




**Baumer**

Passion for Sensors

# Digitization starts with the sensor

Feature overview IO-Link.

# Baumer sensors with IO-Link.

 **IO-Link**



Light barriers, optical sensors			
	O200	O300	O500
<b>Connection / transmission</b>			
Device profile			
IO-Link port type, power consumption (max.)			
Coennection type	M8 4-Pin or cable 4-Pol, unshielded	M8 4-Pin or cable 4-Pol, unshielded	M12 4-Pin or cable 4-Pol, unshielded
IO-Link version	V 1.1	V 1.1	V 1.1
Transfer rate	230.4 kbaud (COM 3)	38.4 kbaud (COM 2) 230.4 kbaud (COM 3)	38.4 kbaud (COM 2)
Cycle time (min.)	0.6 ms	2.3 ms / 2.7 ms 0.6 ms (O300.DL)	2.3 ms / 2.7 ms
Process data length	32 bit	8 bit / 24 bit	8 bit / 24 bit
Cable length to master (max)			
SIO mode / DI mode	■	■	■
Dual Channel			
Transmission quality / security	Increased transmissi		
<b>Identification</b>			
IODD	Electronic device description in the automation system – prevent		
Identification date	Manufacturer, product image, product desi		
<b>Configuration</b>			
Off-line parameterization	■	■	■
With SPS Engineering Tool	■	■	■
Stored parameters for fast, error free sensor swap	■	■	■
Simple configuration changes	■	■	■
Find-me	■		
Interlock (2 s)	■	■	■
Adjustable parameters	Switching points or switching window for object detection or counter, output logic, switch-on / switch-off delay, measured value filter, SSC / output assignment, LED behavior, Teach possibilities	Switching point (mm / intensity), output logic, on / off delay, teaching possibilities, quality bit limit value, <i>qTeach</i> <sup>®</sup> locking	Switching point (mm / intensity), output logic, switch-on / switch-off delay, teaching possibilities, quality bit limit value, <i>qTeach</i> <sup>®</sup> locking
<b>Process data</b>			
Cyclically transmitted process data in real time	MDC: Signal reserve, intensity or counter SSC1: Detection SSC4: Counter	MDC: Distance (Ox00.Dx) SSC: Distance, sensitivity	MDC: Distance (Ox00.Dx) SSC: Distance, sensitivity
MDC = Measuring values SSC = Switching signals			
Quality Bit (Process parameter)	Excess gain	Excess gain	Excess gain
Alarm Bit (device defect)	■	■	■
<b>Analytic / diagnostic data</b>			
Additional data, acylically retrievable	Switching cycles, device temperature	Signal reserve	Signal reserve

Object detection and distance measurement			
	Ultrasonic sensors		Inductive sensors
Series 14	Series 09	U500, UR18	IR06.D, IR08.D, IR12.D, IR18.D, IR30.D
Smart sensor profile			
Class A, 24 V, max. 200 mA			
M12 or M8 4-Pin or cable 4-Pol, unshielded	M8 4-Pin or cable 4-Pol, unshielded	M12 5-Pin, unshielded	M8 3-Pin oder M12 4-Pin, unshielded
V 1.0	V 1.0	V 1.1	V 1.1
38.4 kbaud (COM 2)	38.4 kbaud (COM 2)	38.4 kbaud (COM 2)	230.4 kbaud (COM 3)
10 ms	20 ms	10 ms	0.6 ms
16 bit	12 bit	32 bit	32 bit
20 m			
■	■	■	■
Communication reliability – up to 3 frame repetitions, active signalling of communication errors			
Warnings, among other things, connection of an incorrect sensor. Download in the IODD finder or at <a href="http://www.baumer.com">www.baumer.com</a> with the product.			
Identification, serial number, hardware and firmware version as well as freely usable application designation			
■	■	■	■
■	■	■	■
■	■	■	■
■	■	■	■
■	■	■	■
■	■	■	■
Switching point (mm), measuring range (FADx 14), output logic, on / off delay, teaching possibilities, quality bit limit value, <i>qTeach</i> <sup>®</sup> locking	Switching points or switching window for distance, measuring range, averaging, temperature compensation, teach-in lock	Switching points or switching windows for distance or counter, measuring range, sound beam, averaging, temperature compensation, output logic, switching hysteresis, input/ output logic, switch-off delay, output circuit, SSC / output assignment, LED behavior, teaching facilities	Switching points or switching window for distance, frequency or counter, measuring range, output logic, switching hysteresis, input / output logic, switch-off delay, output circuit, measured value filter, SSC / output assignment, LED behaviour, teaching options
MDC: Distance (FADx 14) SSC: Distance	MDC: Distance SSC: Distance	MDC: Distance, counter SSC: Distance, counter	MDC: Distance, frequency, counter SSC1: Distance, frequency, counter SSC2: Distance, frequency, counter
Excess gain	Excess gain	Excess gain	
■	■	■	■
Signal reserve		Switching cycles, operating time, boot cycles, histograms of process data values and the operating voltage and device temperature	Switching cycles and operating time, boot cycles over service life, histograms of process data values and the operating voltage and device temperature

