



Ultrasonic sensor M30 IO-Link

Thanks to high-performance electronics, the U*30 series is the ideal partner for the wide-range detection of objects and filling heights at distances of up to 8 metres. Similar to all other cylindrical designs from elobau, the sensors are temperature-compensated for high accuracy even in case of temperature fluctuations.

Stainless steel or plastic variants allow flexible adaptation to a wide variety of requirements.

Product characteristics

- Reliable measurement 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)
- Three different operating ranges up to 8 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

Technical drawing

IMAGE 1/5

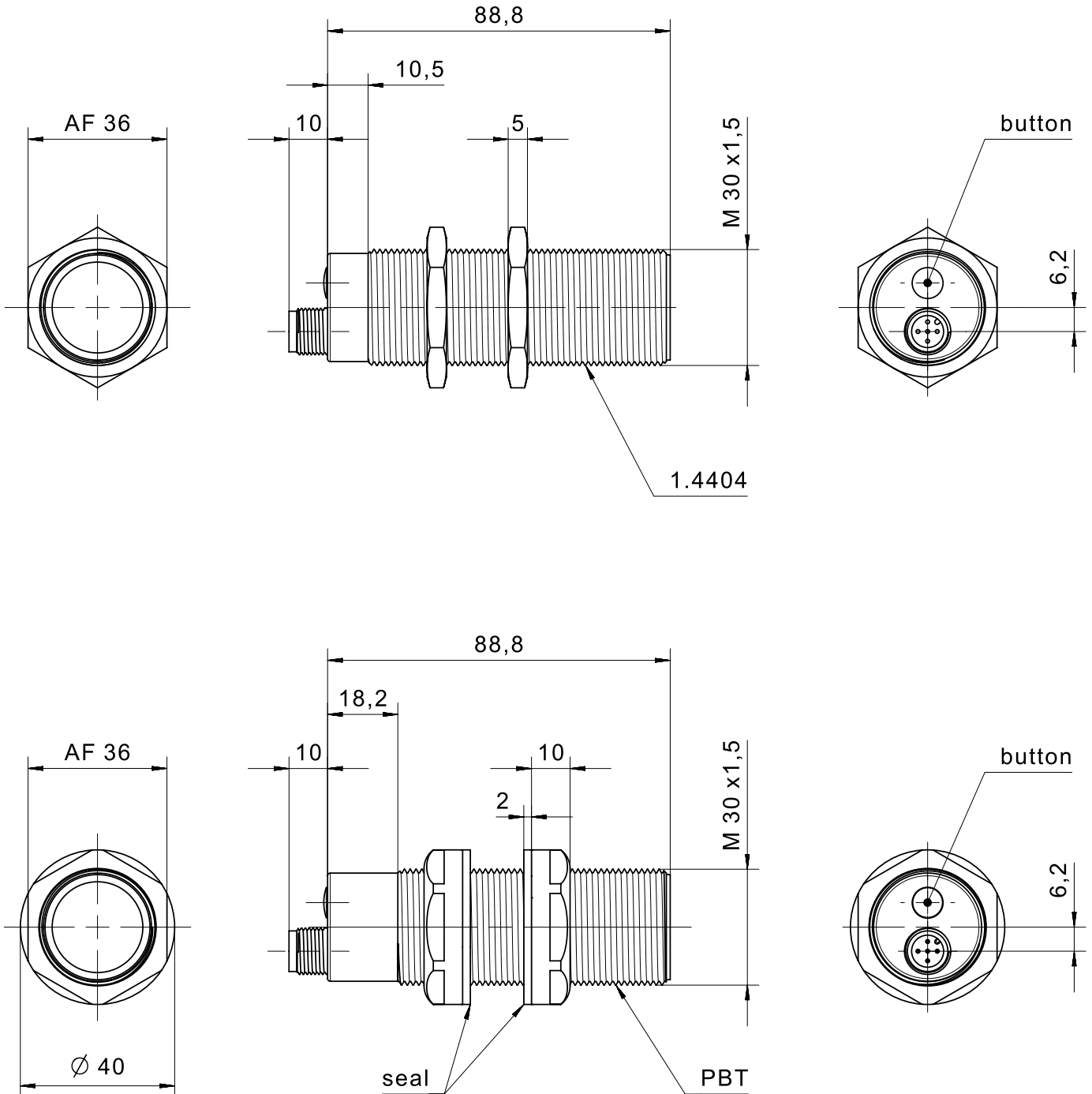


IMAGE 2/5

