

# Reflex Sensor with Analog Output

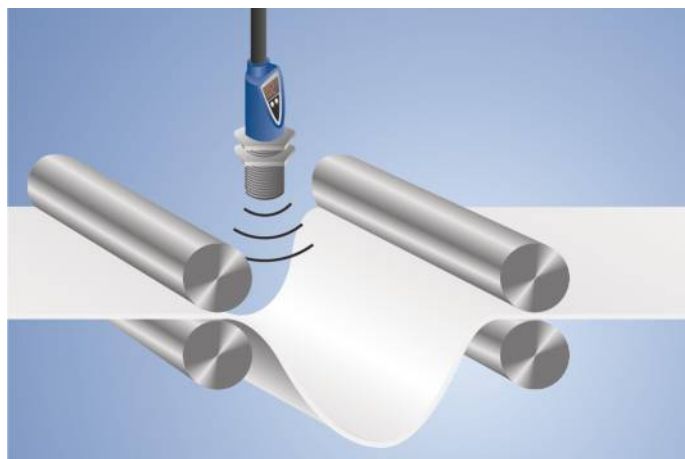
## UMF303U035

Part Number



- Digital and analog output
- Stainless steel housing
- Synchronous and multiplex mode
- Temperature drift eliminable

These ultrasonic sensors evaluate the sound reflected by the object. They detect almost every object and are suited especially for the filling level monitoring of fluids or bulk material or the detection of transparent objects. The sensor detects objects independent from their material, aggregate state, color or transparency. The sensors can be adjusted easily by the 4-digit 7-segment display. Convenient programming and quick diagnosis is possible via the IO-Link interface.



### Technical Data

Ultrasonic Data	
Working Range	200...3000 mm
Measuring Range	2800 mm
Reproducibility maximum	4 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	30 mm

Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	< 40 mA
Switching Frequency	3 Hz
Response Time	167 ms
Temperature Range	-25...60 °C
Number of Switching Outputs	1
Switching Output Voltage Drop	< 2,5 V
PNP Switching Output/Switching Current	100 mA
Analog Output	0...10 V/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
Lockable	yes
Interface	IO-Link V1.0
Protection Class	III

Mechanical Data	
Setting Method	Teach-In
Housing Material	Stainless Steel; Plastic
Degree of Protection	IP67
Connection	M12 × 1; 4/5-pin

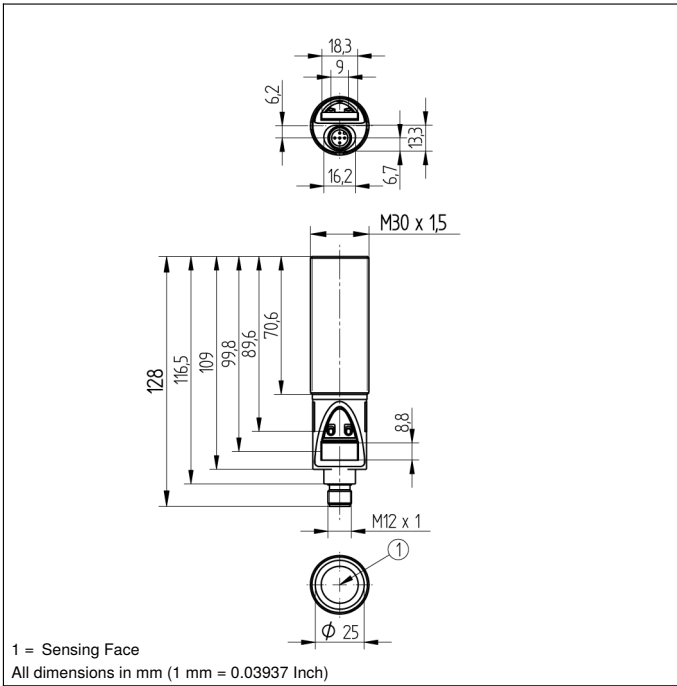
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	725,66 a

Error Output	●
PNP NO/NC switchable	●
Analog Output	●
IO-Link	●

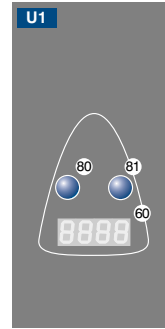
Connection Diagram No.	184
Control Panel No.	U1
Suitable Connection Equipment No.	2   35
Suitable Mounting Technology No.	130