Process instrumentation		
Flow sensors	Level measurement	Pressure sensors
PF20	LBF1, LBFH	PP20H

### Connection / transmission

Device profile	Smart sensor profile		
IO-Link port type, power consumption (max.)	Class A, 24 V, max. 200 mA		
Coconnection type	M12 4-Pin, unshielded	M12 4-Pin, unshielded	M12 5-Pin, unshielded
IO-Link version	V 1.1	V 1.1	V 1.1
Transfer rate	38.4 kbaud (COM 2)	38.4 kbaud (COM 2)	38.4 kbaud (COM 2)
Cycle time (min.)	3.2 ms	6.4 ms	
Process data length	32 bit	16 bit	32 bit
Cable length to master (max)	20 m		
SIO mode / DI mode	■	■	■
Dual Channel	■		
Transmission quality / security	Increased transmission reliability – up to 3 frame repetitions, active signalling of communication errors		

### Identification

IODD	Electronic device description in the automation system – prevents, among other things, connection of an incorrect sensor. Download in the IODD finder or at <a href="http://www.baumer.com">www.baumer.com</a> with the product.		
Identification date	Manufacturer, product image, product designation, serial number, hardware and firmware version as well as freely usable application designation		

### Configuration

Off-line parameterization	■	■	■
With SPS Engineering Tool	■	■	■
Stored parameters for fast, error free sensor swap	■	■	■
Simple configuration changes	■	■	■
Find-me			
Interlock (2 s)	■	■	■
Adjustable parameters	Output: Temperature or flow, analog or switching, unit, 2 switching points / switching window, switching hysteresis, on / off delay, filter, scaling, output circuit, output logic (NO / NC)	Output: 2 switching points / switching window, switching hysteresis, on / off delay, output circuit, output logic (NO / NC)	Switching point, hysteresis, switching behavior

### Process data

Cyclically transmitted process data in real time	MDC: Flow rate, temperature SSC1: Flow rate, temperature SSC2: Flow rate, temperature	SSC1: Filling level 1 SSC2: Filling level 2	Pressure measuring value
MDC = Measuring values SSC = Switching signals			
Quality Bit (Process parameter)	Flow unstable	Media suitability	
Alarm Bit (device defect)			

### Analytic / diagnostic data

Additional data, acyclically retrievable			Temperature value pressure measuring cell, sensor temperature, barometer pressure, operating hours counter, overpressure range monitoring, histogram nominal pressure range, overpressure range and sensor temperature
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# IO-Link connectivity.



## Wireless IO-Link master

- On site sensor parameterization and monitoring
- Integrated WLAN and bluetooth LE
- Power supply via rechargeable battery
- Simple operation via mobile app



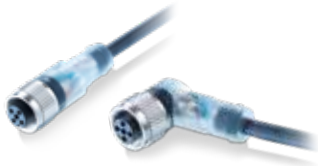
## IO-Link master portfolio

- Connection of sensors to the fieldbus level and PLC
- 4 port, 8 port master for field use and control cabinet
- Parameterization via user-friendly web interface
- Ethernet/IP or profinet interface



## USB IO-Link master

- Access to sensors via USB on the PC
- Operation via IO-Link device tool software
- Includes power supply (EU, KOR, USA, AUS, UK) and USB cable



## Cables

- Angled or straight female connector
- Sheath material: PUR, PP, PVC, PE-X or RADOX
- Ecolab certified, FDA compliant variants
- Halogen-free variants