male M12

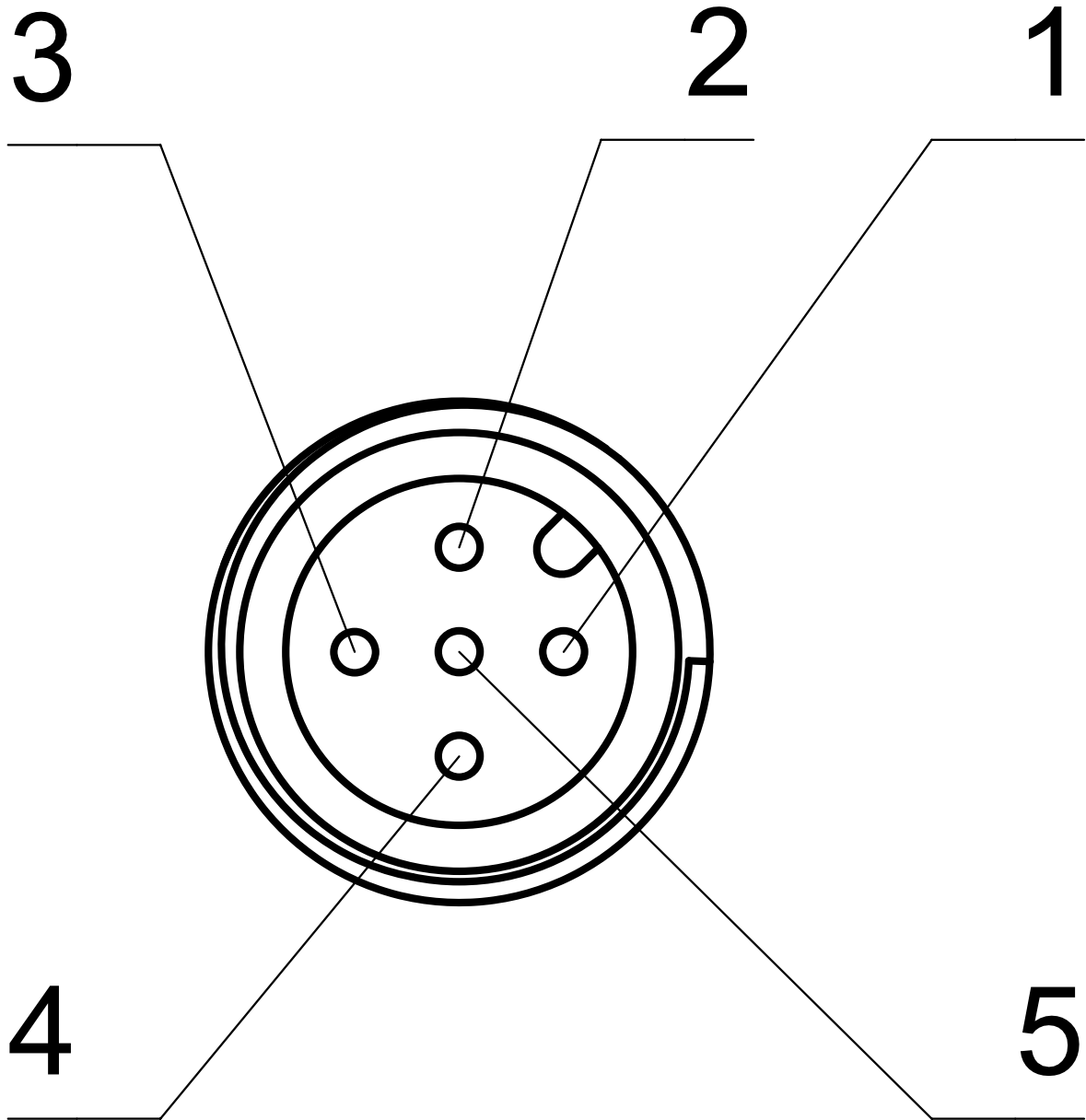


IMAGE 3/5

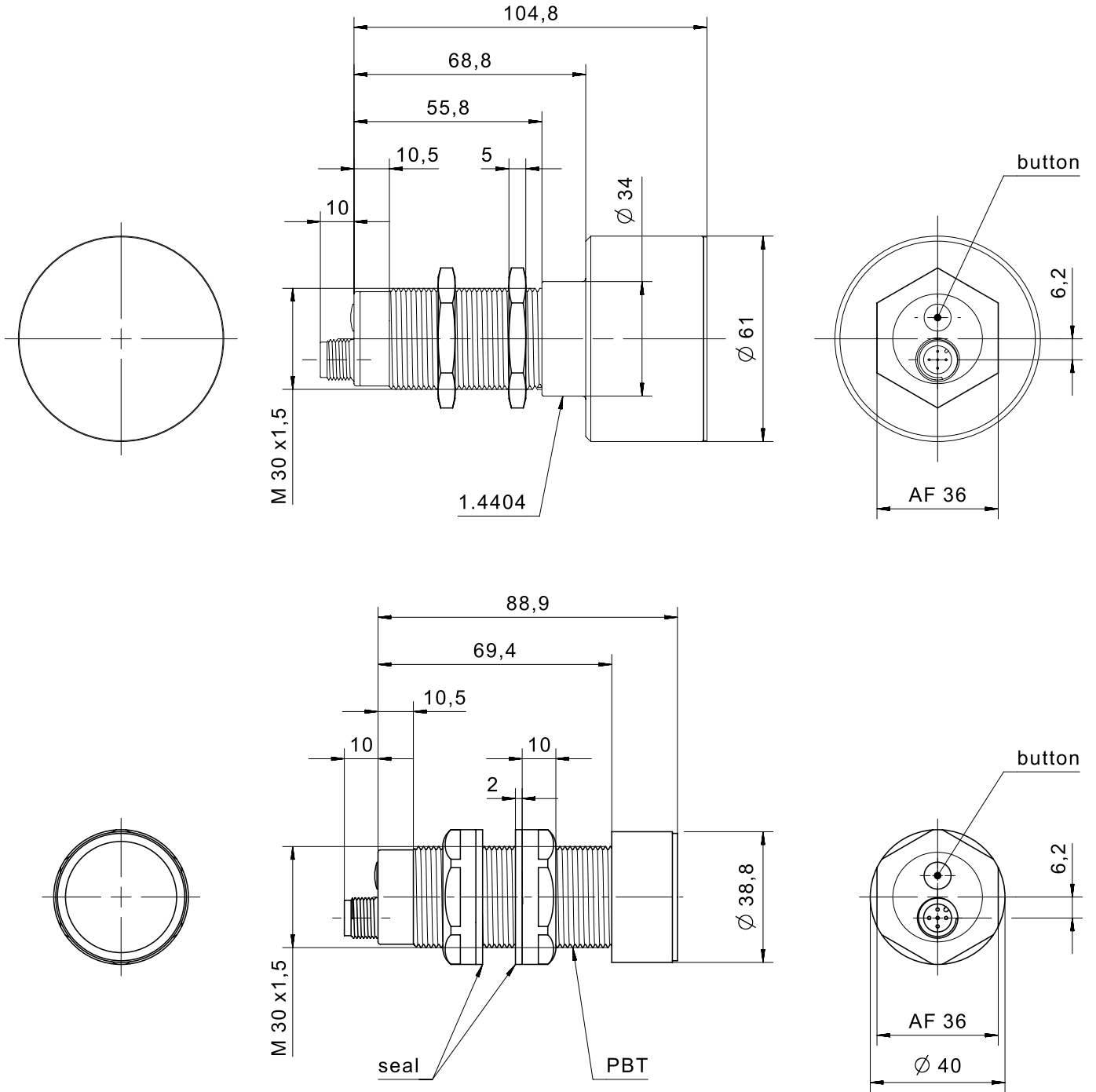


IMAGE 4/5

male M12

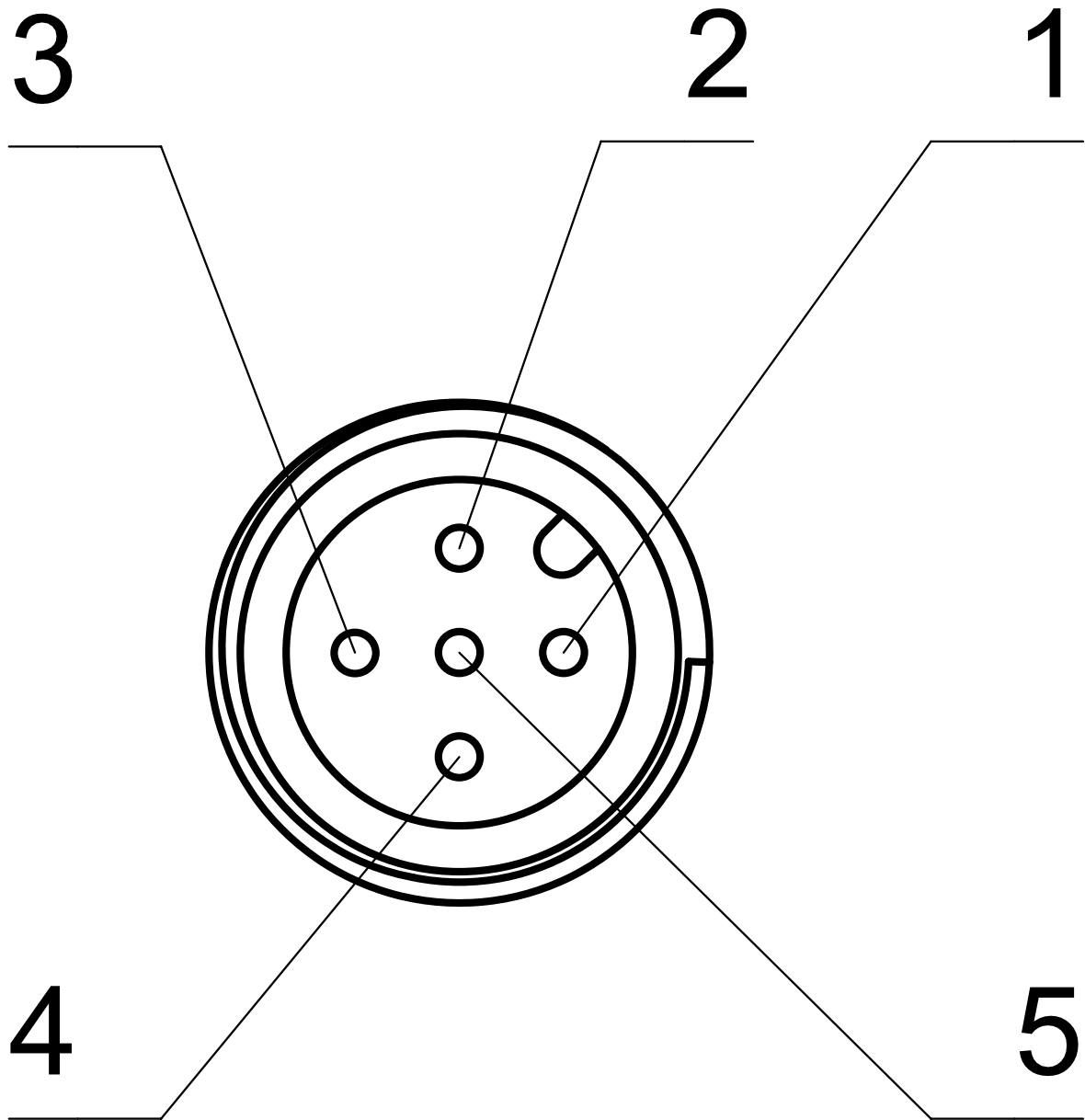
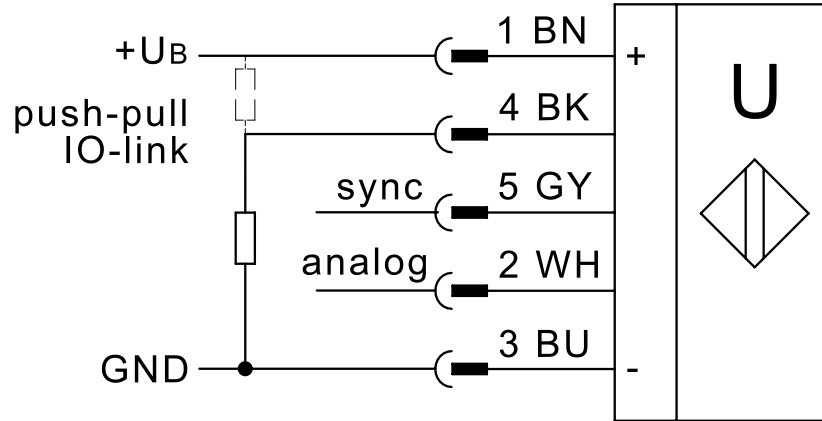
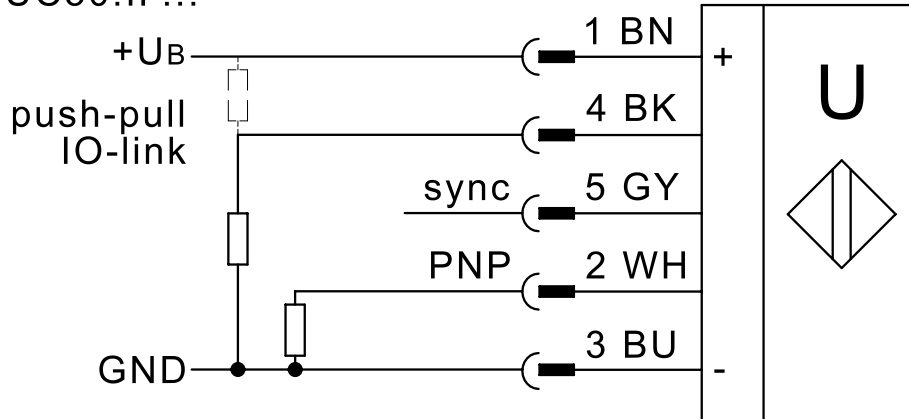


