

Sensor ultrassônico M18 design longo ATEX

UDA18 ATEX ultrasonic sensors have the same functions and features as the sensors of the U*18 series. They were, however, developed especially for use in areas potentially subject to gas or dust explosion. They have ATEX approval, making them suitable for use in the chemical and pharmaceutical industries as well as in systems that process oil and gas.

Product characteristics

- Reliable measuring regardless of transparency, gloss, surface characteristics and material colour
- Resistant to contamination, moisture, dust and mist
- Stainless steel housing material (DIN 1.4404) or plastic (PBT)
- Two different operating ranges up to 2.2 m
- Switching output NPN/PNP/Push-Pull, analogue output, IO-Link
- Parameterization via teach-in button or IO-Link
- Four operating modes: retro-reflective, window, hysteresis and switching point operation
- Synchronization and multiplex mode
- Temperature compensation
- ATEX approval

Desenho técnico

IMAGE 1/3

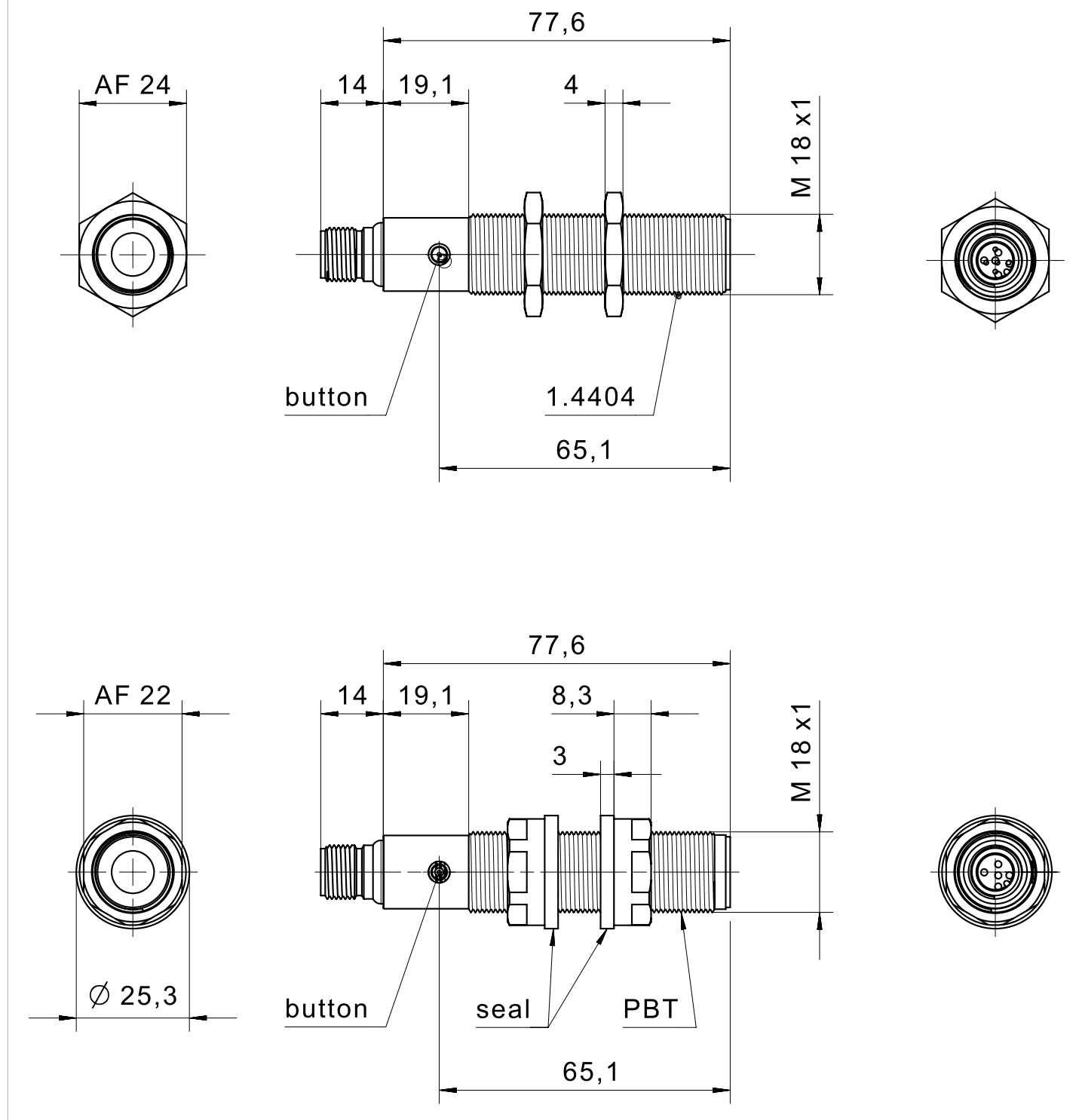


IMAGE 2/3

male M12

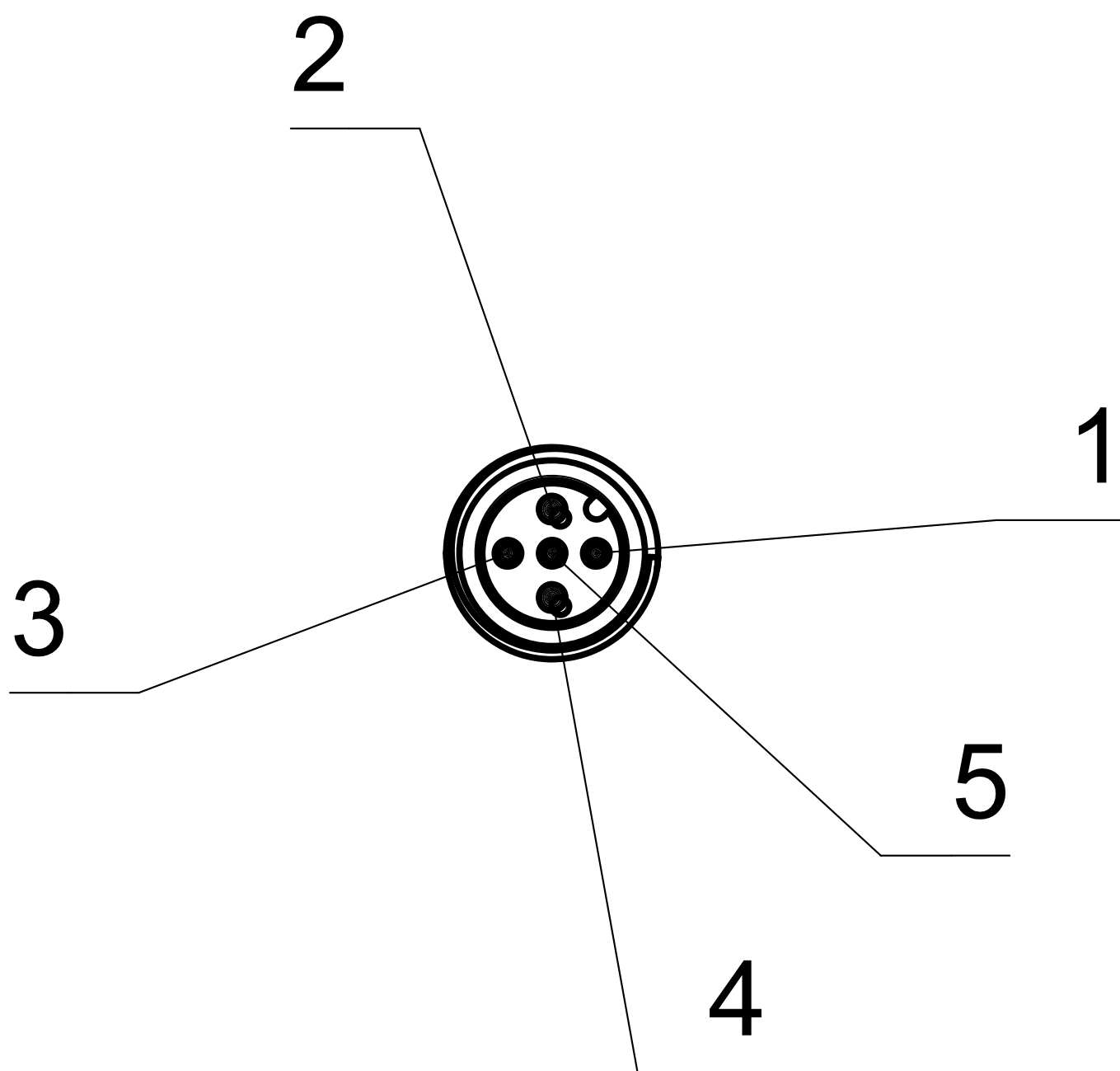
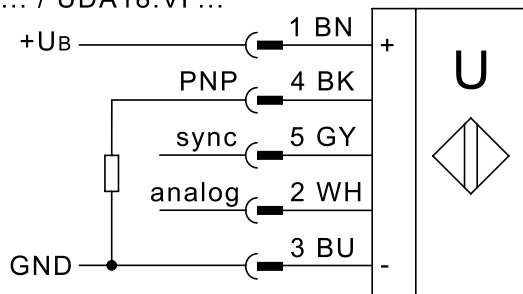
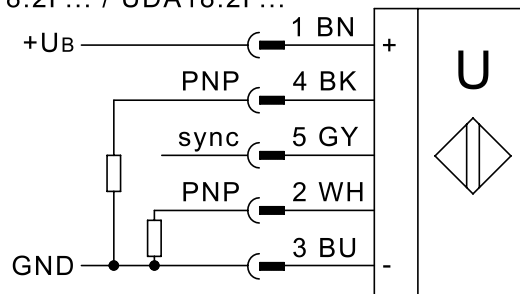


