Ultrasonic sensor 2UF Off-Highway

This special version of the ultrasonic sensor is specially suited for reliably detecting the fill level of mobile machines. The extreme temperature range as well as the high protection class are prerequisites for succeeding in these applications. Through the optional use of a focus tube, precise measurement is possible with agitated media as well as at an incline.

In addition to mobile applications, stationary applications are always possible. The fill level is output via either a voltage or current output.

Tip: More readily available with the NBR flat seal and in lengths of 400 / 600 / 800 / 1,000 mm

Product characteristics

- Reliable and precise measuring
- PA housing material
- Operating ranges up to 1.8 m (depending on temperature range and use with focus tube)
- Temperature range -40 °C...+105 °C
- Analogue output
- EMC resistance in accordance with DIN EN 13309, ISO 13766, DIN EN 1498

Technical drawing

IMAGE 1/6

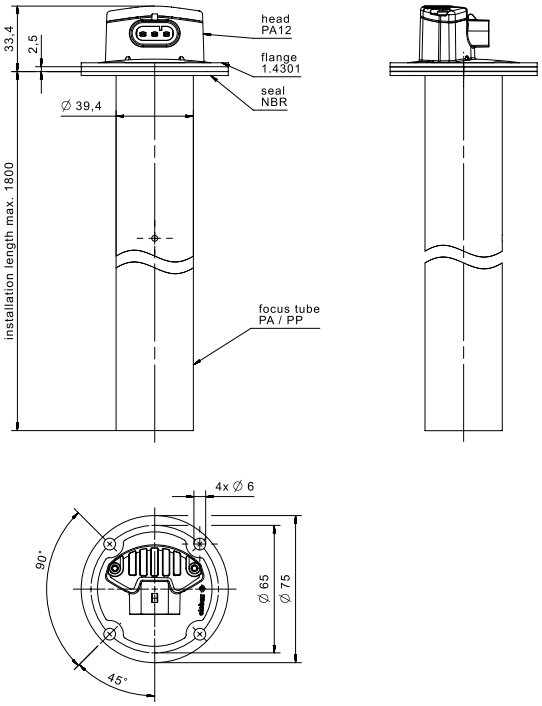


IMAGE 2/6

male AMP Superseal 1.5
fitting to:

housing	282105-1
terminal	282109-1
rubber seal	281934-2

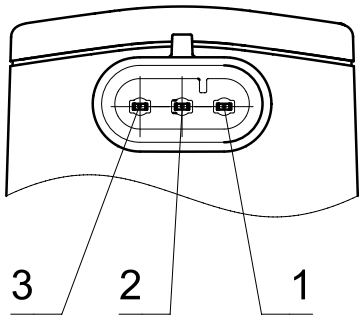


IMAGE 3/6

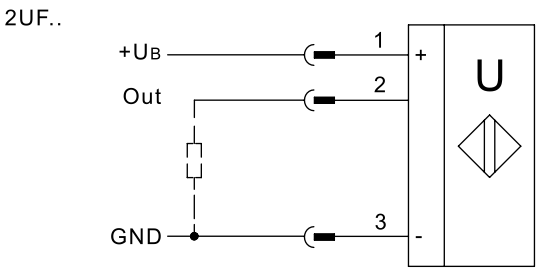


IMAGE 4/6

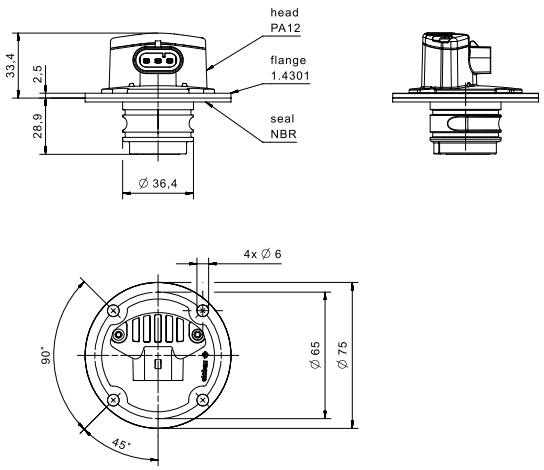


IMAGE 5/6

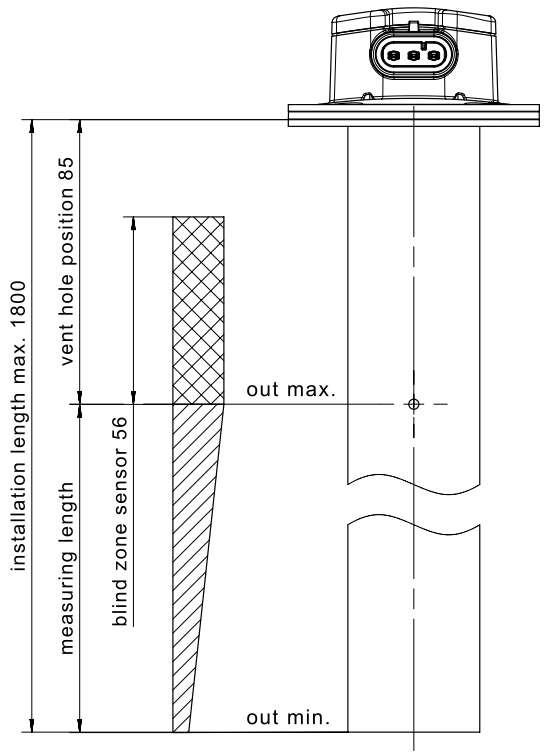
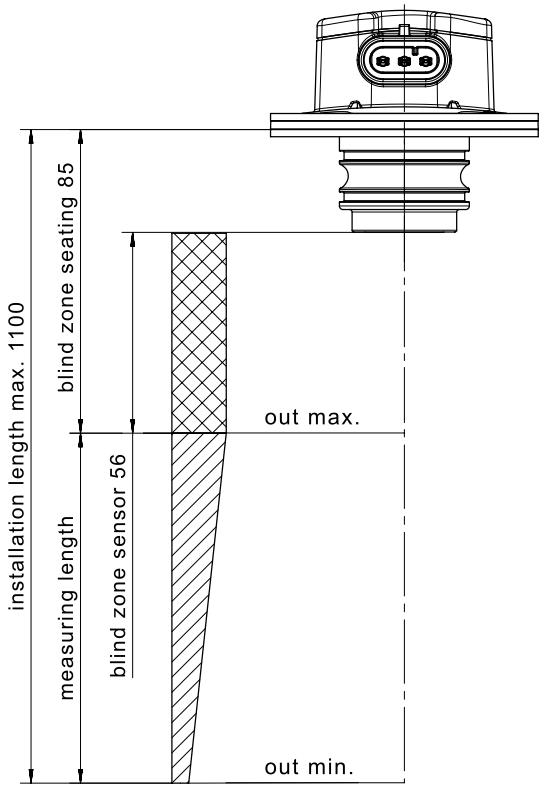


IMAGE 6/6



Product options

IMAGE 1/1

ORDERING KEY

2UF1						Ultrasonic sensor	
						Measurement range	
	0200					85 … 200 mm	
	0400					85 … 400 mm	
	0600					85 … 600 mm	
	0800					85 … 800 mm	
	1000					85 … 1000 mm	
	1200					85 … 1200 mm*	* only in conjunction with focus tube
	1500					85 … 1500 mm*	* only in conjunction with focus tube and in consider-ation of the temperature range
	1800					85 … 1800 mm*	* only in conjunction with focus tube and in consider-ation of the temperature range
						Output signal	
		10				4 … 20mA	
		70				0.5 … 4.5mA	
						Focus tube	
			0			Without focus tube	
			1			with focus tube, material PA	
						Seal type	
				A		Flat seal, material NBR	
						Filtering time	
					A00	20s	
					A01	1s	

Optional
Focus tube
Focus tube, material PP
Seal type
Flat seal, material FKM
O-ring, material NBR
O-ring, material FKM
Other output signals, installation lengths and filtering times on request

Electrical data

Attribute	2UF1....10.AA00	2UF1....10.AA01	2UF1....70.AA00	2UF1....70.AA01
Polarity reversal protection	yes			
Outputs	4...20mA		0,5...4,5V	
Output signal min.	-		0.5 V DC	
Output signal max.	-		4.5 V DC	
Output signal min.	4 mA		-	
Output signal max.	20 mA		-	
Operating voltage min.	8 V DC			
Operating voltage max.	36 V DC			
Current consumption	10...35 mA			
Technology	Ultrasonic			
Operating frequency	135 kHz			
Opening angle of sound cone	12 °			
Linearity error	2 %			
Blind zone	56 mm			
Blind zone from sealing surface	85 mm			
Measurement accuracy	2 mm			
Repeating accuracy	2 mm			
EMC	DIN EN 13309 ; DIN EN ISO 14982 ; ISO 13766			
Filtering time	20 s	1 s	20 s	1 s

Material information

Attribute	2UF1....10.AA00	2UF1....10.AA01	2UF1....70.AA00	2UF1....70.AA01
Housing material	PA12			
Sealing material	NBR			
Focus tube material	PA6 / ohne Rohr			

Environmental conditions

Attribute	2UF1....10.AA00	2UF1....10.AA01	2UF1....70.AA00	2UF1....70.AA01
Protection class	IP67 DIN EN 60529 / IPX9K ISO 20653			
Operating temperature min.	-40 °C			
Max. operating temperature	105 °C			
Min. storage temperature	-40 °C			
Max. storage temperature	105 °C			
Shock resistance (Norm)	DIN 68 Teil 2-27			
Vibration resistance (Norm)	DIN 68 Teil 2-6			
Pressure resistance	1,5 bar			

Installation

Attribute	2UF1....10.AA00	2UF1....10.AA01	2UF1....70.AA00	2UF1....70.AA01
Mounting type	4-hole flange			
Installation opening	40 mm			
Torque for fastening screws	2 N m			
Diameter of focus tube	39.4 mm			
Bolt circle	65 mm			

Connection

Attribute	2UF1....10.AA00	2UF1....10.AA01	2UF1....70.AA00	2UF1....70.AA01
Connector type	AMP-Superseal			