IMAGE 5/5

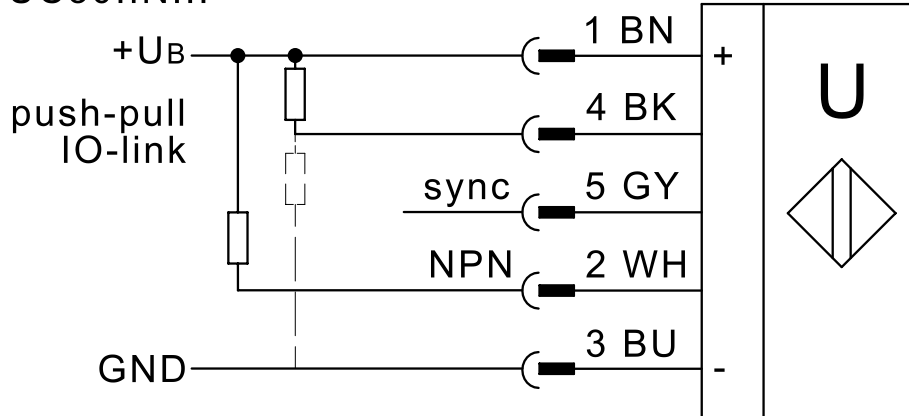
UC30.IC... / UC30.IV...



UC30.IP...



UC30.IN...



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)	M12 connection, 5-pin	Synchronisation
IO-LINK I Diffuse reflection sensor/ retro-reflective sensor													
Switching output													
UC30PIP350S	250 ... 3500 mm	x		x						x	x	x	
UC30MIP350S	250 ... 3500 mm		x	x						x	x	x	
UC30PIN350S	250 ... 3500 mm	x			x					x	x	x	
UC30MIN350S	250 ... 3500 mm		x		x					x	x	x	
UC30LIP600S	350 ... 6,000mm	x		x						x	x	x	
UC30LPIN600S	350 ... 6,000mm	x			x					x	x	x	
UC30XSIP800S	600 ... 8000mm	x	x	x						x	x	x	
UC30XSIN800S	600 ... 8000mm	x	x		x					x	x	x	
Switching output + analogue output													
UC30PIC350S	250 ... 3500 mm	x						x		x	x	x	
UC30MIC350S	250 ... 3500 mm		x					x		x	x	x	
UC30PIV350S	250 ... 3500 mm	x							x	x	x	x	
UC30MIV350S	250 ... 3500 mm		x						x	x	x	x	
UC30LPI600S	350 ... 6,000mm	x						x		x	x	x	
UC30LPIV600S	350 ... 6,000mm	x							x	x	x	x	
UC30XSIC800S	600 ... 8000mm	x	x					x		x	x	x	
UC30XSIV800S	600 ... 8000mm	x	x						x	x	x	x	

