

OPT Series Tubular Ultrasonic Sensors



OPT2209

Tubular - stainless steel - DC

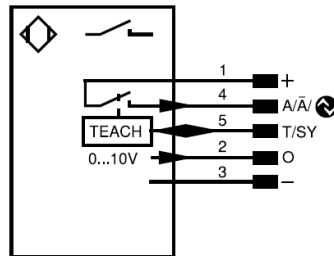
- Digital and analog output
- Synchronous mode
- Temperature drift eliminable
- Stainless steel housing
- IO-Link v1.0



OPT Series Tubular Ultrasonic Sensors										
Part Number	Price	Sensing Range	Output State	Logic	Switching Frequency	Protection Degree	Connection	Wiring	Housing Size	Drawing Link
Diffuse										
OPT2209	\$141.00	100-1200mm [3.93-47.24 in]	N.O./ 0-10 V	PNP	7 Hz	IP67	5-pin M12 quick-disconnect	Diagram 1	18 x 95mm	PDF
OPT2210	\$141.00	50-400mm [1.96-15.74 in]			20 Hz				18 x 86mm	PDF

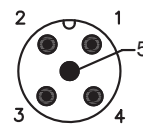
Wiring Diagram

Diagram 1



Connector

M12 Connector



LEGEND

+	Supply Voltage +	nc	Not connected	EN _{BRS422}	Encoder B/ $\bar{B}$ (TL)
-	Supply Voltage 0 V	U	Test Input	EN _A	Encoder A
~	Supply Voltage (AC Voltage)	$\bar{U}$	Test Input Inverted	EN _B	Encoder B
A	Switching Output (N.O.)	W	Trigger Input	A _{MIN}	Digital output MIN
$\bar{A}$	Switching Output (N.C.)	W-	Ground for the Trigger Input	A _{MAX}	Digital output MAX
V	Contamination/Error Output (N.O.)	O	Analog Output	A _{OK}	Digital output OK
$\bar{V}$	Contamination/Error Output (N.C.)	O-	Ground for the Analog Output	SY IN	Synchronization In
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT
T	Teach Input	AMV	Valve Output	OLT	Brightness output
Z	Time Delay (activation)	a	Valve Control Output +	M	Maintenance
S	Shielding	b	Valve Control Output -	rsv	Reserved
RxD	Interface Receive Path	SY	Synchronization	Wire Colors according to DIN IEC 60757	
TxD	Interface Send Path	SY-	Ground for the Synchronization	BK	Black
RDY	Ready	E+	Receiver-Line	BN	Brown
GND	Ground	S+	Emitter-Line	RD	Red
CL	Clock	$\perp$	Grounding	OG	Orange
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow
	IO-Link	Rx+/-	Ethernet Receive Path	GN	Green
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	BU	Blue
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
OSSD	Safety Output	La	Emitted Light Disengageable	GY	Gray
Signal	Signal Output	Mag	Magnet Activation	WH	White
BI_D+/_	Ethernet Gigabit bidirect. data line (A-D)	RES	Input Confirmation	PK	Pink
EN _{0BS422}	Encoder 0-pulse 0 / TTL	EDM	Contact Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	EN _{ARS422}	Encoder A/ $\bar{A}$ (TTL)		

OPT Series Tubular Ultrasonic Sensors

OPT Series Tubular Ultrasonic Sensors Specifications		
Type	<u>OPT2209</u>	<u>OPT2210</u>
Sensing Distance	100-1200mm [3.93-47.24 in]	50-400mm [1.96-15.74 in]
Sensitivity	Teach-in / IO-Link	
Output State	N.O. or N.C via Teach-in or IO-Link, 0-10V output	
Operating Voltage	18 to 30VDC	
Analog Output	0 to 10V	
Current Consumption (24V)	< 30mA	
Switching Current	100mA	
Voltage Drop	< 2.5 V	
Switching Frequency	7 Hz	20 Hz
Ultrasonic Frequency	240 kHz	300 kHz
Switching Hysteresis	10mm	2mm
Short-Circuit Protection	Yes	
Operating Temperature	-30 to 60°C [-22 to 140°F]	
Thermal Drift	NA	
Protection Degree (DIN 40050)	IP67	
LED Indicators	Yes	
Housing Material	Stainless Steel	
Shock/Vibration	Shock test is according to standard EN 60068-2-27 Vibration test is according to standard EN 60068-2-6	
Tightening Torque	0.5 N•m [0.37 lb•ft] for mounting	
Weight lbs [oz]	0.16 [2.56]	
Connectors	5-pin M12 quick-disconnect	
IO Link	IO-Link v1.0	
Agency Approvals *	cULus, E189727, CE, UKCA, RoHS	

* To obtain the most current agency approval information, see the Agency Compliance & Certifications Checklist section on the specific part number's web page.

Accessories for 18mm Sensors

Right-angle Mounting Brackets

Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors. Available with or without fixed insertion stop.

Accessories for 18mm Sensors				
Part Number	Price	Description	Drawing Link	Weight lb [g]
OPT2104	\$10.50	Wenglor mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors.	PDF	0.06 [27.2]
OPT2105	\$10.50	Wenglor mounting bracket, right-angle, plastic. For use with 18mm sensors.	PDF	0.06 [27.2]



[OPT2104](#), [OPT2105](#)

Right-angle Swivel Mounting Systems

Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 12mm rod mount. For use with 18mm sensors. Available in all 304 stainless steel or with an aluminum head and a stainless steel mounting plate.

Accessories for 18mm Sensors						
Part Number	Price	Description	Mounting Head	Mounting Plate	Drawing Link	Weight lb [g]
OPT2116	\$11.50	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 18mm sensors.	Aluminum	304 Stainless steel	PDF	0.15 [68.0]
OPT2117	\$21.00	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 18mm sensors.	304 Stainless steel	304 Stainless steel	PDF	0.28 [127.0]



[OPT2116](#), [OPT2117](#)

Note: 304 Stainless steel mounting rods sold separately: [OPT2109](#) (200mm [7.87 in] length), [OPT2110](#) (300mm [11.81 in] length), and [OPT2111](#) (500mm [19.69 in] length).