

di-soric Ultrasonic Sensors US Series

Strong Performance Characteristics for Contactless Distance Measurement

di-soric ultrasonic sensors provide contactless distance measurement with IO-Link features, multiple sizes, and strong performance across applications.



US-M12, US-Q12, US-M18, US-M30

- Models up to 6m range
- High precision for stable processing
- Ensured detection of small objects due to higher sensitivity
- Simple commissioning with [POC-CDR-M12](#) through IO-Link
- Sensor multiplex operation for avoiding mutual influence
- Sensor sync operation for thickness measurements

US-M8

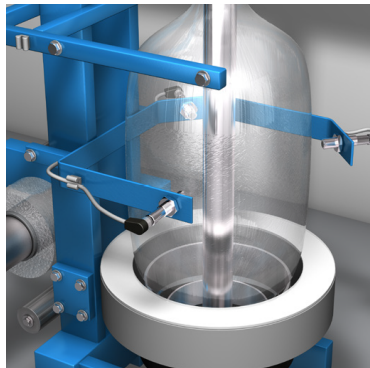
- Smallest ultrasound sensor on the market with up to 100mm range with a focused sound beam
- Transfer of distance information via IO-Link
- Configurable operating modes provide flexible use
- Stable operation with 0.1mm resolution
- Low influence from the environment due to the narrow sound beam

Example Applications

Robotics - Detection of objects in a gripper



Rubber and Plastics - Diameter control on a film extruder



Mobile Equipment - Measurement of boom height on sprayers





Ultrasonic Sensors Tubular US Series



Features

- IO-Link v1.1
- Mounting hardware included
- IP67 protection rating
- Nickel-plated brass housing material
- Quick-disconnect models - purchase cable separately



M8 (8mm) Diffuse Ultrasonic Sensors Tubular US Series

Part Number	Price	Sensing Range	Output	Switching Frequency	Operation Mode	Connection	Housing Size	Wiring	Drawing Link
US08M100G3-T4	\$300.00	20–100mm [0.79–3.94in]	Push-pull NPN or PNP	20 Hz	N.O./N.C. selectable output	4-pin M8 quick-disconnect	8mm diameter x 70mm body [0.315 x 2.75in]	Diagram 1	PDF

M12 (12mm) Diffuse Ultrasonic Sensors Tubular US Series

US12M150FBG3-B4	\$280.00	0–150mm [0–5.90in]	Push-pull NPN or PNP	20 Hz	N.O./N.C. selectable output	4-pin M12 quick-disconnect	12mm diameter x 84mm body [0.47 x 3.30in]	Diagram 1	PDF
US12M150FBIU-B4	\$310.00	Focused beam	0–10 VDC or 4–20 mA		–			Diagram 2	PDF
US12M200G3-B4	\$267.00	20–200mm [0.79–7.87in]	Push-pull NPN or PNP	10 Hz	N.O./N.C. selectable output		12mm diameter x 65mm body [0.47 x 2.56in]	Diagram 1	PDF
US12M200IU-B4	\$296.00		0–10 VDC or 4–20 mA		–			Diagram 2	PDF
US12M400G3-B4	\$267.00	40–400mm [1.58–15.75in]	Push-pull NPN or PNP	10 Hz	N.O./N.C. selectable output			Diagram 1	PDF
US12M400IU-B4	\$296.00		0–10 VDC or 4–20 mA		–			Diagram 2	PDF

M18 (18mm) Diffuse Ultrasonic Sensors Tubular US Series

US18M800G3-B4	\$210.00	80–800mm [3.15–31.50in]	Push-pull NPN or PNP	5 Hz	N.O./N.C. selectable output	4-pin M12 quick-disconnect	18mm diameter x 55.5mm body [0.71 x 2.16in]	Diagram 1	PDF
US18M800IU-B4	\$235.00		0–10 VDC or 4–20 mA		–			Diagram 2	PDF
US18M1500G3-B4	\$210.00	150–1500mm [5.90–59.05in]	Push-pull NPN or PNP		N.O./N.C. selectable output			Diagram 1	PDF
US18M1500IU-B4	\$236.00		0–10 VDC or 4–20 mA		–			Diagram 2	PDF

M30 (30mm) Diffuse Ultrasonic Sensors Tubular US Series

US30M3000G3-B4	\$345.00	300–3000mm [11.81–118.11in]	Push-pull NPN or PNP	3 Hz	N.O./N.C. selectable output	4-pin M12 quick-disconnect	30mm diameter x 60mm body [1.18 x 2.36in]	Diagram 1	PDF
US30M3000IU-B4	\$375.00		0–10 VDC or 4–20 mA		–			Diagram 2	PDF
US30M6000G3-B4	\$410.00	600–6000mm [23.62–236.22in]	Push-pull NPN or PNP	2 Hz	N.O./N.C. selectable output		30mm diameter x 78mm body [1.18 x 3.07in]	Diagram 1	PDF
US30M6000IU-B4	\$450.00		0–10 VDC or 4–20 mA		–			Diagram 2	PDF