Electrical data

Attribute	UC30LPIC600S	UC30LPIN600S	UC30LPIP600S	UC30LPIV600S	UC30MIC350S	UC30MIN350S ▶
Continuous current	0.1 A					
Switching frequency	1 Hz					
Polarity reversal protection	yes					
Switching output	Push-Pull	Push-Pull+NPN	Push-Pull+PNP	Push-Pull		Push-Pull+NPN
Output signal min.	-			0 V DC	-	
Output signal max.	-			10 V DC	-	
Output signal min.	4 mA	-			4 mA	-
Output signal max.	20 mA	-			20 mA	-
Operating voltage min.	10 V DC					
Operating voltage max.	30 V DC					
Current consumption	< 30 mA					
Load resistance min.	-			3000 Ohm	-	
Load resistance max.	500 Ohm	-			500 Ohm	-
Technology	Ultrasonic					
Operating frequency	75 kHz				112 kHz	
Outputs	1x Push-Pull (IO-Link) + 1x 4...20mA	1x Push-Pull (IO-Link) + 1x NPN	1x Push-Pull (IO-Link) + 1x PNP	1x Push-Pull (IO-Link) + 1x 0...10V	1x Push-Pull (IO-Link) + 1x 4...20mA	1x Push-Pull (IO-Link) + 1x NPN
Operating Mode	diffuse reflection sensor/retro-reflective sensor					
Sensing range	350...6000 mm				250...3500 mm	
Opening angle of sound cone	18 ±2 °				15 ±2 °	
Ripple	5 %					
Repeating accuracy	0.1 %					
Resolution	6 mm				3 mm	
Thermal drift	±5 %					
Overload protection	yes					
Short-circuit protection	yes					
Synchronization	yes					
Multiplexing	no					
Linearity error	1 %					
IO-Link	yes					

Electrical data

Attribute	UC30LPIC600S	UC30LPIN600S	UC30LPIP600S	UC30LPIV600S	UC30MIC350S	UC30MIN350S ▶
Minimum distance object/reflector (retro-reflective sensor)	10 %					
Blind zone	350 mm				250 mm	
Start-up time digital output	600 ms					
EMC	EN 60947-5-2					
Minimum distance sensor/reflector (retro-reflective sensor)	500 mm				300 mm	
Start-up time analogue output	600 ms	-	-	600 ms	-	-
MTTF	100 a					
Response time analogue output	450 ms	-	-	450 ms	-	-

Electrical data

Attribute	UC30MIP350S	UC30MIV350S	UC30PIC350S	UC30PIN350S	UC30PIP350S	UC30PIV350S ▶
Continuous current	0.1 A					
Switching frequency	1 Hz					
Polarity reversal protection	yes					
Switching output	Push-Pull+PNP	Push-Pull		Push-Pull+NPN	Push-Pull+PNP	Push-Pull
Output signal min.	-	0 V DC			-	0 V DC
Output signal max.	-	10 V DC			-	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	< 30 mA					
Load resistance min.	-	3000 Ohm			-	3000 Ohm
Load resistance max.	-		500 Ohm			-
Technology	Ultrasonic					
Operating frequency	112 kHz					
Outputs	1x Push-Pull (IO-Link) + 1x PNP	1x Push-Pull (IO-Link) + 1x 0...10V	1x Push-Pull (IO-Link) + 1x 4...20mA	1x Push-Pull (IO-Link) + 1x NPN	1x Push-Pull (IO-Link) + 1x PNP	1x Push-Pull (IO-Link) + 1x 0...10V
Operating Mode	diffuse reflection sensor/retro-reflective sensor					
Sensing range	250...3500 mm					
Opening angle of sound cone	15 ±2 °					
Ripple	5 %					
Repeating accuracy	0.1 %					
Resolution	3 mm					
Thermal drift	±5 %					
Overload protection	yes					
Short-circuit protection	yes					
Synchronization	yes					
Multiplexing	no					
Linearity error	1 %					
IO-Link	yes					

Electrical data

Attribute	UC30MIP350S	UC30MIV350S	UC30PIC350S	UC30PIN350S	UC30PIP350S	UC30PIV350S ▶
Minimum distance object/reflector (retro-reflective sensor)	10 %					
Blind zone	250 mm					
Start-up time digital output	600 ms					
EMC	EN 60947-5-2					
Minimum distance sensor/reflector (retro-reflective sensor)	300 mm					
Start-up time analogue output	-	600 ms		-		600 ms
MTTF	100 a					
Response time analogue output	-	450 ms		-		450 ms

