

**DESCRIPTION**

ALZ 3740 is based on a high precision capacitive ceramic oil-free sensor with ranges starting at 40 mbar for measuring liquid levels as low as 40 cm. High overload capacity of the sensor, flush ceramic diaphragm and stainless steel housing make ALZ 3740 a transmitter of choice for the viscous and abrasive media. For even better compatibility with aggressive media please refer to the similar model ALZ 3742 with plastic housing.

**SPECIFICATIONS**

Ranges: 0.4 mH<sub>2</sub>O up to 100 mH<sub>2</sub>O  
Basic accuracy: ±0.25%  
Sensor: high precision ceramic capacitive  
Probe: Ø39.7 mm, AISI 316L  
Output signal: 4...20 mA; RS-485 / Modbus RTU;  
Media temperature: -20...+70 °C  
Optional: Ex ia, HART®, Pt100 temperature sensor

**APPLICATIONS**

Viscous media  
Abrasive media  
Sewage, waste water, sludge  
Precise level monitoring in tanks

## TECHNICAL SPECIFICATIONS

### MEASURING RANGES

Pressure range, bar	Level, mH <sub>2</sub> O	Overpressure, bar	Pressure range, bar	Level, mH <sub>2</sub> O	Overpressure, bar
0...0.04	0.4	0.3	0...1.0	10	3.0
0...0.06	0.6	0.3	0...1.6	10	6.0
0...0.10	1.0	1.0	0...2.5	25	6.0
0...0.16	1.6	1.0	0...4.0	40	15
0...0.25	2.5	1.0	0...6.0	60	15
0...0.40	4.0	1.0	0...10	100	30
0...0.60	6.0	3.0	0...20	200	50

PERFORMANCE	P > 0.1 bar	P ≤ 0.1 bar
Accuracy, % of span*	≤ ±0.25	≤ ±0.5
Temperature effect (% of span / 10 °C)	≤ ±0.2	≤ ±0.3
Compensated range	-20...+70 °C	0...+70 °C
Power supply effect	≤ ±0.05% of span / 10 V	
Load resistance effect	≤ ±0.05% of span / kOhm (transmitters with current output)	
Long-term stability	≤ ±0.1% of span / year	
Response time (10...90%)	≤ 150 ms	

\* Accuracy includes non-linearity, hysteresis and non-repeatability.

### OPERATIONAL SPECIFICATIONS

Medium temperature (depends on seal)	-20...+70 °C
Ambient temperature	-20...+70 °C
Storage temperature	-20...+70 °C
Service life	> 100 x 10 <sup>6</sup> cycles

### MECHANICAL SPECIFICATIONS

Housing	stainless steel 316L (1.4404) or stainless steel 904L (sea water resistant)
Seal	FKM; EPDM; NBR
Diaphragm	ceramics Al <sub>2</sub> O <sub>3</sub> 96 %
Cable external jacket	PVC, PUR, FEP
Ingress protection	IP69K

## ELECTRICAL SPECIFICATIONS

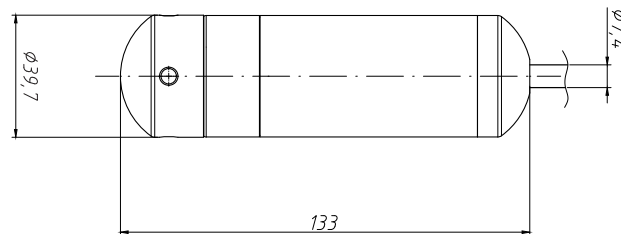
Output signal	Power supply, $U_s$	Load resistance, R	Power consumption
4...20 mA / 2-wire	12...36 V	$\leq [(U_s - 12 \text{ V}) / 0.02 \text{ A}] \text{ Ohm}^*$	$\leq 26 \text{ mA}$
4...20 mA / HART®			
0.5...4.5 V / 3-wire	5 V	$\leq 5 \text{ kOhm}$	$\leq 2 \text{ mA}$
0.5...4.5 V / 3-wire	6...15 V		$\leq 7 \text{ mA}$
RS-485 / Modbus RTU	12...36 V	-	$\leq 7 \text{ mA}$

\* For output signal 4...20 mA / HART® minimum load resistance for digital communication: 250 Ohm.

