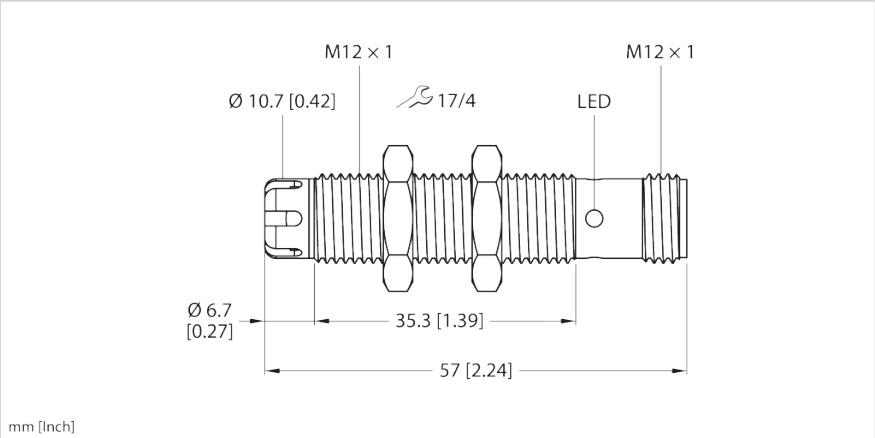
CMTH-M12-IOL6X2-H1141

Humidity and Temperature Sensor
For Condition Monitoring with IO-Link





Type designation	CMTH-M12-IOL6X2-H1141
Ident-No.	100016580

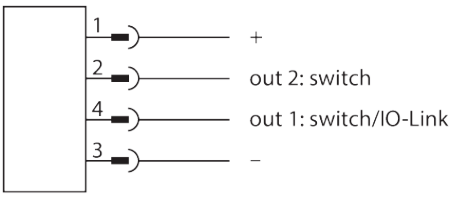
Technical data

General data	
Detection type	contactless
Measuring principle	Capacitive
Measuring principle	Contactless
Temperature	
Temperature measuring range	-40...100 °C
Accuracy	±0,8°C
Note on accuracy	bei Einbau in Metall, bei Umgebung mit Konvektion
Resolution	0,1 K
Humidity	
Measuring range	0...100 % rF
Accuracy	±7 % RH (0...10 % RH/90...100 % RH), ±5 % RH (10...90 % RH)
Note on accuracy	bei Einbau in Metall, bei Umgebung mit Konvektion
Resolution — relative humidity	0,1 % rF
Power supply	
Operating voltage U_B	18...30 VDC

Features

- Sensor for condition monitoring
- Accurate temperature and humidity measurement
- Sensor-2-cloud compatible
- DC 4-wire, 18…30 VDC
- Male connector, M12 × 1
- Configuration and communication via IO-Link v1.1
- Smart Sensor Profile 4
- Temperature monitoring with adjustable switching thresholds or windows
- Humidity monitoring with adjustable switching thresholds or windows
- Operating hours and switching threshold counter
- Dew point calculation and output as well as temperature and humidity histogram via IO-Link

Wiring Diagram



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Technical data

Electrical data	
Output function	4-wire, Programmable, IO-Link SIO Mode
Short-circuit protection	yes/Cyclic
Wire break/reverse polarity protection	yes/yes
Current consumption	< 50 mA
DC rated operational current	≤ 150 mA
Isolation test voltage	≤ 0,5 kV
Residual ripple	≤ 10 % U_{SS}
Response time	RH % (t63) 6 s
Interfaces	
Communication protocol	IO-Link
Outputs	
Output 1	Switching output or IO-Link mode
Output 2	Switching output
Accuracy/deviation	
Accuracy	±0.8 °C
IO-Link	
IO-Link specification	V 1.1
IO-Link port type	Class A
Communication mode	COM 3 (230.4 kBaud)
Transmission rate	COM 3/230.4 kBit/s
Process data width	64 bit
Measured value information	24 bit
Switching point information	4 bit
Frame type	2.2
Minimum cycle time	10 ms
Function Pin 2	SIO
Function pin 4	IO-Link
Maximum cable length	20 m
Profile support	Smart Sensor Profile
Mechanical data	
Design	Cylinder, threaded, M12 x 1
Construction type designation	M12
Housing material	Metal, CuZn, Chrome-plated
Max. tightening torque of housing nut	10 Nm
Electrical connection	Connector, M12 x 1

Functional principle

Condition monitoring sensors are specially designed for use in system parts in which the environmental parameters can have a significant influence on machine availability or process quality. By monitoring the application temperature or the humidity within the application, process deviations can be detected at an early stage and countermeasures initiated. For this purpose, the continuous detection value is transferred to the controller via IO-Link process data and customer-specific limit value exceedance/ shortfall is additionally transported. The robust sensor design can be used indoors as well as outdoors for more challenging applications.

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Technical data

Number of pins	4
Ambient conditions	
Ambient temperature	-40...+100 °C
EMV	EN 61326-1
Shock test	IEC 60068-2-27: 50 g (6 ms)
Vibration resistance	IEC 60060-2-6: (10…150 Hz) 20 g
Protection class	IP67
Tests/approvals	
Approvals	CE, UL
MTTF	610 Years
Displays/controls	
Power-on indication	LED, Green
Setting option	IO-Link

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