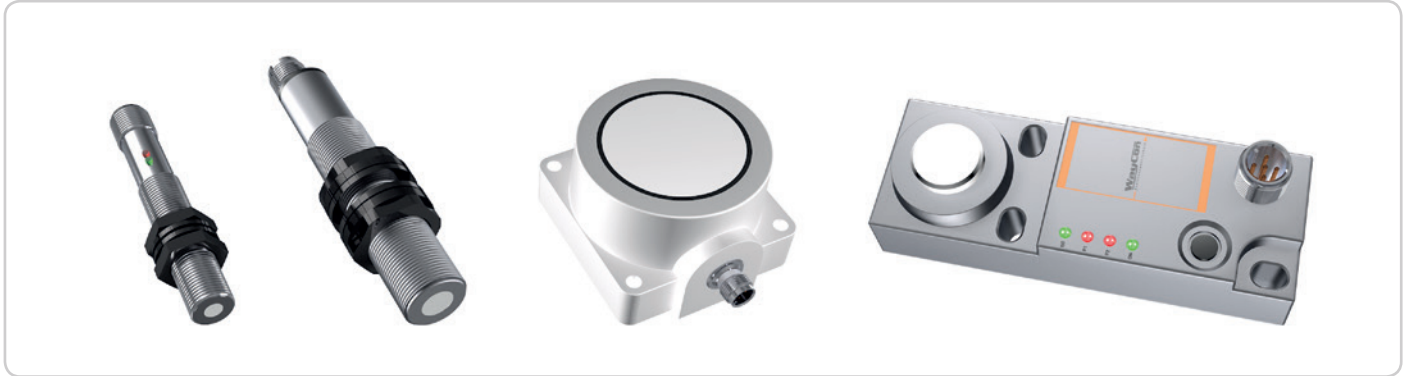


ULTRASONIC SENSORS

Powerful sensors to meet growing demands

Ultrasonic Sensors UFP / UPA / UPT



Features

- ▶ Measurement range of 25 to 6000 mm
- ▶ Linearity up to $\pm 0.3\%$
- ▶ Resolution up to 0.125 mm
- ▶ Operating temperature $-20\dots+70\text{ }^{\circ}\text{C}$
- ▶ Protection class IP67
- ▶ Output: 0...10 V, 4...20 mA, PNP, NPN
- ▶ Distance sensor or proximity switch versions
- ▶ Measurement independent of the targets material, surface or colour
- ▶ Works in dust, dirt, fog and light
- ▶ UPT: Synchronisation input

Description

The three ultrasonic sensors series UFP, UPA and UPT primarily vary in shape. Whilst the UFP series has a fully cylindrical housing (M12, M18, M30), the sensors of the UPA and UPT series are rectangular. All devices are generally available as classic distance meters with analogue output or as proximity switches with up to two switching points.

Technical Data

SERIES ► CHARACTERISTICS ▼	UFP	UPA	UPT
Measurement range max.	3500 mm	6000 mm	3500 mm
Linearity max. ¹⁾	$\pm 0.3\%$	$\pm 0.5\%$	
Resolution max.	0.125 mm	1.5 mm	0.125 mm
Measuring rate max.	40 ms	700 ms	60 ms
Output analog	0...10 V, 4...20 mA		
Output Switching	PNP, NPN		
Protection class max.	IP67		
Operating temperature	$-20\dots+70\text{ }^{\circ}\text{C}$		
Sound beam angle	8°		
Housing material	stainless steel or plastics	plastics	
Housing profile	cylindrical M12, M18 or M30	square	rectangular

¹⁾ based on the measurement range

Ultrasonic Sensors UFA / UPR-A / UPK



Features

- ▶ Measurement range of 0 to 1500 mm
- ▶ Linearity up to $\pm 1\%$
- ▶ Resolution up to 0.3 mm
- ▶ Operating temperature $-20\dots+70\text{ }^{\circ}\text{C}$
- ▶ Protection class IP67
- ▶ Output: 0...10 V, 4...20 mA, PNP, NPN
- ▶ Distance sensor or proximity switch versions
- ▶ Measurement independent of the targets material, surface or colour
- ▶ Works in dust, dirt, fog and light
- ▶ UPR-A ATEX: Version for ATEX Zone 2 and 22

Description

A variety of applications have special requirements for ultrasonic sensors, whether it's a very narrow sound beam, chemically aggressive environment, limited installation space which can only fit a radial measurement sensor or the use in explosive areas which require ATEX approved equipment. The UFA, UPR-A and UPK series are the optimal solution for a variety of complex applications.

Technical Data

SERIES ▶ CHARACTERISTICS ▼	UFA-150, UFA-180, UFA-200	UFA-1500	UPR-A ATEX	UPK
Measurement range max.	150 mm / 180 mm / 200 mm	1500 mm		1200 mm
Linearity max. ¹⁾	$\pm 1\%$			
Resolution max.	0.3 mm	0.5 mm		2 mm
Output analog	0...10 V, 4...20 mA			
Output Switching	PNP NO / NC			PNP, NPN
Protection class max.	IP67			
Operating temperature	$-20\dots+70\text{ }^{\circ}\text{C}$	$0\dots+60\text{ }^{\circ}\text{C}$		$-20\dots+70\text{ }^{\circ}\text{C}$
Housing material	nickel-plated brass			stainless steel or plastics
Housing profile	cylindrical M12	cylindrical M18		

¹⁾ based on the measurement range

Ultrasonic Sensors UX / UN / UBA



Features

- ▶ Measurement range of 30 to 5000 mm
- ▶ Linearity up to $\pm 0.5\%$
- ▶ Resolution up to 0.1 mm
- ▶ Operating temperature $-20\dots+70\text{ }^{\circ}\text{C}$
- ▶ Protection class IP67
- ▶ Output: 0...10 V, 4...20 mA, PNP, NPN
- ▶ Measurement independent of the targets material, surface or colour
- ▶ Works in dust, dirt, fog and light
- ▶ UX and UN: Synchronisation input
- ▶ UBA: Forked shaped sensor for edge control

Description

Monitoring fluid levels or counting goods on conveyor belts are some of the classic applications of ultrasonic sensors. The UX and UN sensors with switching outputs were developed specifically for these purposes. Both series have a very compact housing and are also available with synchronisation input to allow several sensors to be used within close proximity. The UBA series on the other hand is designed for the measurement of edges of conveyor belts.

Technical Data

SERIES ► CHARACTERISTICS ▼	UX	UN	UBA
Measurement range max.	500 mm	5000 mm	70 mm
Linearity max. ¹⁾	$\pm 1\%$	$\pm 0.5\%$	$\pm 2\%$
Resolution max.	$\leq 1.5\text{ mm}$	0.5 mm	0.1 mm
Output analog	-	0...10 V, 4...20 mA	0...10 V
Output Switching	PNP / NPN		-
Protection class max.	IP67		
Operating temperature	$-20\dots+70\text{ }^{\circ}\text{C}$		$0\dots+60\text{ }^{\circ}\text{C}$
Housing material	Polyamid		anodized Aluminium
Housing profile	rectangular		fork

¹⁾ based on the measurement range

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