



Ultrasonic sensor 2U Industry

The 2U Industry ultrasonic sensor is ideal for reliable and precise measurement in harsh industrial environments. This series offers a suitable solution for almost every type of application. Different analog output signals are available, which are supplemented by up to four switching outputs. The fast and easy parameterization is done by means of the easy to read display and the teach button. The rotatable head offers additional flexibility for mounting in difficult installation situations.

- Reliable measurement independent of transparency, gloss, surface texture and material color
- Parameterization via teach-in button
- Display to show the current fill level
- Range up to 1m
- Available mounting threads: G 1,5", G 2" 1,5" NPT or 2" NPT
- Temperature range -20°C...+70°C
- Current or voltage output
- Up to 4 freely programmable switching points (high-side / low-side)
- Rotatable head

Technical drawing

IMAGE 1/4

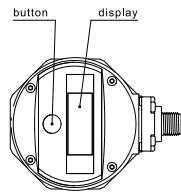
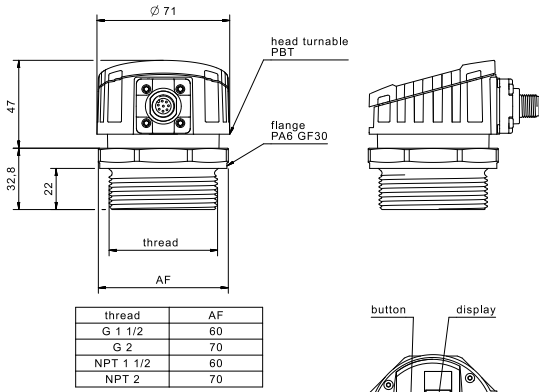


IMAGE 2/4

M12 male

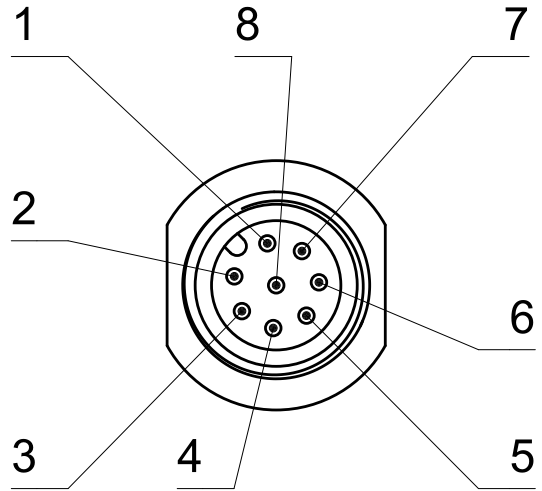
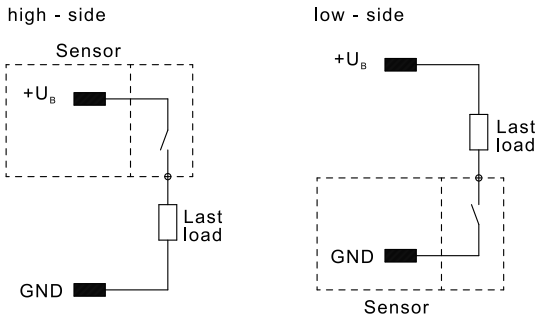
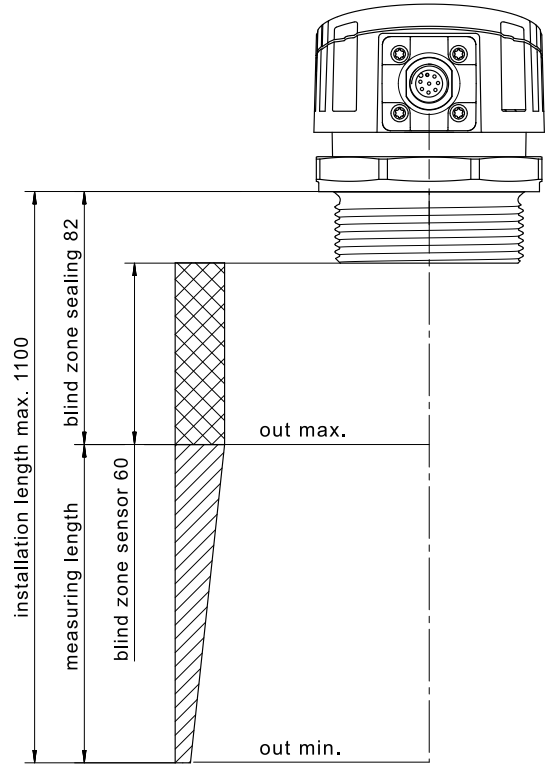


IMAGE 3/4



PIN	Funktion / Function
1	+UB
2	GND
3	signal
4	sw out 1
5	sw out 2
6	sw out 3
7	sw out 4
8	not connected

IMAGE 4/4



Product options

IMAGE 1/1

ORDERING KEY

Z9		911 Industry Ultrasonic sensor
		Mounting type
22		G2" thread
32		NPT 2" thread
52		G1.5" thread
62		NPT 1.5" thread
		Measurement range
PROG		NPT/G1.5" max. 920mm NPT/G2" max. 520mm Adaptable through Touch by Button
		Output signal
1		4 - 20mA
4		0 - 10 V
7		0.5 - 4.5 V
		Switching output
10		Low-side
30		High-side
		Seal
F		Sealing material NBR for mounting NPT/G2"
G		Sealing material NBR for mounting NPT/G1.5"
		Connection
C		Cable outlet
D		M12 8-pin
		Filtering time
	00	20s
	01	1s