IMAGE 3/3

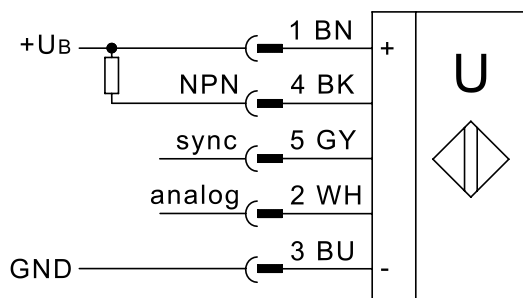
UD18.CP... / UDA18.CP...
UD18.VP... / UDA18.VP...



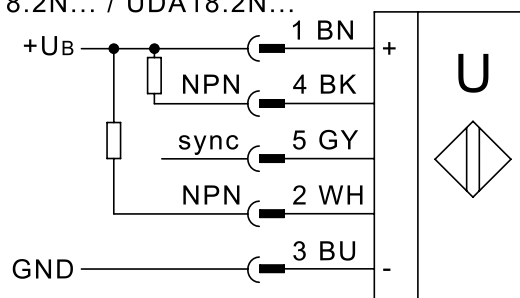
UD18.2P... / UDA18.2P...



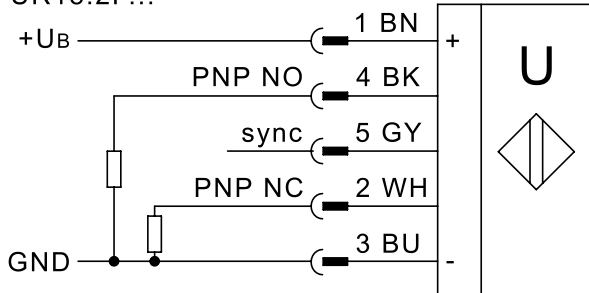
UD18.CN... / UDA18.CN...
UD18.VN... / UDA18.VN...



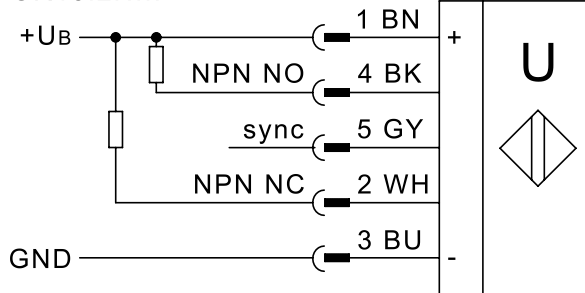
UD18.2N... / UDA18.2N...



UR18.2P...



UR18.2N...