Electrical data

Attribute	UC30XSIC800S	UC30XSIN800S	UC30XSIP800S	UC30XSIV800S
Continuous current	0.1 A			
Switching frequency	1 Hz			
Polarity reversal protection	yes			
Switching output	Push-Pull	Push-Pull+NPN	Push-Pull+PNP	Push-Pull
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	< 30 mA			
Load resistance min.	-			3000 Ohm
Load resistance max.	500 Ohm	-		
Technology	Ultrasonic			
Operating frequency	40 kHz			
Outputs	1x Push-Pull (IO-Link) + 1x 4...20mA	1x Push-Pull (IO-Link) + 1x NPN	1x Push-Pull (IO-Link) + 1x PNP	1x Push-Pull (IO-Link) + 1x 0...10V
Operating Mode	diffuse reflection sensor/retro-reflective sensor			
Sensing range	600...8000 mm			
Opening angle of sound cone	15 ±1 °			
Ripple	5 %			
Repeating accuracy	0.1 %			
Resolution	8 mm			
Thermal drift	±5 %			
Overload protection	yes			
Short-circuit protection	yes			
Synchronization	yes			
Multiplexing	no			
Linearity error	1 %			
IO-Link	yes			

Electrical data

Attribute	UC30XSIC800S	UC30XSIN800S	UC30XSIP800S	UC30XSIV800S
Minimum distance object/reflector (retro-reflective sensor)	10 %			
Blind zone	600 mm			
Start-up time digital output	1000 ms			
EMC	EN 60947-5-2			
Minimum distance sensor/reflector (retro-reflective sensor)	800 mm			
Start-up time analogue output	900 ms	-		900 ms
MTTF	106 a			100 a
Response time analogue output	450 ms	-		450 ms

Properties

Attribute	UC30LPIC600S	UC30LPIN600S	UC30LPIP600S	UC30LPIV600S	UC30MIC350S	UC30MIN350S ▶
Accessories supplied	2 plastic nuts SW36 + 2 rubber washers				2 stainless steel nuts SW36	
Controls	Teach-in button/IO-Link					
Indicators	Switching state: 2 LEDs yellow, Echo: 1 LED green					
Application specific	IO-Link					

Properties

Attribute	UC30MIP350S	UC30MIV350S	UC30PIC350S	UC30PIN350S	UC30PIP350S	UC30PIV350S ▶
Accessories supplied	2 stainless steel nuts SW36		2 plastic nuts SW36 + 2 rubber washers			
Controls	Teach-in button/IO-Link					
Indicators	Switching state: 2 LEDs yellow, Echo: 1 LED green					
Application specific	IO-Link					

Properties

Attribute	UC30XSIC800S	UC30XSIN800S	UC30XSIP800S	UC30XSIV800S
Accessories supplied	2 stainless steel nuts SW36			
Controls	Teach-in button/IO-Link			
Indicators	Switching state: 2 LEDs yellow, Echo: 1 LED green			
Application specific	IO-Link			

Mechanical data

Attribute	UC30LPIC600S	UC30LPIN600S	UC30LPIP600S	UC30LPIV600S	UC30MIC350S	UC30MIN350S ▶
Dimensions	M30x1.5 (head Ø=38.8mm) L=98.6mm				M30x1.5 L=98,9	
Housing design	cylindrical					

Mechanical data

Attribute	UC30MIP350S	UC30MIV350S	UC30PIC350S	UC30PIN350S	UC30PIP350S	UC30PIV350S ▶
Dimensions	M30x1.5 L=98,9					
Housing design	cylindrical					

Mechanical data

Attribute	UC30XSIC800S	UC30XSIN800S	UC30XSIP800S	UC30XSIV800S
Dimensions	M30x1.5 (head Ø=61mm) L=115mm			
Housing design	cylindrical			

Material information

Attribute	UC30LPIC600S	UC30LPIN600S	UC30LPIP600S	UC30LPIV600S	UC30MIC350S	UC30MIN350S ▶
Housing material	PBT				stainless steel 1.4404	
Material sound transducer	Epoxy resin with glass balls					

Material information

Attribute	UC30MIP350S	UC30MIV350S	UC30PIC350S	UC30PIN350S	UC30PIP350S	UC30PIV350S ▶
Housing material	stainless steel 1.4404			PBT		
Material sound transducer	Epoxy resin with glass balls					

