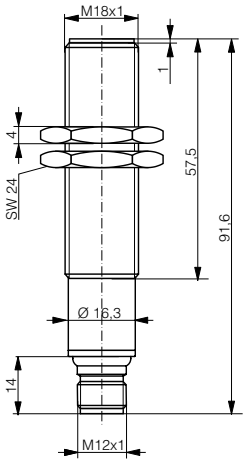
CONTRINEX

ULTRASONIC SENSORS
DIFFUSE
UST-M18MS-TLS-84A

HOUSING	OPERATING RANGE
M18	200 ... 2200 mm

- ✓ Stainless steel housing
- ✓ Diffuse with fore- and background suppression
- ✓ IO-Link & analog output
- ✓ Range setting by teach button
- ✓ NO/NC configuration by teach button





DETECTION DATA	
Operating range (Sn)	200...2200 mm
Transducer frequency	200 kHz
Repeat accuracy	0.5%
Resolution	≤ 3 mm
Linearity error	1%
Hysteresis	1%

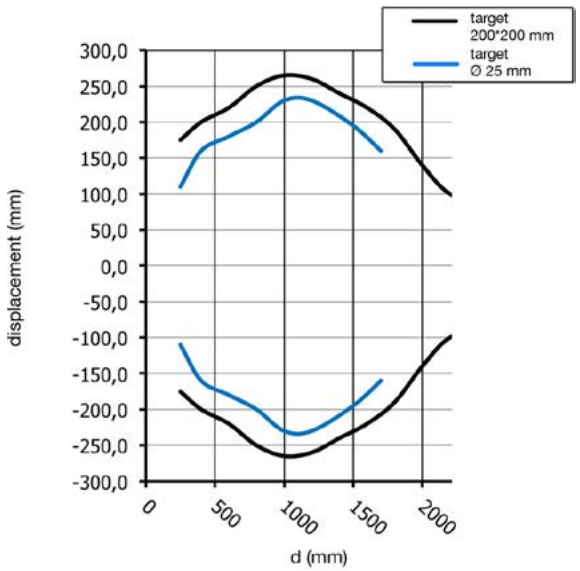
INTERFACE	
Sensitivity adjustement	200...2000 mm, teach button
Indicator LED, yellow	Output state
Indicator LED, green	Echo detection

ELECTRICAL DATA	
Supply voltage range (Ub)	10...30 VDC
Residual ripple	≤ 5% Vpp
Power consumption (no-load)	≤ 50 mA @ 24V
Output current	≤ 100 mA
Switching frequency	≤ 2 Hz
Digital output	IO-Link / PNP
Analog output (voltage version)	0...10 V
Response time analog	≤ 500 ms
Short circuit & voltage reversal protection	✓

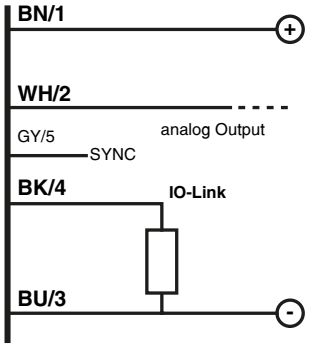
MECHANICAL DATA	
Protection degree	IP67
Temperature range	-20...+70°C
Temperature compensation	✓
Housing material	Stainless steel 316L (1.4404)
Active head material	Epoxy – glass resin
Connector type	M12 5-pin
Weight (connector version)	100 g

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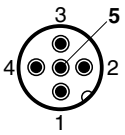
SOUND CONE



WIRING DIAGRAMS



PIN ASSIGNMENT



M12

SYNCHRONISATION

Crosstalk occurs when an ultrasonic sensor receives the signal of an adjacent sensor. Unless both are synchronized, erroneous readings will result. The fix is simply to synchronize the ultrasonic sensors. Once the ultrasonic sound waves are in synchronization, the effects of crosstalk will be reduced. The SYNC pin allows crosstalk to be avoided by synchronizing multiple ultrasonic sensors. There are two ways to synchronize sensors:

1) SYNCHRONISATION MODE: Links together the SYNC pins of all sensors within a limited area.
At power-on, the SYNC line is floating. This state triggers simultaneous measurement by all sensors. Since any interference signals will have a longer sensing distance, they will reach the sensor later and be ignored. Up to 6 sensors can be synchronized via the SYNC pin in this way.

NOTE: The effectiveness of this method will be reduced if the target has a non-linear shape or if the sensors are in different positions.

2) MULTIPLEXER (MUX) MODE: Links the control pin of all sensors to each other.
At power-on, the SYNC line is connected to ground, then after 5 seconds it is released. While the first sensor is measuring, the other sensors are disabled. After the first measurement is complete, the second sensor is allowed to send and receive signals. After the second sensor, the third sensor becomes active, and so on. A maximum of 4 sensors can be interconnected. If the sensor is switched off during the MUX function, the multiplexer will still be available at the next power-on. To switch back to Synchronization mode, teach the sensor with no target in front of it and restore the factory settings. The multiplex function increases sensor response as follows:

Response_time= (Response_time *N)+ T_elab where
T_elab= 25 ms
N= number of sensors connected

AVAILABLE TYPES

Part number	Part reference	Polarity	Connection	Output (A1)	Output (A2)	Output (A3)
605-010-347	UST-M18MS-TLS-84A	PNP	Connector M12 5-pin	IO-Link/PNP	Analog	SYNC/MUX

Note: additional suffix can appear to indicate a revision version or a special version.

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