

Distance Sensor

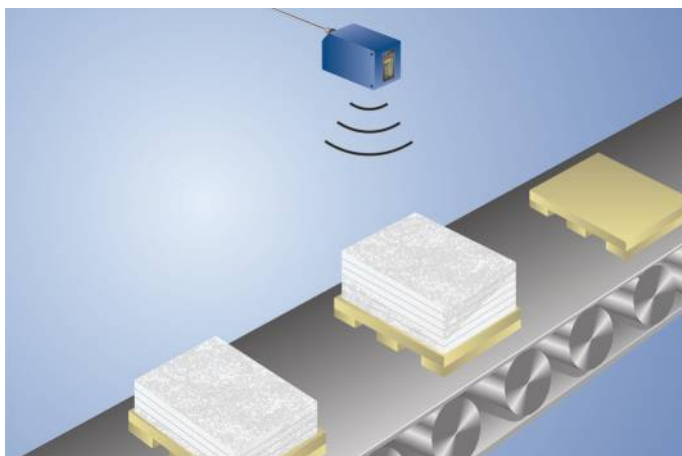
UMS303U035

Part Number



- Digital and analog output
- Menu-driven settings
- Synchronous and multiplex mode
- Temperature drift eliminable

These ultrasonic sensors evaluate the sound reflected from the object. They can detect almost any object and are especially well suited for monitoring fill levels of liquids and bulk goods and for detecting transparent objects. The sensor detects objects regardless of material, state of aggregation, color, or degree of transparency. The graphics display allows for easy, menu-driven sensor setup. Convenient parametrization and quick diagnosis are possible via the IO-Link interface. The sensor can only be used in reflex mode operation.



Technical Data

Ultrasonic Data

Working Range	200...3000 mm
Measuring Range	2800 mm
Reproducibility maximum	2 mm
Linearity Deviation	4 mm
Resolution	0,3 mm
Ultrasonic Frequency	120 kHz
Opening Angle	< 14 °
Service Life (T = +25 °C)	100000 h
Switching Hysteresis	15 mm

Electrical Data

Supply Voltage	18...30 V DC
Current Consumption (U _b = 24 V)	< 50 mA
Switching Frequency	3 Hz
Response Time	< 167 ms
Temperature Range	-30...60 °C
Number of Switching Outputs	2
Switching Output Voltage Drop	< 2,5 V
PNP Switching Output/Switching Current	100 mA
Analog Output	4...20 mA
Synchronous Mode	up to 40 sensors
Multiplex Mode	up to 16 sensors
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Interface	IO-Link V1.0
IO-Link Version	1.0
Protection Class	III

Mechanical Data

Setting Method	Menu (OLED)
Housing Material	Plastic
Degree of Protection	IP67
Connection	M12 × 1; 4/5-pin

Safety-relevant Data

MTTFd (EN ISO 13849-1)	513,14 a
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Function

Selectable menu language	yes
Password Protection	yes

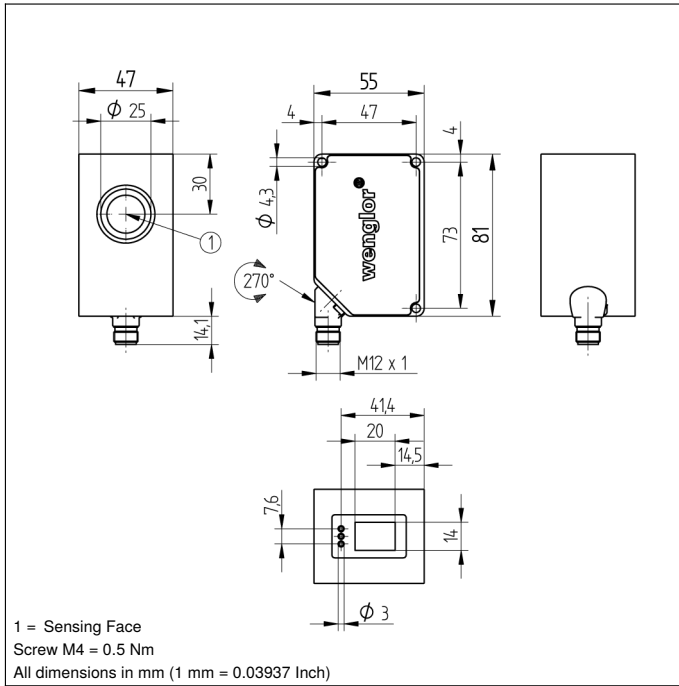
Error Output	●
PNP NO	●
Analog Output	●

Connection Diagram No.	183
Control Panel No.	X2
Suitable Connection Equipment No.	2 35
Suitable Mounting Technology No.	340

