1257	Status B (COM2 / COM3)	1369
Type of operation	DeviceID						
Status A (COM2)	1257						
Status B (COM2 / COM3)	1369						
Note	For further information please see the IODD PDF file under "Downloads"						
Operating conditions							
Ambient temperature [°C]	-30...60						
Storage temperature [°C]	-30...80						
Protection	IP 67; IP 68; IP 69K						
Tests / approvals							
EMC	2014/30/EU DIN EN 61000-6-2 DIN EN 61000-6-3						
Shock resistance	DIN EN 60068-2-27 50 g 11 ms 500 g 1 ms						
Vibration resistance	DIN EN 60068-2-6 20 g / 10...3000 Hz						
MTTF [years]	299						
UL approval	Ta UL Approval no. -30...60 °C L002						
Mechanical data							
Weight [g]	116.5						
Housing	cylindrical						
Type of mounting	set screw						
Dimensions [mm]	Ø 22 / L = 63.55						
Materials	housing: stainless steel (316L/1.4404)						
Tightening torque [Nm]	8						
Accessories							
Items supplied	set screw: 1 x 1/4" 28 UNF / M8 set screw: 1 x 1/4"28 UNF x 5/8" DIN916						

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### Remarks

Notes	the hardware version BC has a temporarily changed ambient temperature range
Pack quantity	1 pcs.

### Electrical connection

Connector: 1 x M12; coding: A; Maximum cable length: 20 m



1	L+
2	OUT2
3	L-
4	OUT1 switching output or IO-Link