Product options

IMAGE 1/1

ORDERING KEY

	Measurement range	Housing material		Output							Connection	Special features	
		Plastic PBT	Stainless steel DIN 1.4044	PNP	NPN	2x PNP	2x NPN	4... 20mA	0... 10V	IO-Link (push-pull)		Synchronisation	Multiplexing
Diffuse reflection sensor													
Switching output													
UDA18P2P090S	100 ... 900 mm	x				x					x	x	x
UDA18M2P090S	100 ... 900 mm		x			x					x	x	x
UDA18P2N090S	100 ... 900 mm	x					x				x	x	x
UDA18M2N090S	100 ... 900 mm		x				x				x	x	x
UDA18P2P220S	200 ... 2200 mm	x				x					x	x	x
UDA18M2P220S	200 ... 2200 mm		x			x					x	x	x
UDA18P2N220S	200 ... 2200 mm	x					x				x	x	x
UDA18M2N220S	200 ... 2200 mm		x				x				x	x	x
Switching output + analogue output													
UDA18PCP090S	100 ... 900 mm	x		x				x			x	x	x
UDA18MCP090S	100 ... 900 mm		x	x				x			x	x	x
UDA18PCN090S	100 ... 900 mm	x			x			x			x	x	x
UDA18MCN090S	100 ... 900 mm		x		x			x			x	x	x
UDA18PVP090S	100 ... 900 mm	x		x					x		x	x	x
UDA18MVP090S	100 ... 900 mm		x	x					x		x	x	x
UDA18PVN090S	100 ... 900 mm	x			x				x		x	x	x
UDA18MVN090S	100 ... 900 mm		x		x				x		x	x	x
UDA18PCP220S	200 ... 2200 mm	x		x				x			x	x	x
UDA18MCP220S	200 ... 2200 mm		x	x				x			x	x	x
UDA18PCN220S	200 ... 2200 mm	x			x			x			x	x	x
UDA18MCN220S	200 ... 2200 mm		x		x			x			x	x	x
UDA18PVP220S	200 ... 2200 mm	x		x					x		x	x	x
UDA18MVP220S	200 ... 2200 mm		x	x					x		x	x	x
UDA18PVN220S	200 ... 2200 mm	x			x				x		x	x	x
UDA18MVN220S	200 ... 2200 mm		x		x				x		x	x	x

Características do artigo

Attribute	UDA18MCN090S	UDA18MCN220S	UDA18MCP090S	UDA18MCP220S	UDA18MVN090S	UDA18MVN220S
Continuous current	0.1 A					
Switching frequency	3 Hz	2 Hz	3 Hz	2 Hz	3 Hz	2 Hz
Polarity reversal protection	yes					
Switching output	NPN		PNP		NPN	
Output signal min.	-				0 V DC	
Output signal max.	-				10 V DC	
Output signal min.	4 mA				-	
Output signal max.	20 mA				-	
Operating voltage min.	10 V DC					
Operating voltage max.	30 V DC					
Current consumption	50 mA					
Load resistance min.	-				3000 Ohm	
Load resistance max.	500 Ohm				-	
Technology	Ultrasonic					
Operating frequency	300 kHz	200 kHz	300 kHz	200 kHz	300 kHz	200 kHz
Outputs	1x 4...20mA + 1x NPN		1x 4...20mA + 1x PNP		1x 0...10V + 1x NPN	
Operating Mode	diffuse reflection sensor					
Sensing range	100...900 mm	200...2200 mm	100...900 mm	200...2200 mm	100...900 mm	200...2200 mm
Opening angle of sound cone	10 ±2 °	14 ±2 °	10 ±2 °	14 ±2 °	10 ±2 °	14 ±2 °
Ripple	5 %					
Repeating accuracy	0.5 %					
Resolution	= 3 mm					
Thermal drift	±2 %					
Overload protection	yes					
Short-circuit protection	yes					
Synchronization	yes					
Multiplexing	yes					
Linearity error	1 %					
Blind zone	100 mm	200 mm	100 mm	200 mm	100 mm	200 mm
Response time analogue output	500 ms					

Características do artigo

Attribute	UDA18MCN090S	UDA18MCN220S	UDA18MCP090S	UDA18MCP220S	UDA18MVN090S	UDA18MVN220S
EMC	EN 60947-5-2					
Accessories supplied	2 stainless steel nuts SW24					
Application specific	ATEX					
Controls	Teach-in button					
Indicators	Switching state: 2 LEDs yellow, Echo: 1 LED green					
Dimensions	M18x1; L=91,6mm					
Housing design	cylindrical					
Housing material	stainless steel 1.4404					
Material sound transducer	Epoxy resin with glass balls					
Protection class	IP67 DIN EN 60529					
Operating temperature min.	-20 °C					
Max. operating temperature	50 °C					
Min. storage temperature	-35 °C					
Max. storage temperature	80 °C					
Temperature compensation	yes					
Thread	M18					
Torque	50 N m					
Weight	100 g					
Connector type	M12 5-pol.					
CE label	yes					
UL certification	yes					
ATEX	yes					
Version gas	II 3G Ex ec nC IIC T6 Gc					
Version dust	II 3D Ex tc IIIB T80°C Dc					