Material information

Attribute	UC30XSIC800S	UC30XSIN800S	UC30XSIP800S	UC30XSIV800S
Housing material	DIN 1.4404 + PBT	DIN 1.4404 + PBT	DIN 1.4404 + PBT	
Material sound transducer	Epoxy resin with glass balls			

Environmental conditions

Attribute	UC30LPIC600S	UC30LPIN600S	UC30LPIP600S	UC30LPIV600S	UC30MIC350S	UC30MIN350S ▶
Protection class	IP67 DIN EN 60529					
Operating temperature min.	-20 °C					
Max. operating temperature	70 °C					
Min. storage temperature	-30 °C					
Max. storage temperature	80 °C					
Temperature compensation	yes					

Environmental conditions

Attribute	UC30MIP350S	UC30MIV350S	UC30PIC350S	UC30PIN350S	UC30PIP350S	UC30PIV350S ▶
Protection class	IP67 DIN EN 60529					
Operating temperature min.	-20 °C					
Max. operating temperature	70 °C					
Min. storage temperature	-30 °C					
Max. storage temperature	80 °C					
Temperature compensation	yes					

Environmental conditions

Attribute	UC30XSIC800S	UC30XSIN800S	UC30XSIP800S	UC30XSIV800S
Protection class	IP67 DIN EN 60529			
Operating temperature min.	-20 °C			
Max. operating temperature	70 °C			
Min. storage temperature	-30 °C			
Max. storage temperature	80 °C			
Temperature compensation	yes			

Installation

Attribute	UC30LPIC600S	UC30LPIN600S	UC30LPIP600S	UC30LPIV600S	UC30MIC350S	UC30MIN350S ▶
Thread	M30					
Torque	1.5 N m				50 N m	
Weight	170 g				215 g	

Installation

Attribute	UC30MIP350S	UC30MIV350S	UC30PIC350S	UC30PIN350S	UC30PIP350S	UC30PIV350S ▶
Thread	M30					
Torque	50 N m			1.5 N m		
Weight	215 g			140 g		

Installation

Attribute	UC30XSIC800S	UC30XSIN800S	UC30XSIP800S	UC30XSIV800S
Thread	M30			
Torque	100 N m			
Weight	350 g			

Connection

Attribute	UC30LPIC600S	UC30LPIN600S	UC30LPIP600S	UC30LPIV600S	UC30MIC350S	UC30MIN350S ▶
Connector type	M12 5-pol.					

Connection

Attribute	UC30MIP350S	UC30MIV350S	UC30PIC350S	UC30PIN350S	UC30PIP350S	UC30PIV350S ▶
Connector type	M12 5-pol.					

Connection

Attribute	UC30XSIC800S	UC30XSIN800S	UC30XSIP800S	UC30XSIV800S
Connector type	M12 5-pol.			

Approvals

Attribute	UC30LPIC600S	UC30LPIN600S	UC30LPIP600S	UC30LPIV600S	UC30MIC350S	UC30MIN350S ▶
CE label	yes					
UL certification	yes					
CCC certification	<36V yes					

Approvals

Attribute	UC30MIP350S	UC30MIV350S	UC30PIC350S	UC30PIN350S	UC30PIP350S	UC30PIV350S ▶
CE label	yes					
UL certification	yes					
CCC certification	<36V yes					

Approvals

Attribute	UC30XSIC800S	UC30XSIN800S	UC30XSIP800S	UC30XSIV800S
CE label	yes			
UL certification	yes			
CCC certification	<36V yes			

IO-Link

Attribute	UC30LPIC600S	UC30LPIN600S	UC30LPIP600S	UC30LPIV600S	UC30MIC350S	UC30MIN350S ▶
SIO mode	yes					
Cycle time	3,2 ms					
Process data width	32 bit					
IO-Link version	1.1					
Master port class	Port class A					
Transmission rate	38400					

IO-Link

Attribute	UC30MIP350S	UC30MIV350S	UC30PIC350S	UC30PIN350S	UC30PIP350S	UC30PIV350S ▶
SIO mode	yes					
Cycle time	3,2 ms					
Process data width	32 bit					
IO-Link version	1.1					
Master port class	Port class A					
Transmission rate	38400					

IO-Link

Attribute	UC30XSIC800S	UC30XSIN800S	UC30XSIP800S	UC30XSIV800S
SIO mode	yes			
Cycle time	3,2 ms			
Process data width	32 bit			
IO-Link version	1.1			
Master port class	Port class A			
Transmission rate	38400			