

Vibration sensor

VIBRATION IO-LINK SWITCH



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



Product characteristics

Measuring range of vibration	0...50 g	0...490.3 m/s ²
Measuring range of vibration [mm/s]	0...45	
Frequency range [Hz]	2...10000	
Measuring principle	capacitive	

Application

Application	small machines, performance < 300 kW, speed > 600 rpm
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Electrical data

Operating voltage [V]	18...30 DC
Current consumption [mA]	< 250
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)



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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	
Measuring range of vibration	0...50 g	0...490.3 m/s ²
Measuring range of vibration [mm/s]	0...45	
Frequency range [Hz]	2...10000	
Measuring principle	capacitive	
Number of measurement axes	1	
Set point SP	0.2...50 g	2...490.3 m/s ²
Set point SP [mm/s]	0.2...45	
Reset point rP	0...49.8 g	0...488.3 m/s ²
Reset point rP [mm/s]	0...44.8	
In steps of	0.2 g	2 m/s ²
In steps of [mm/s]	0.2	

Temperature measurement

Measuring range [°C]	-30...80
Resolution [°C]	0.1

Accuracy / deviations

Accuracy	< 4 kHz +/-10 %; < 10 kHz < 3 dB
Linearity deviation	2 %

Software / programming

Parameter setting options	Software
Diagnostic functions	self-test

Interfaces

Communication interface	IO-Link
Transmission type	COM2 (38,4 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]	11.6
IO-Link functions (acyclical)	filter for v-RMS, a-RMS, a-Peak; Hysteresis; window; switch points; switching logic

VVB020



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Supported DeviceIDs	Type of operation	DeviceID
	default	1257
Operating conditions		
Ambient temperature	[°C]	-30...80
Storage temperature	[°C]	-30...80
Protection		IP 67; IP 68; IP 69K
Tests / approvals		
EMC	DIN EN 61000-6-2	
	DIN EN 61000-6-3	
	DIN EN 50178	
Shock resistance	DIN EN 60068-2-27	50 g 11 ms
Vibration resistance	DIN EN 60068-2-6	20 g / 10...3000 Hz
MTTF	[years]	299
UL approval	UL Approval no.	L002
Mechanical data		
Weight	[g]	116.5
Type of mounting		set screw
Materials		housing: stainless steel (1.4404 / 316L)
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
Remarks		
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	