### Complementary Products

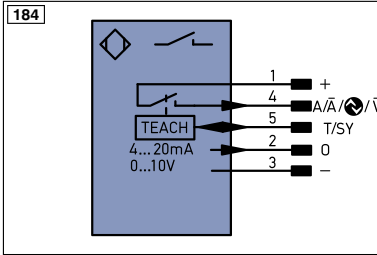
Analog Evaluation Unit AW02
Baffle Plate Z0023, Z0024
IO-Link Master
PNP-NPN Converter BG2V1P-N-2M
Software



### Ctrl. Panel



60 = Display  
 80 = Mode Button/Switching Status Indicator  
 81 = Plus Button/Error Warning



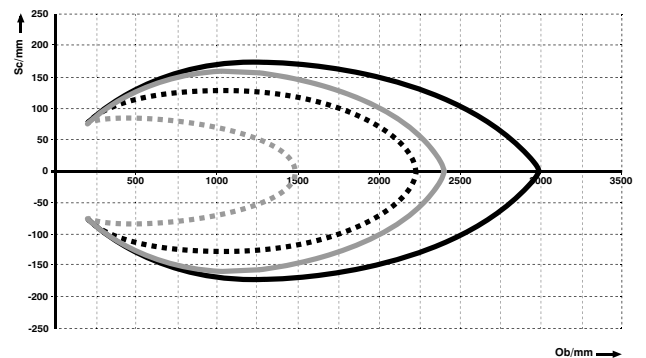
### Legend

+	Supply Voltage +	PT	Platinum measuring resistor	EN <sup>A/B/S4Z2</sup>	Encoder A/ $\bar{A}$ (TTL)
-	Supply Voltage 0 V	nc	not connected	EN <sup>B/S4Z2</sup>	Encoder B/ $\bar{B}$ (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	EN <sup>A</sup>	Encoder A
A	Switching Output (NO)	$\bar{U}$	Test Input inverted	EN <sup>B</sup>	Encoder B
$\bar{A}$	Switching Output (NC)	W	Trigger Input	A <sup>MIN</sup>	Digital output MIN
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input	A <sup>MAX</sup>	Digital output MAX
$\bar{V}$	Contamination/Error Output (NC)	O	Analog Output	A <sup>OK</sup>	Digital output OK
E	Input (analog or digital)	O-	Ground for the Analog Output	SY <sup>In</sup>	Synchronization In
T	Teach Input	BZ	Block Discharge	SY <sup>OUT</sup>	Synchronization OUT
Z	Time Delay (activation)	AWV	Valve Output	OL <sup>T</sup>	Brightness output
S	Shielding	a	Valve Control Output +	M	Maintenance
RxD	Interface Receive Path	b	Valve Control Output 0 V	rsv	reserved
TxD	Interface Send Path	SY	Synchronization	Wire Colors according to DIN IEC 757	
RDY	Ready	SY-	Ground for the Synchronization	BK	Black
GND	Ground	E+	Receiver-Line	BN	Brown
CL	Clock	S+	Emitter-Line	RD	Red
E/A	Output/Input programmable	$\pm$	Grounding	OG	Orange
	IO-Link	S <sup>n</sup> R	Switching Distance Reduction	YE	Yellow
PoE	Power over Ethernet	Rx+/-	Ethernet Receive Path	GN	Green
IN	Safety Input	Tx+/-	Ethernet Send Path	BU	Blue
OSSD	Safety Output	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
Signal	Signal Output	L <sup>a</sup>	Emitted Light disengageable	GY	Grey
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation	WH	White
EN <sup>0/RS4Z2</sup>	Encoder 0-pulse 0-0 (TTL)	RES	Input confirmation	PK	Pink
		EDM	Contactur Monitoring	GNVE	Green/Yellow

### Characteristic response curve

Measurement of the sonic cone on a 100 × 100 mm plate

#### UMF303U035



Ob = Object

Sc = Sonic cone width

- Standard
- Medium-width
- Narrow
- Extra-narrow