## ELECTRICAL CONNECTIONS / PIN ASSIGNMENT

Circuits		Cable gland wires
2-wire	power +	white (red)
	power -	brown (blue)
	ground	yellow-green
3-wire	power +	white (red)
	power -	brown (blue)
	signal +	green (black)
	ground	yellow-green
Pt100 (optional)	T+	yellow
	T-	pink (white)
	T-	gray (green)
RS-485	power +	white (red)
	power -	brown (blue)
	A	yellow
	B	green (black)
	ground	yellow-green
HART®	power +	white
	power -	brown
	ground	yellow-green

## DIMENSIONS (mm)



## ORDERING CODE

ALZ 3740		-X	-XXXX	-X	-X	-XXXX	-X	-X	-X	-XX
<b>UNIT OF MEASUREMENT</b>										
	bar	B								
	kg/cm <sup>2</sup>	S								
	mH <sub>2</sub> O	W								
	kPa	H								
	Other (specify when ordering)	X								
<b>UPPER RANGE LIMIT (URL)</b>										
bar, kg/cm <sup>2</sup>		mH <sub>2</sub> O		kPa						
0.04	0040	0.4	0400	4.0	4000					
0.06	0060	0.6	0600	6.0	6000					
0.10	0100	1.0	1000	10	1001					
0.16	0160	1.6	1600	16	1601					
0.25	0250	2.5	2500	25	2501					
0.40	0400	4.0	4000	40	4001					
0.60	0600	6.0	6000	60	6001					
1.0	1000	10	1001	100	1002					
1.6	1600	16	1601	160	1602					
2.5	2500	25	2501	250	2502					
4.0	4000	40	4001	400	4002					
6.0	6000	60	6001	600	6002					
10	1001	100	1002	1000	1003					
20	2001	200	2002	2000	2003					
Other	XXXX	Other	XXXX	Other	XXXX					
<b>ACCURACY</b>										
		0.25% (P > 0.1 bar) (standard)		C						
		0.50% (P ≤ 0.1 bar) (standard)		D						
		Other (specify when ordering)		X						
<b>CABLE EXTERNAL JACKET</b>										
		PVC		P						
		PUR		U						
		FEP		T						
		Other (specify when ordering)		X						
<b>CABLE LENGTH</b>										
		Any length in meters (e.g., 010M means 10 meters)		XXXM						
<b>OUTPUT SIGNAL</b>										
		4...20 mA / 2-wire (standard)		A						
		0.5...4.5 V / 3-wire, U <sub>s</sub> = 5 V		R						
		0.5...4.5 V / 3-wire, U <sub>s</sub> = 6...15 V		K						
		RS-485 / Modbus RTU		M						
		4...20 mA / HART®		H						
		Other (specify when ordering)		X						

## ORDERING CODE (CONTINUED)

ALZ 3740	-X	-XXXX	-X	-X	-XXXX	-X	-X	-X	-XX
<b>SEALS</b>									
							FKM	F	
							NBR	N	
							EPDM	E	
							Other (specify when ordering)		X
<b>HOUSING MATERIAL</b>									
							Stainless steel 316L		A
							Stainless steel 904L (sea water resistant)		B
<b>VERSION</b>									
								Standard	00
								Pt100 temperature sensor (incompatible with RS-485 / Modbus RTU)	0T
								Other (specify when ordering)	XX

Example: ALZ 3740-W-6000-D-P-010M-A-F-A-00

## ACCESSORIES

				
Anchoring clamp for submersible transmitter	PZ 1024 Power supply unit	BZ 05 / BZ 10 Dry air junction box for submersible transmitters		