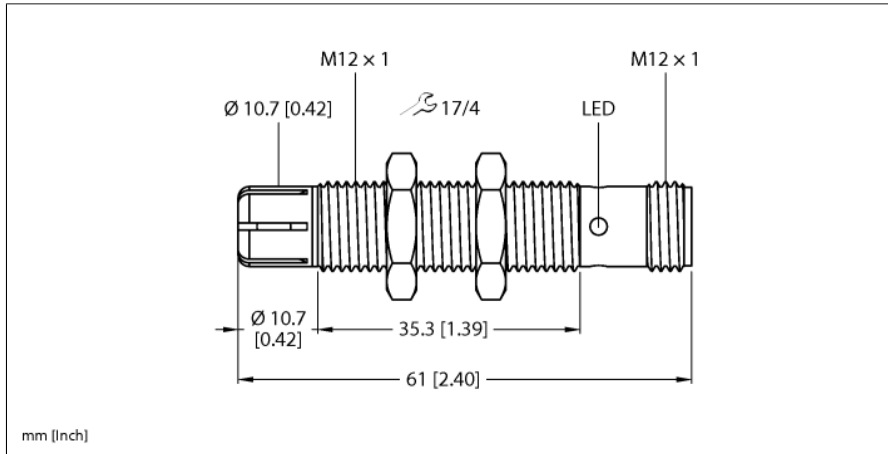


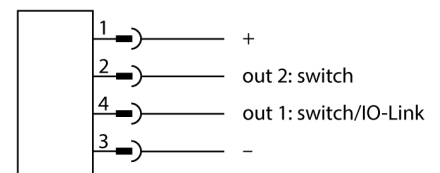
# Humidity and Temperature Sensor For Condition Monitoring with IO-Link CMTH1-M12-IOL6X2-H1141



Type	CMTH1-M12-IOL6X2-H1141
ID	100027532
<b>General data</b>	
Function	Temperature/humidity sensor
Measuring range	-25...85 °C
Accuracy	±0.8 °C
Resolution	0.1 K
Repeat accuracy	0.2 °C
Measuring range	0...100 % RH
Accuracy	±5 % RH (10...90 % RH) ±7 % RH (0...10 % RH/90...100 % RH)
Resolution	1 % RH
<b>Electrical data</b>	
Operating voltage	18...30 VDC
Residual ripple	< 10 % U <sub>ss</sub>
DC rated operational current	≤ 150 mA
No-load current I <sub>0</sub>	≤ 24 mA
Short-circuit protection	yes/ Cyclic
Reverse polarity protection	yes
Output function	Programmable, IO-Link
Output 2	Switching output
max. load current I <sub>0</sub>	0.05 mA
Response time	Min. 8 s
Setting option	IO-Link

- Accurate temperature and humidity measurement
- Sensor-2-cloud compatible
- DC 4-wire, 18...30 V DC
- Male connector, M12 × 1
- Configuration and communication via IO-Link v1.1
- Continuous process values for temperature and humidity
- Temperature monitoring with adjustable limits: 2 × Min/Max
- Humidity monitoring with adjustable limits: 2 × Min/Max
- Operating hours meter for further analysis options
- Limit values of preset values monitored in SIO mode

## Wiring Diagram



## 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

<b>IO-Link</b>	
IO-Link specification	V 1.1
IO-Link port type	Class A
Communication mode	COM 2 (38.4 kBaud)
Process data width	32 bit
Measured value information	24 bit
Switchpoint information	8 bit
Frame type	2.2
Minimum cycle time	35.2 ms
Function Pin 4	IO-Link
Function Pin 2	DI
Maximum cable length	20 m

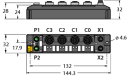
exceedance/shortfall is additionally transported. The robust sensor design can be used indoors as well as outdoors for more challenging applications.

<b>Mechanical data</b>	
Design	Cylinder, threaded, M12
Dimensions	Ø 12 x 61 mm
Thread length	35.3 mm
Housing material	Metal, CuZn, Chrome-plated
Electrical connection	Connector, M12 × 1
Ambient temperature	-25...+85 °C
Storage temperature	-40...+85 °C
Protection class	IP67

<b>Power-on indication</b>	LED, Green
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<b>Tests/approvals</b>	
Vibration resistance	IEC 60060-2-6: (10...150 Hz) 20 g
Shock test	IEC 60068-2-27: 50 g (6 ms)
Approvals	CE

## Function accessories

Type code	Ident no.		Dimension drawing
TBEN-S2-4IOL	6814024	Compact multiprotocol I/O module, 4 IO-Link Master 1.1 Class A, 4 universal PNP digital channels 0.5 A	 <p>The drawing shows a top view of the module with dimensions: 12.5 mm width, 12.5 mm height, and 14.5 mm depth. Pin configurations are labeled: P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20, P21, P22, P23, P24, P25, P26, P27, P28, P29, P30, P31, P32, P33, P34, P35, P36, P37, P38, P39, P40, P41, P42, P43, P44, P45, P46, P47, P48, P49, P50, P51, P52, P53, P54, P55, P56, P57, P58, P59, P60, P61, P62, P63, P64, P65, P66, P67, P68, P69, P70, P71, P72, P73, P74, P75, P76, P77, P78, P79, P80, P81, P82, P83, P84, P85, P86, P87, P88, P89, P90, P91, P92, P93, P94, P95, P96, P97, P98, P99, P100.</p>