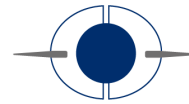


Level Sensor Series 930

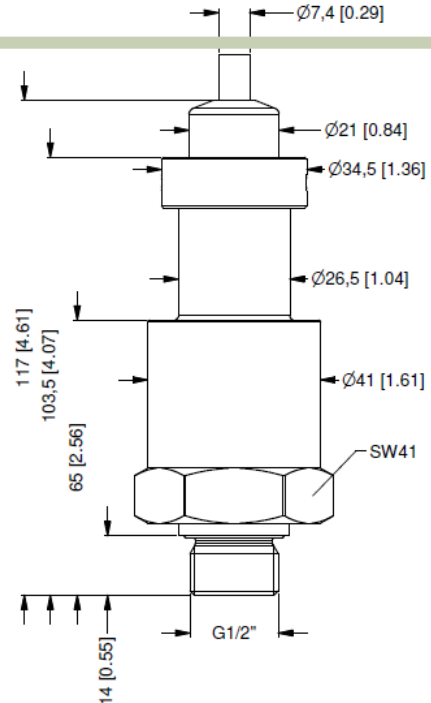
The series 930 level sensors are designed for reliable operation in rough environments like shipbuilding and offshore industries. The sensors are used for level measurement of fluids in tanks using our safety valve M88A.

The tank levels are measured with high precision due to the capacitive ceramic sensor cell. The measuring result is transmitted via an electrical signal.

Pressure Range													
nominal pressure* [bar]	0,04	0,06	0,1	0,16	0,25	0,4	0,6	1	1,6	2,5	4	5	
level [mH ₂ O]	0,4	0,6	1	1,6	2,5	4	6	10	16	25	40	50	
overpressure [bar]	2	2	4	4	6	6	8	8	15	25	25	35	
perm. vacuum [bar]	-0,2		-0,3		-0,5				-1				
* available in gauge and absolute; nominal pressure ranges absolute from 1 bar													
Connection													
connection size: G1/2" A													
Output Signal / Supply													
standard 2-wire: 4 ... 20 mA / U _B = 9 ... 32 VDC / U _B rated = 24 VDC													
option ATEX-version 2-wire: 4 ... 20 mA / U _B = 14 ... 28 VDC / U _B rated = 24 VDC													
Performance													
accuracy*	standard: $\pm 0,25$ % FSO option: for P _N $\geq 0,6$ bar 3: $\pm 0,1$ % FSO												
permissible load	$R_{max} = [(U_B - U_{B \min}) / 0,02 \text{ A}] \Omega$												
long term stability	$\leq \pm 0,1$ % FSO / year at reference conditions												
influence effects	supply: 0,05 % FSO / 10 V permissible load: 0,05 % FSO / k Ω												
turn-on time	700 ms												
average response time	< 200 ms / average measuring rate 5/s												
max. response time	380 ms												
*accuracy according to repeatability)	IEC 60770 - limit point adjustment (non-linearity, hysteresis,												
Thermal Effects / Permissible Temperatures													
thermal error	$\leq \pm 0,1$ % FSO / 10 K in compensated range - 20 ... 80 °C												
permissible temperatures	medium / electronics / environment: -25 ... 125 °C storage: -40 ... 125 °C												
Electrical Protection													
short-circuit protection	permanent												
reverse polarity protection	no damage, but also no function												
electromagnetic compatibility	emission and immunity according to EN 61326 and DNV GL												
Mechanical Stability													
vibration	4 g (basis: DIN EN 60068-2-6)												
Electrical Connection													
cable	shielded cable with integrated air tube for atmospheric reference												
Materials													
casing	standard: stainless steel 1.4404												
seals (media wetted)	FKM												
diaphragm	ceramic Al ₂ O ₃ 96 %												
cable sheath	TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil)												



Miscellaneous	
ingress protection	IP 68
current consumption	max. 21 mA
weight	min. 400 g (without cable)
CE-conformity	EMC Directive: 2014/30/EU ATEX-Directive: 2014/34/EU
ATEX Protection	
approval	IBExU17ATEX1030 X Zone 0: II 1G Ex ia IIB T4 Ga
safety maximum values	$U_i = 28\text{ V}$, $I_i = 93\text{ mA}$, $P_i = 660\text{ mW}$, $C_i = 105\text{ nF}$, $L_i = 5\text{ }\mu\text{H}$; the supply connections have an inner capacity of max. 140 nF opposite the enclosure
temperature	in zone 0 6 : $-20 \dots 60^\circ\text{C}$ with p_{atm} 0,8 bar to 1,1 bar from zone 1: $-25 \dots 70^\circ\text{C}$
maximum media temperature	$-40 \dots 85^\circ\text{C}$
Connection	
2-wire-system (current)	
supply +	wh (white)
supply -	bn (brown)
shield	gnye (green-yellow)



Dimensions (in mm)