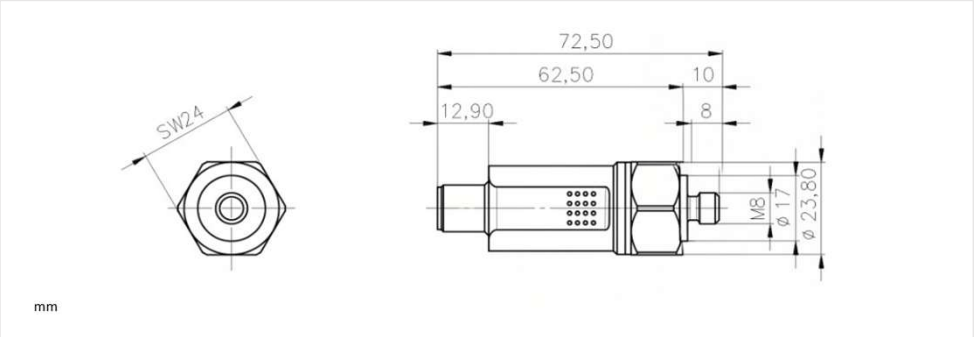
HE050 IO-Link



Product Data

| | selectable option

Technical Specification	
Measurand	Vibration velocity (mm/s, v-rms) Vibration acceleration (g, a-rms) Vibration acceleration (g, a-peak-hold) Temperature (°C)
Measuring Range	0...128 mm/s, v-rms 0...10 g, a-rms 0...14 g, a-peak-hold -50...100 °C
Switching Signal	0, 1 or 2 Switching Signals: selectable across all Measuring Ranges, including Delay Time and high-active / low-active configuration
Frequency Range	10...50 Hz to 10...1000 Hz
Readout Accuracy	0.01 mm/s / 0.01 g / 1 °C
Accuracy	±10 % according to DIN ISO 2954 ±0.5 % at Calibration Point
Calibration Point	1 g, a-rms @ 159.2 Hz
Cross-Sensitivity	< 5 %
Max. Acceleration	±15 g
Service Life	10 years
MTTF Value	112.43 years
Delay Times	config. between 0...60 s
Averaging Time	2 s (expo. time-weighted RMS - 99 % after 10 s)
Peak-Hold Time	2 s

Electrical Specification	
Supply Voltage	18...30 V DC
Current Consumption (max.)	120 mA to 700 mA (dependent on Outputs)
Switching Contact Electrical Design	PNP
Switching level	Low: 0 V High: corresponds to supply voltage (24 V) minus 2 V
Switching Contact Maximum Current	100 mA (Output 1) 500 mA (Output 2)
Load Analog Output	max. 500 Ohm

Outputs	
Output 1	IO-Link Interface Digital Switching Contact
Output 2	Analog 4...20 mA Output Digital Switching Contact

Interface	
Interface Type	IO-Link Transmitter / Three-Wire
IO-Link Functionality	Configuration of Outputs 1 & 2 Configuration and transmission of process data

Features

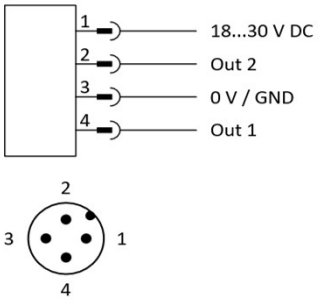
- **Vibration** & **Temperature** values in accordance with DIN ISO 10816/20816
- **Process Data** & **Smart Maintenance Data** via IO-Link Interface
- **Freely configurable** Analog Output and Switching Signals

- Ex protection: **Ex ec** & **Ex tc**
- Adjustable Frequency Range
- Transmitter / Three-Wire
- Robust Stainless Steel Housing
- High Protection Rating: **IP 66/67**

Description

The **HE050 IO-Link** brings **intelligent condition monitoring** and **predictive maintenance** directly into your digital production. As a smart three-wire sensor, it continuously delivers process data for vibration and temperature in accordance with DIN ISO 10816/20816 directly via the IO-Link interface. Ideal for modern **Industry 4.0** environments – the HE050 IO-Link offers **freely configurable** analog and switching outputs as well as in-depth diagnostic features. It is available with **ATEX** approval (Zone 2/22) upon request and **integrates seamlessly** into your existing **IO-Link network** as well as into traditional **PLC environments**. Protect your machinery from unplanned failures and optimize maintenance intervals – with a sensor that combines connectivity and flexibility.

Wiring Diagram



Product Data

|| selectable option

Interface	
IO-Link Version	1.1 (V.1.1.3 / Package 2020)
IO-Link Backward Compatible	n/a
SDCI Standard	IEC 61131-9
SIO Mode	Yes
Compatible Master Port	Class A Class B (use a 3-pin adapter or a 3-pin cable)
Transmission Rate	COM2 (38.4 kbit/s)
Min. Cycle Time	10 ms
Profiles	I&D - Identification and Diagnosis Product URI - Function Class

Functionality	
Switching Signal Functionality	Two configurable switch signals for each measurand Operating modes: Deactivated, Single Point, Window Setpoints (SP1, SP2) + Logic (high-active / low-active) Hysteresis: fixed at 2%
Condition Monitoring & Maintenance	Limit monitoring for each measurand Counts the number and duration of limit violations Maintenance alarms as time or count thresholds are exceeded Alarm when scheduled maintenance intervals are reached
Device Status & Operation Monitoring	Device status indication: OK, Maintenance, Error, etc. Temperature monitor: current and past temperature exposure Power monitor: power-on cycles & runtime

Connection	
Connection Type	Connector, M12, 4-pin.

