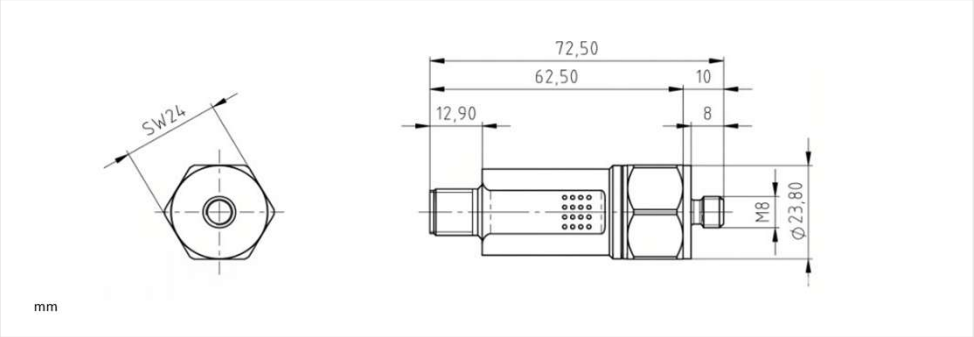
HE055



Product Data

| | selectable option

Technical Specification	
Measurand	Vibration velocity (mm/s, v-rms) Vibration acceleration (g, a-rms) Vibration acceleration (g, a-peak-hold) Dynamic Data (g, a-raw) Bearing Condition Crest Value Temperature (°C)
Measuring Range	0...256 mm/s, v-rms 0...34 g, a-rms 0...48 g, a-peak-hold -48...48 g, a-raw 0...3 Bearing Condition -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	1...50 Hz to 1...1000 Hz
Frequency Range (a-raw)	1...12000 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	±48 g
Service Life	10 years
MTTF Value	112.43 years
Delay Times	config. between 0...60 s
Averaging Time	11 s (expo. time-weighted RMS - 99 % after 55 s)
Peak-Hold Time	4 s

Electrical Specification	
Supply Voltage	18...30 V DC
Current Consumption (max.)	120 mA to 320 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) 100 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

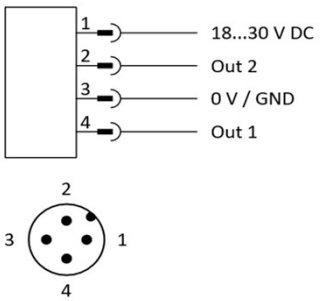
Features

- **Vibration Data** & **Temperature** values in accordance with DIN ISO 10816/20816
- **Dynamic Data** (g, a-raw) at **0...12000 Hz** via BLOB transfer
- **Bearing Condition** in accordance with **DIN ISO 13373-3**
- **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
- Robust Stainless Steel Housing

Description

The **HE055** provides in-depth **machine diagnostics** and precise **bearing monitoring** in accordance with DIN ISO 13373-3. As a high-performance IO-Link sensor, it delivers traditional vibration and temperature data as well as direct bearing condition and **dynamic data** (g, a-raw) in the frequency range of **0...12000 Hz** via **BLOB** transfer. Ideal for demanding mechanical analyses on fans, centrifuges, or gearboxes – the HE055 **integrates seamlessly** into your **IO-Link network** and, with its configurable analog output and switching contacts, can be flexibly integrated into traditional **PLC environments**. Ensure detailed insights into machine health and prevent costly damage at the earliest stage – with a sensor that combines maximum diagnostic depth and smart connectivity.

Wiring Diagram



Product Data

|| selectable option

Interface	
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	
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 64 kHz (TP: 12 kHz), max. 5 s 2 kHz (TP: 0.3 kHz), max. 160 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

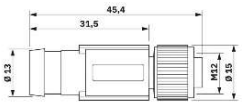
|| selectable option

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

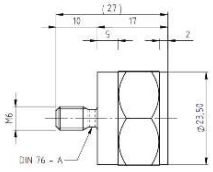
Sensor Cable Type F



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

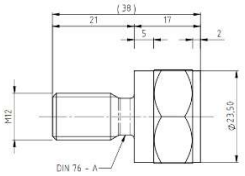
0,3 meter SKU: 13941
1,5 meter SKU: 13178
3 meter SKU: 13363

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

HE055.	x.	1.	x.	xxx.

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

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
001 =	IO-Link / -	-
002 =	IO-Link / -	4...20 mA - 0...16 mm/s, v-rms - 10...1000 Hz