Características do artigo

Attribute	UDA18MVP090S	UDA18MVP220S	UDA18M2N090S	UDA18M2N220S	UDA18M2P090S	UDA18M2P220S ▶
Continuous current	0.1 A					
Switching frequency	3 Hz	2 Hz	3 Hz	2 Hz	3 Hz	2 Hz
Polarity reversal protection	yes					
Switching output	PNP		NPN		PNP	
Output signal min.	0 V DC		-			
Output signal max.	10 V DC		-			
Output signal min.	-					
Output signal max.	-					
Operating voltage min.	10 V DC					
Operating voltage max.	30 V DC					
Current consumption	50 mA					
Load resistance min.	3000 Ohm		-			
Load resistance max.	-					
Technology	Ultrasonic					
Operating frequency	300 kHz	200 kHz	300 kHz	200 kHz	300 kHz	200 kHz
Outputs	1x 0...10V + 1x PNP		2x NPN		2x PNP	
Operating Mode	diffuse reflection sensor					
Sensing range	100...900 mm	200...2200 mm	100...900 mm	200...2200 mm	100...900 mm	200...2200 mm
Opening angle of sound cone	10 ±2 °	14 ±2 °	10 ±2 °	14 ±2 °	10 ±2 °	14 ±2 °
Ripple	5 %					
Repeating accuracy	0.5 %					
Resolution	= 3 mm					
Thermal drift	±2 %					
Overload protection	yes					
Short-circuit protection	yes					
Synchronization	yes					
Multiplexing	yes					
Linearity error	1 %					
Blind zone	100 mm	200 mm	100 mm	200 mm	100 mm	200 mm
Response time analogue output	500 ms					

Características do artigo

Attribute	UDA18MVP090S	UDA18MVP220S	UDA18M2N090S	UDA18M2N220S	UDA18M2P090S	UDA18M2P220S ▶
EMC	EN 60947-5-2					
Accessories supplied	2 stainless steel nuts SW24					
Application specific	ATEX					
Controls	Teach-in button					
Indicators	Switching state: 2 LEDs yellow, Echo: 1 LED green					
Dimensions	M18x1; L=91,6mm					
Housing design	cylindrical					
Housing material	stainless steel 1.4404					
Material sound transducer	Epoxy resin with glass balls					
Protection class	IP67 DIN EN 60529					
Operating temperature min.	-20 °C					
Max. operating temperature	50 °C					
Min. storage temperature	-35 °C					
Max. storage temperature	80 °C					
Temperature compensation	yes					
Thread	M18					
Torque	50 N m					
Weight	100 g					
Connector type	M12 5-pol.					
CE label	yes					
UL certification	yes					
ATEX	yes					
Version gas	II 3G Ex ec nC IIC T6 Gc					
Version dust	II 3D Ex tc IIIB T80°C Dc					

Características do artigo

Attribute	UDA18PCN090S	UDA18PCN220S	UDA18PCP090S	UDA18PCP220S	UDA18PVN090S	UDA18PVN220S ▶
Continuous current	0.1 A					
Switching frequency	3 Hz	2 Hz	3 Hz	2 Hz	3 Hz	2 Hz
Polarity reversal protection	yes					
Switching output	NPN		PNP		NPN	
Output signal min.	-				0 V DC	
Output signal max.	-				10 V DC	
Output signal min.	4 mA				-	
Output signal max.	20 mA				-	
Operating voltage min.	10 V DC					
Operating voltage max.	30 V DC					
Current consumption	50 mA					
Load resistance min.	-				3000 Ohm	
Load resistance max.	500 Ohm				-	
Technology	Ultrasonic					
Operating frequency	300 kHz	200 kHz	300 kHz	200 kHz	300 kHz	200 kHz
Outputs	1x 4...20mA + 1x NPN		1x 4...20mA + 1x PNP		1x 0...10V + 1x NPN	
Operating Mode	diffuse reflection sensor					
Sensing range	100...900 mm	200...2200 mm	100...900 mm	200...2200 mm	100...900 mm	200...2200 mm
Opening angle of sound cone	10 ±2 °	14 ±2 °	10 ±2 °	14 ±2 °	10 ±2 °	14 ±2 °
Ripple	5 %					
Repeating accuracy	0.5 %					
Resolution	= 3 mm					
Thermal drift	±2 %					
Overload protection	yes					
Short-circuit protection	yes					
Synchronization	yes					
Multiplexing	yes					
Linearity error	1 %					
Blind zone	100 mm	200 mm	100 mm	200 mm	100 mm	200 mm
Response time analogue output	500 ms					