Display brightness may decrease with age. This does not result in any impairment of the sensor function.

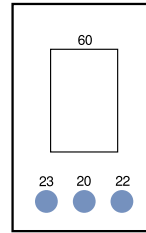
Complementary Products

Analog Evaluation Unit AW02
IO-Link Master
PNP-NPN Converter BG2V1P-N-2M
Software

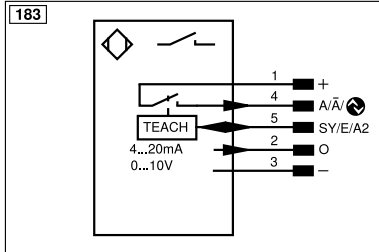


Ctrl. Panel

X2



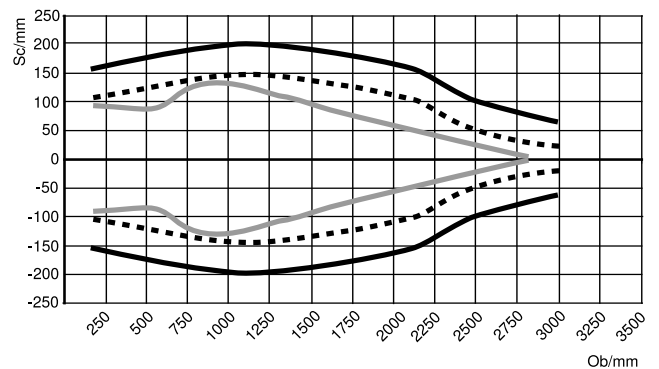
- 20 = Enter key
- 22 = Up key
- 23 = Down key
- 60 = display



Legend			
+	Supply Voltage +	nc	Not connected
-	Supply Voltage 0 V	U	Test Input
~	Supply Voltage (AC Voltage)	Ü	Test Input inverted
A	Switching Output (NO)	W	Trigger Input
Ā	Switching Output (NC)	W-	Ground for the Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
ȳ	Contamination/Error Output (NC)	O-	Ground for the Analog Output
E	Input (analog or digital)	BZ	Block Discharge
T	Teach Input	Amv	Valve Output
Z	Time Delay (activation)	a	Valve Control Output +
S	Shielding	b	Valve Control Output 0 V
RxD	Interface Receive Path	SY	Synchronization
TxD	Interface Send Path	SY-	Ground for the Synchronization
RDY	Ready	E+	Receiver-Line
GND	Ground	S+	Emitter-Line
CL	Clock	±	Grounding
E/A	Output/Input programmable	SnR	Switching Distance Reduction
IO-Link	IO-Link	Rx+/-	Ethernet Receive Path
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)
OSSD	Safety Output	La	Emitted Light disengageable
Signal	Signal Output	Mag	Magnet activation
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contactor Monitoring
PT	Platinum measuring resistor	ENARs422	Encoder A/A (TTL)
			Wire Colors according to DIN IEC 60757
			BK Black
			BN Brown
			RD Red
			OG Orange
			YE Yellow
			GN Green
			BU Blue
			VT Violet
			GY Grey
			WH White
			PK Pink
			GNYE Green/Yellow

Characteristic response curve

Characteristic curves show the position of the center or the front edge of the measured object (100 × 100 mm plate) at the time of switching.
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Ob = Object

Sc = Sonic cone width

- Standard sonic cone (center of the measured object)
- - - Extra-narrow sonic cone (center of the measured object)
- · · Standard sonic cone (front edge of the measured object)