Ultrasonic Sensors Tubular US Series

Wiring Diagrams

Diagram 1

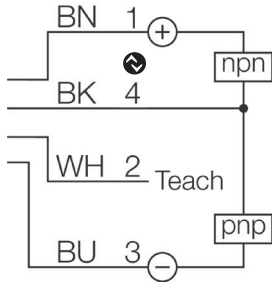
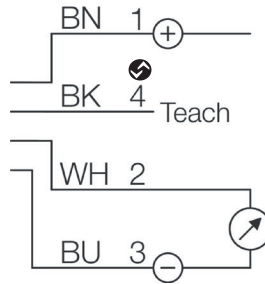
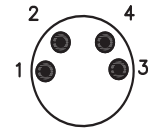


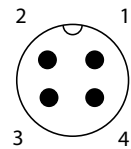
Diagram 2



Connectors
M8 Connector



M12 Connector



For sensors with N.O./N.C. Selectable Outputs; Connect Teach PIN 2 (WH) with +V PIN 1 (BN) >6s to change the operating mode.



Ultrasonic Sensors Tubular US Series

M8 (8mm) Specifications	
Part Number	<u>US08M100G3-T4</u>
Operating Voltage	18–30 VDC
No Load Current	30 mA (24 VDC) max.
Insulation Voltage Endurance	500V
IO-Link	Yes (v1.1, COM2 38.4 kBd, Smart Sensor Profile)
Functions	Teach (Pin 2), Out 1 and IO-Link (Pin 4)
Switch Current	150 mA max.
Voltage Drop max.	2V
Nominal Switching Distance (sn)	100mm
Range	20–100mm
Adjustment Range	20–100mm (Teach in)
Resolution	0.1mm
Switching Hysteresis	1–5mm max. (adjustable by IO-Link)
Reproducibility	<0.3mm
Linearity Error	–
Measuring Frequency	–
Ultrasonic Frequency	484 kHz
Switching Frequency	<20 Hz
Readiness Delay	300 ms max.
Parallel Operation	No
Inverse Polarity Protection	Yes
Short-circuit Protection	Yes
Sensitivity Adjustment	Remote teach
Display	1 green LED - status, 1 yellow LED - switching output
Shock/Vibration Load	30g, 11 ms, 10–55 Hz, 1.0mm
Temperature Drift	0.2%K (uncompensated) <1% Sn (compensated)
Protection Type	IP67
Operating Temperature	0 to 50 °C [32 to 122 °F]
Weight	10g
Connection	M8 4-pin connector
Agency Approval	cULus listed File: E303138, CE

Accessories for 8mm Sensors

Axial Mounting Bracket

Mounting bracket, axial, zinc-plated steel. For use with 8mm sensors. Has two mounting holes (use 3mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

Accessories for 8mm Sensors				
Part Number	Price	Description	Drawing Link	Weight [lb]
ST08A	\$2.75	Micro Detectors mounting bracket, axial, zinc plated steel. For use with 8mm sensors.	PDF	0.04



[ST08A](#)

Right-angle Mounting Bracket

Mounting bracket, right-angle, zinc-plated steel. For use with 8mm sensors. Has two mounting holes (use 3mm screws) and allows the rotation of an optical axis for right-beam-angle-adaptor sensors. Hexagonal nuts not included.

Accessories for 8mm Sensors				
Part Number	Price	Description	Drawing Link	Weight [lb]
ST08C	\$2.75	Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 8mm sensors.	PDF	0.04



[ST08C](#)

Accessories for 8mm Sensors

Right-angle Mounting Bracket

Mounting bracket, right-angle, plastic. For use with 8mm sensors.

Accessories for 8mm Sensors				
Part Number	Price	Description	Drawing Link	Weight [lb]
OPT2101	\$17.00	Wenglor mounting bracket, right-angle, plastic. For use with 8mm sensors.	PDF	0.02



[OPT2101](#)

Right-angle Swivel Mounting Systems

Mounting bracket, right-angle swivel, 360-degree vertical and horizontal adjustment. For use with 8mm sensors. Available in all stainless steel or with an aluminum head and stainless steel mounting plate.

Accessories for 8mm Sensors						
Part Number	Price	Description	Mounting Head	Mounting Plate	Drawing Link	Weight [lb]
OPT2112	\$17.00	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 8mm sensors.	Aluminum	304 Stainless Steel	PDF	0.14
OPT2113	\$24.50	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 8mm sensors.	304 Stainless Steel	304 Stainless Steel	PDF	0.26



[OPT2112 & OPT2113](#)

Note: 304 Stainless steel mounting rods sold separately: [OPT2109](#) (200mm length), [OPT2110](#) (300mm length), and [OPT2111](#) (500mm length).