Standard

Optional (on request)

Options (on request)

Preset measurement range ex-works

Specific filtering time ex-works

Customised connection

Other sealing types/materials

Other analogue signals

Special characteristic curve for output signal

Inverted output signal ex-works

Electrical data

Attribute	2U.2PROG110.D01	2U.2PROG130.D01	2U.2PROG410.D01	2U.2PROG430.D01	2U.2PROG710.D01	2U.2PROG730.D01
Technology	Ultrasonic					
Operating Mode	diffuse reflection sensor					
Polarity reversal protection	yes					
Output signal min.	-		0 V DC		0.5 V DC	
Output signal max.	-		10 V DC		4.5 V DC	
Output signal min.	4 mA		-			
Output signal max.	20 mA		-			
Switching output	Low Side	High Side	Low Side	High Side	Low Side	High Side
Number of switching outputs	4					
Max. switching voltage	36 V DC					
Max. switching current	0.2 A					
Operating voltage min.	8 V DC		11 V DC		8 V DC	
Operating voltage max.	36 V DC					
Nominal voltage (recommended)	12V DC/24V DC					
Current consumption	max. 110 mA		max. 80 mA		max. 60 mA	
Power consumption	2 W					
Load resistance min.	180 Ohm		470 Ohm			
Load resistance max.	300 Ohm		47000 Ohm			
Linearity error	±3 mm					
Measurement accuracy	±1,5 mm					
Repeating accuracy	±2 mm					
Sensing range	NPT/G11/2" 920mm NPT/G2" 924mm Anpassbar durch Teach by Button - Adaptable par Teach by Button - Adaptable through Teach by Button mm					
Blind zone	60 mm				62 mm	60 mm
Blind zone from sealing surface	NPT / G11/2" 80mm NPT / G2" 84mm					

Electrical data

Attribute	2U.2PROG110.D01	2U.2PROG130.D01	2U.2PROG410.D01	2U.2PROG430.D01	2U.2PROG710.D01	2U.2PROG730.D01
Operating frequency	135 kHz					
Filtering time	1 s					
Opening angle of sound cone	24 °					
Outputs	4...20mA + switching output	0...10V + Switching output		0,5...4,5V + Switching output		
EMC	DIN EN 60947-5-2					
MTTF	>= 10 a					

Properties

Attribute	2U.2PROG110.D01	2U.2PROG130.D01	2U.2PROG410.D01	2U.2PROG430.D01	2U.2PROG710.D01	2U.2PROG730.D01
Rotatable head	yes					
Controls	Teach-in button					

Mechanical data

Attribute	2U.2PROG110.D01	2U.2PROG130.D01	2U.2PROG410.D01	2U.2PROG430.D01	2U.2PROG710.D01	2U.2PROG730.D01
Weight	200 g					
Sound pipe	auf Anfrage - on request - sur demande					

Material information

Attribute	2U.2PROG110.D01	2U.2PROG130.D01	2U.2PROG410.D01	2U.2PROG430.D01	2U.2PROG710.D01	2U.2PROG730.D01
Housing material	Gewinde - Thread - Fil de discussion - PA6 Oberteil - Upper part - Partie supérieure - PBT	Gewinde PA6 - Thread - Fil de discussion Oberteil PBT - Upper part - Partie supérieure	Gewinde - PA6 - Thread - Fil de discussion Oberteil - PBT - Upper part - Partie supérieure			
Sealing material	NBR					

Environmental conditions

Attribute	2U.2PROG110.D01	2U.2PROG130.D01	2U.2PROG410.D01	2U.2PROG430.D01	2U.2PROG710.D01	2U.2PROG730.D01
Protection class	IP67 DIN EN 60529					
Pressure resistance	1,5 bar					
Vibration resistance (Norm)	EN60068-2-64: aeff 8,17g					
Shock resistance (Norm)	EN60068-2-27: 25g / 6ms					
Operating temperature min.	-20 °C					
Max. operating temperature	70 °C					
Min. storage temperature	-20 °C					
Max. storage temperature	70 °C					

Installation

Attribute	2U.2PROG110.D01	2U.2PROG130.D01	2U.2PROG410.D01	2U.2PROG430.D01	2U.2PROG710.D01	2U.2PROG730.D01
Mounting type	Thread					
Thread	G1,5 / NPT1,5 / G2 / NPT2					
Max. torque	G2" max. 125 N m G1,5" max. 100 N m		G2: max. 125 N m G1,5: max. 100 N m		G2: max. 125 N m G 1,5: max. 100 N m	

Connection

Attribute	2U.2PROG110.D01	2U.2PROG130.D01	2U.2PROG410.D01	2U.2PROG430.D01	2U.2PROG710.D01	2U.2PROG730.D01
Connection	M12 8-pol. Kabelabgang (auf Anfrage) - Cable outlet (on request) - Prise de câble (sur demande)					