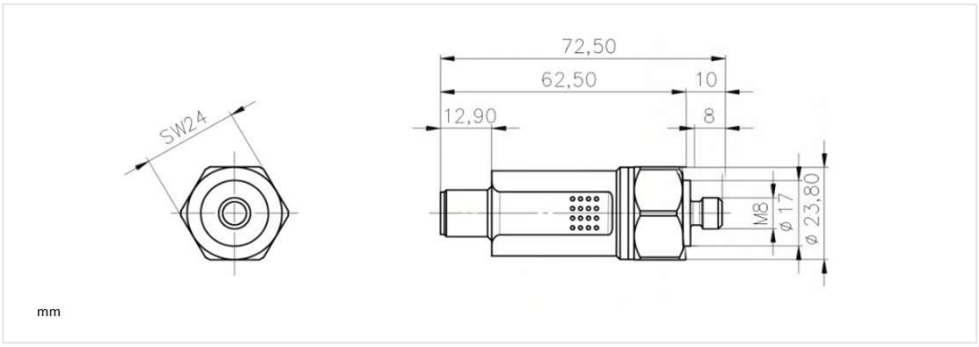
HE050-A Analog / IO-Link



Product Data

|| selectable option

Technical Specification	
Measurand	|| Vibration Displacement (mm, s-pp) || Vibration Acceleration (g, a-rms) || Vibration Acceleration (g, a-peak) || Dynamic Data (g, a-raw) IO-Link || Temperature (°C) || Current Acceleration (m/s², a-current) || Dominant Frequency (Hz)
Measuring Range	|| 0…40 mm, s-pp || 0...10 g, a-rms || 0...14 g, a-peak || -14…14 g, a-raw IO-Link || -50...100 °C || -15...15 g, a-current || 5...100 Hz
Switching Signal	0, 1 or 2 Switching Signals: selectable across all Measuring Ranges, including Delay Time and high-active / low-active configuration
Frequency Range	5…100 Hz
Frequency Range (a-raw)	1…5000 Hz
Readout Accuracy	0.01 mm/s / 0.01 g / 0.1 Hz / 1 °C
Accuracy	±10 % according to DIN ISO 2954 ±0.5 % at Calibration Point
Calibration Point	90 % of the Measuring Range @ 159.2 Hz Analog 1 g, a-rms @ 159.2 Hz IO-Link
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

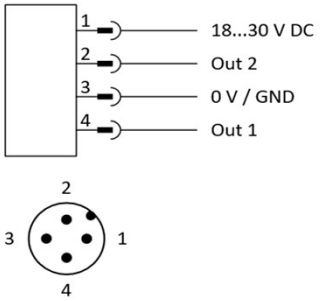
Features

- **Vibration Displacement**, **Acceleration** & Temperature Data
- **Dynamic Data** (g, a-raw) at **0...5000 Hz** via BLOB transfer IO-Link
- **Current Acceleration** & **Dominant Frequency**
- **Process Data** & **Smart Maintenance Data** via IO-Link Interface IO-Link
- Analog Output and Switching Signals Analog **Factory pre-configurable** across Measuring Ranges / IO-Link **Freely configurable**
- Ex protection: **Ex ec** & **Ex tc**
- Robust Stainless Steel Housing

Description

The **HE050-A** provides precise **vibration displacement monitoring (s-pp)** alongside further critical data such as **current acceleration** and **dominant frequency**. It comes as a standard analog three-wire transmitter or with an IO-Link interface, allowing for excellent integration into traditional as well as modern control systems. Ideal for **vibratory conveyor systems** – here, the sensor goes beyond standard monitoring to enable the **active regulation of transport speed**. Its robust stainless-steel housing and optional **ATEX** (Zone 2/22) approval make it an outstanding choice for numerous other industrial applications. Accurately control your processes – with a sensor that combines **proven measurement technology** and versatile connectivity.

Wiring Diagram



Product Data

|| selectable option

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

Interface	IO-Link
Interface Type	IO-Link Transmitter / Three-Wire
IO-Link Functionality	Configuration of Outputs 1 & 2 Configuration and transmission of process data Configuration and transmission of dynamic data
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	COM3 (230.4 kbit/s)
Min. Cycle Time	3.8 ms
Profiles	BLOB - Binary Large Object transfer I&D - Identification and Diagnosis Product URI - Function Class
BLOB Size	1.28 MB, configurable
BLOB Segments	200 bytes per request / per BLOB segment

Functionality	IO-Link
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
Dynamic Data Recording	Dynamic Data Recording via BLOB (e.g., for detailed vibration analysis) Adjustable in steps between 26.67 kHz (TP: 5 kHz), max. 12 s 833 Hz (TP: 125 Hz), max. 384 s

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 T3 Gc Ex tc IIIC T125 °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.

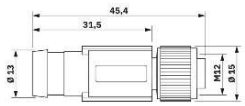
Product Data

|| selectable option

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

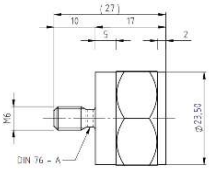
Sensor Cable Type F



M12 female connector,
to male connector, straight, 4-pin

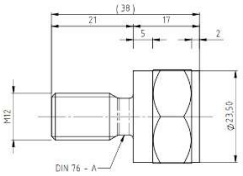
0,3 meter SKU: 13941
1,5 meter SKU: 13178
3 meter SKU: 13363

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.	x.	x.	Axx.

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

IO-Link
0 = no IO-Link
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
A40 =	IO-Link / -	-
A01 =	IO-Link / -	4...20 mA - 0....40 mm, s-pp - 5...100 Hz
A02 =	-	4...20 mA - 0....30 mm, s-pp - 5...100 Hz
A03 =	-	4...20 mA - 0....20 mm, s-pp - 5...100 Hz
A04 =	-	4...20 mA - 0....10 mm, s-pp - 5...100 Hz
A05 =	-	4...20 mA - 0....8 mm, s-pp - 5...100 Hz