Características do artigo

Attribute	UDA18PCN090S	UDA18PCN220S	UDA18PCP090S	UDA18PCP220S	UDA18PVN090S	UDA18PVN220S ▶
EMC	EN 60947-5-2					
Accessories supplied	2 plastic nuts SW22 + 2 rubber washers					
Application specific	ATEX					
Controls	Teach-in button					
Indicators	Switching state: 2 LEDs yellow, Echo: 1 LED green					
Dimensions	M18x1; L=91,6mm					
Housing design	cylindrical					
Housing material	PBT					
Material sound transducer	Epoxy resin with glass balls					
Protection class	IP67 DIN EN 60529					
Operating temperature min.	-20 °C					
Max. operating temperature	50 °C					
Min. storage temperature	-35 °C					
Max. storage temperature	80 °C					
Temperature compensation	yes					
Thread	M18					
Torque	1 N m					
Weight	70 g					
Connector type	M12 5-pol.					
CE label	yes					
UL certification	yes					
ATEX	yes					
Version gas	II 3G Ex ec nC IIC T6 Gc					
Version dust	II 3D Ex tc IIIB T80°C Dc					

Características do artigo

Attribute	UDA18PVP090S	UDA18PVP220S	UDA18P2N090S	UDA18P2N220S	UDA18P2P090S	UDA18P2P220S
Continuous current	0.1 A					
Switching frequency	3 Hz	2 Hz	3 Hz	2 Hz	3 Hz	2 Hz
Polarity reversal protection	yes					
Switching output	PNP		NPN		PNP	
Output signal min.	0 V DC		-			
Output signal max.	10 V DC		-			
Output signal min.	-					
Output signal max.	-					
Operating voltage min.	10 V DC					
Operating voltage max.	30 V DC					
Current consumption	50 mA					
Load resistance min.	3000 Ohm		-			
Load resistance max.	-					
Technology	Ultrasonic					
Operating frequency	300 kHz	200 kHz	300 kHz	200 kHz	300 kHz	200 kHz
Outputs	1x 0...10V + 1x PNP		2x NPN		2x PNP	
Operating Mode	diffuse reflection sensor					
Sensing range	100...900 mm	200...2200 mm	100...900 mm	200...2200 mm	100...900 mm	200...2200 mm
Opening angle of sound cone	10 ±2 °	14 ±2 °	10 ±2 °	14 ±2 °	10 ±2 °	14 ±2 °
Ripple	5 %					
Repeating accuracy	0.5 %					
Resolution	= 3 mm					
Thermal drift	±2 %					
Overload protection	yes					
Short-circuit protection	yes					
Synchronization	yes					
Multiplexing	yes					
Linearity error	1 %					
Blind zone	100 mm	200 mm	100 mm	200 mm	100 mm	200 mm
Response time analogue output	500 ms					
EMC	EN 60947-5-2					
Accessories supplied	2 plastic nuts SW22 + 2 rubber washers					

Características do artigo

Attribute	UDA18PVP090S	UDA18PVP220S	UDA18P2N090S	UDA18P2N220S	UDA18P2P090S	UDA18P2P220S
Application specific	ATEX					
Controls	Teach-in button					
Indicators	Switching state: 2 LEDs yellow, Echo: 1 LED green					
Dimensions	M18x1; L=91,6mm					
Housing design	cylindrical					
Housing material	PBT					
Material sound transducer	Epoxy resin with glass balls					
Protection class	IP67 DIN EN 60529					
Operating temperature min.	-20 °C					
Max. operating temperature	50 °C					
Min. storage temperature	-35 °C					
Max. storage temperature	80 °C					
Temperature compensation	yes					
Thread	M18					
Torque	1 N m					
Weight	70 g					
Connector type	M12 5-pol.					
CE label	yes					
UL certification	yes					
ATEX	yes					
Version gas	II 3G Ex ec nC IIC T6 Gc					
Version dust	II 3D Ex tc IIIB T80°C Dc					