

Distance Sensor

UMD123U035

Part Number



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

These ultrasonic sensors evaluate the sound reflected from the object. They are capable of detecting almost any object, regardless of material and condition. Thanks to the innovative transducer, this sensor has a particularly wide sonic cone at close range. This means that many different kinds of pieces can be reliably detected on conveyor belts. The sensor can only be used in reflex mode operation.



Technical Data

Ultrasonic Data	
Working Range	100...1200 mm
Measuring Range	1100 mm
Reproducibility maximum	2 mm
Linearity Deviation	7 mm
Resolution	1 mm
Ultrasonic Frequency	240 kHz
Opening Angle	< 12 °
Service Life (T = +25 °C)	100000 h
Switching Hysteresis	10 mm

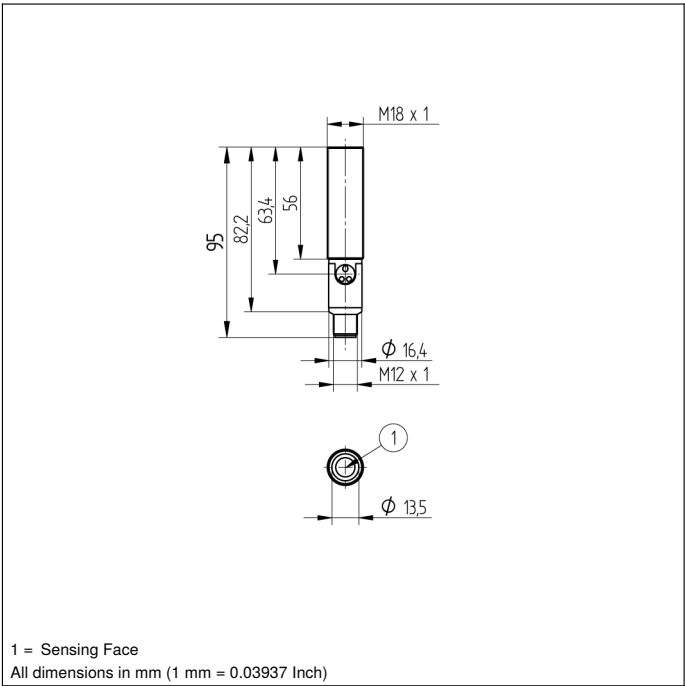
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (U _b = 24 V)	< 30 mA
Switching Frequency	7 Hz
Response Time	72 ms
Temperature Range	-30...60 °C
Number of Switching Outputs	1
Switching Output Voltage Drop	< 2,5 V
PNP Switching Output/Switching Current	100 mA
Analog Output	0...10 V
Synchronous Mode	up to 40 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, V2A (1.4305 / 303)
Sensing face	Epoxy resin/glass bubble mixture
Sensing face	Plastic, PBT
Sensing face	Silicone
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M12 × 1; 4/5-pin

Safety-relevant Data	
MTTFd (EN ISO 13849-1)	829,12 a
PNP NO/NC switchable	●
Analog Output	●
IO-Link	●
Connection Diagram No.	182
Control Panel No.	D12
Suitable Connection Equipment No.	2 35
Suitable Mounting Technology No.	150

Complementary Products

Analog Evaluation Unit AW02
Baffle Plate Z0021, Z0022
IO-Link Master
PNP-NPN Converter BG2V1P-N-2M
Software



1 = Sensing Face

All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel

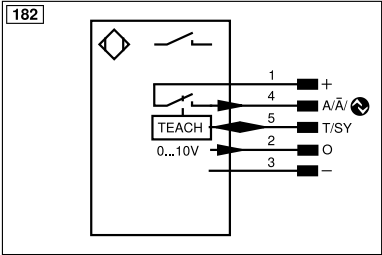
D12



01 = Switching Status Indicator

06 = Teach Button

79 = Run/Error Indicator

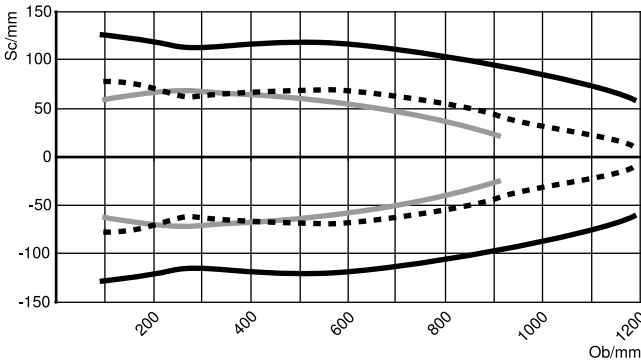


Legend			
+	Supply Voltage +	nc	Not connected
-	Supply Voltage 0 V	U	Test Input
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted
A	Switching Output (NO)	W	Trigger Input
Ā	Switching Output (NC)	W-	Ground for the Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
ȳ	Contamination/Error Output (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	Contact Monitoring
PT	Platinum measuring resistor	ENARs422	Encoder A/A (TTL)
		ENBRs422	Encoder B/B (TTL)
		ENA	Encoder A
		ENB	Encoder B
		AMIN	Digital output MIN
		AMAX	Digital output MAX
		ACK	Digital output OK
		SY In	Synchronization In
		SY OUT	Synchronization OUT
		OLT	Brightness output
		M	Maintenance
		rsv	Reserved
		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)