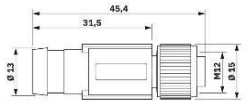
Certification	
Compliance	CE / IEC / cULus Ord. Loc.
Explosion Protection Zone 2/22	|| ATEX / IECEx II 3GD Ex ec IIC T4 Gc Ex tc IIIC T105 °C Dc

Environmental Conditions	
Ambient Temperature	–40 °C...+85 °C
Measuring Head Temperature	–40 °C...+80 °C
Max. Humidity	100%
Protection Rating	IP 66/67 / Type 4X Enclosure (when connected)
Outdoor Application	Product is suitable for outdoor applications.

Mechanical Specification	
Housing Material	|| V2A stainless steel (1.4305) || V4A stainless steel (1.4404) || Duplex stainless steel (1.4462)
Mounting	Thread (external), M8 × 8 mm, Pitch 1.25 mm
Mounting Type	horizontal / vertical
Measuring Direction	along the mounting axis
Tightening Torque Sensor	8 Nm
Weight	94 g

Accessories

Sensor Cable Type F



M12 female connector,
to male connector, straight, 4-pin
0,3 meter SKU: 13941
1,5 meter SKU: 13178
3 meter SKU: 13363

Mounting Adapter M8 - M6 (SKU: 11103)

Type 01.109.027
V4A (1.4404)
Wrench: 24 mm

Mounting Adapter M8 - M12 (SKU: 11106)

Type 01.109.029
V4A (1.4404)
Wrench: 24 mm

Further Cable lengths and Adapters available at: www.hauber-elektronik.de/en

Typecode

HE050.	x.	1.	x.	xxx.

Certification
0 = CE / IEC / cULus
1 = CE / IEC / cULus + SIL1
2 = CE / cULus + **ATEX / IEC Ex**
3 = CE / cULus + ATEX / IEC Ex + SIL1

IO-Link
0 = go to Analog HE050 Datasheet
1 = IO-Link

Housing Material
0 = V2A (1.4305)
1 = V4A (1.4404)
2 = Duplex (1.4462)

Software-Parameter (available examples / Outputs reconfigurable via IO-Link)

	Output 1	Output 2
001 =	IO-Link / -	-
002 =	IO-Link / -	4...20 mA - 0...16 mm/s, v-rms - 10...1000 Hz
003 =	IO-Link / -	4...20 mA - 0...25 mm/s, v-rms - 10...1000 Hz
004 =	IO-Link / -	4...20 mA - 0...32 mm/s, v-rms - 10...1000 Hz
005 =	IO-Link / -	4...20 mA - 0...50 mm/s, v-rms - 10...1000 Hz
006 =	IO-Link / -	4...20 mA - 0...64 mm/s, v-rms - 10...1000 Hz
012 =	IO-Link / -	4...20 mA - 0...8 mm/s, v-rms - 10...1000 Hz
013 =	IO-Link / -	4...20 mA - 0...10 mm/s, v-rms - 10...1000 Hz
014 =	IO-Link / -	4...20 mA - 0...20 mm/s, v-rms - 10...1000 Hz
015 =	IO-Link / -	4...20 mA - 0...1 g, a-rms - 10...1000 Hz
016 =	IO-Link / -	4...20 mA - 0...2 g, a-rms - 10...1000 Hz
017 =	IO-Link / -	4...20 mA - 0...4 g, a-rms - 10...1000 Hz
018 =	IO-Link / -	4...20 mA - 0...6 g, a-rms - 10...1000 Hz
112 =	IO-Link / SC - 11 mm/s - 60s DT - low active	4...20 mA - 0...16 mm/s, v-rms - 10...1000 Hz
113 =	IO-Link / SC - 10 mm/s - 0s DT - low active	SC - 14 mm/s - 0s DT - low active
115 =	IO-Link / SC - 17,5 mm/s - 3s DT - low active	4...20 mA - 0...25 mm/s, v-rms - 10...1000 Hz
116 =	IO-Link / SC - 22,5 mm/s - 10s DT - low active	SC - 25 mm/s - 10s DT - low active
117 =	IO-Link / SC - 2,5 mm/s - 2s DT - low active	4...20 mA - 0...25 mm/s, v-rms - 10...1000 Hz
118 =	IO-Link / SC - 82°C - 3s DT - low active	4...20 mA - 0...25 mm/s, v-rms - 10...1000 Hz
119 =	IO-Link / SC - 11,5 mm/s - 5s DT - high active	4...20 mA - 0...25 mm/s, v-rms - 10...1000 Hz
120 =	IO-Link / SC - 3,5 mm/s - 0s DT - high active	4...20 mA - 0...25 mm/s, v-rms - 10...1000 Hz
121 =	IO-Link / -	4...20 mA - 0...20 mm/s, v-rms - 10...50 Hz

SC = Switching Contact
DT = Delay Time