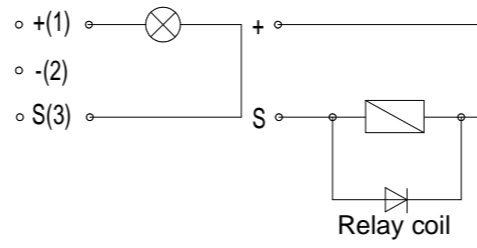
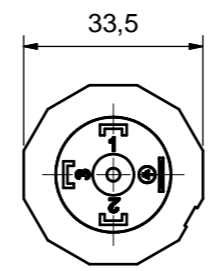
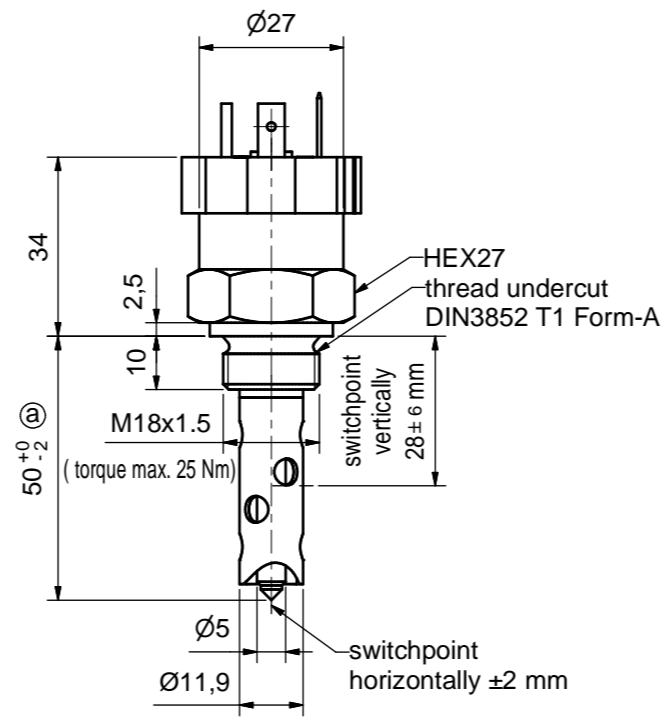


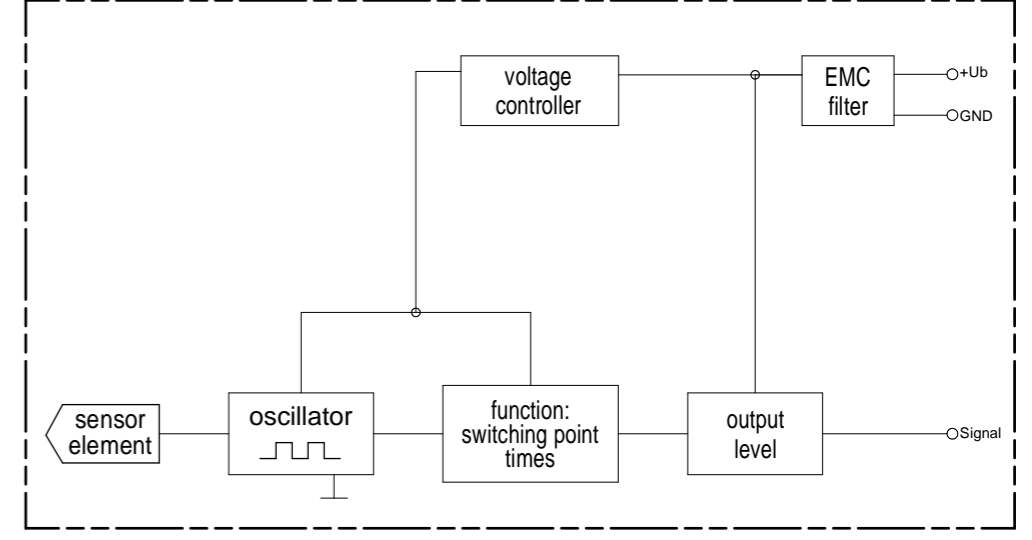
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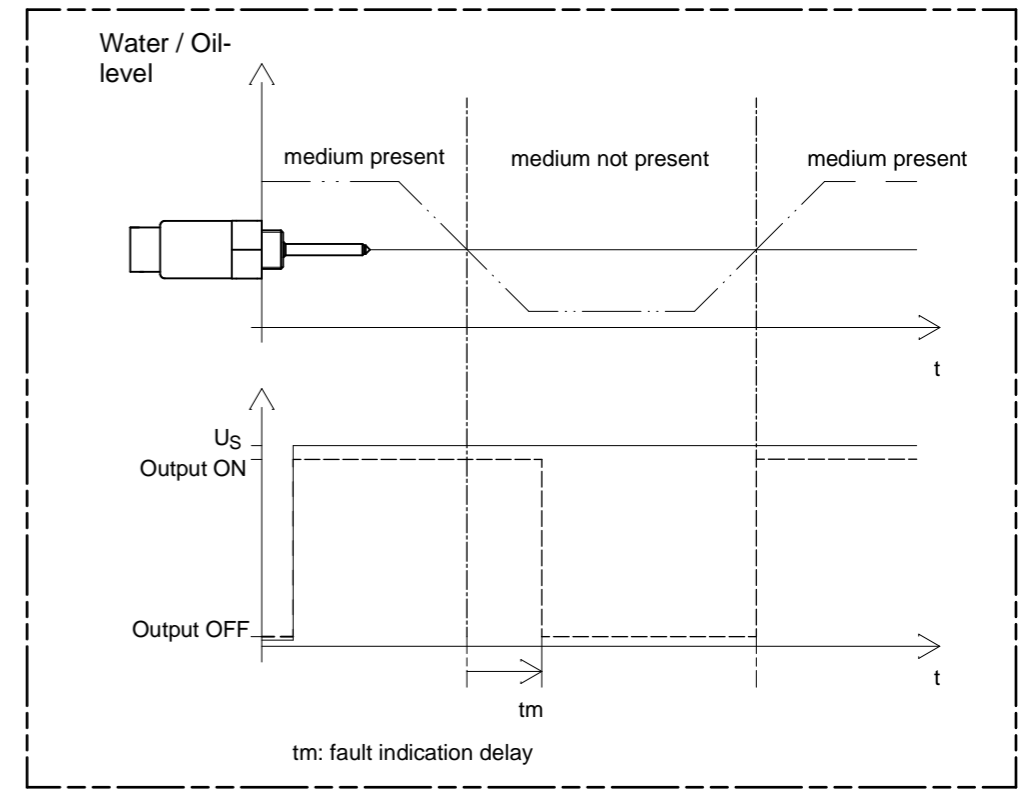
	11	10	9	8	7	6	5	4	3	2	1
<b>Technical data</b>											
Medium	oil										
Function	Minimum - quiescent current (rc)										
Operating voltage	12 / 24 V (-25% / +50%) (9 - 36 VDC)										
Current consumption	typ. < 8 mA										
Output	low side switch ≤ 1 A over the whole temperature range short-circuit and overload protected over the ambient temperature range. At inductive loads freewheeling diode e.g. 1N4007, has to be mounted at the load.										
Mounting thread	M18x1,5										
Function control	0 seconds ± 5%										
Fault indication delay	7 seconds ± 5%										
Connection	connector according to DIN EN 175 301-803-A										
Housing material	X5CrNi18 10 EN 10088-3:1.4301 capacitive connected to ground										
Probe coating	Tefzel® ETFE										
Probe protection	IP 65 to DIN40050										
Weight	approx. 95 g										
Marking	manufacturer; type; manufacturer no.; SN; year / week; approvals										
Switch point hysteresis	typ. < 3 mm										
Reference medium	paraffin oil, $\epsilon_r = 2,0..2,4$ , for switchpoint adjustment										
Medium temperature	-40 °C to +150 °C (-40 °F to +302 °F)										
Ambient temperature	-40 °C to +125 °C (-40 °F to +257 °F)										
Storage temperature	-50 °C to +125 °C (-58 °F to +257 °F)										
Mounting position	optional										
Reverse polarity protection	in-built, between positive and negative terminal										
<b>Caution !!</b>	Do not connect negative potential to signal terminal of the sensor and positive potential to negative terminal of the sensor.										
Approvals	① ABS, BV, CCS, DNV, GL, KR, LR, NKK, RINA, RMRS										
Customs tariff number	90261029										
<b>Environmental simulations</b>											
Vibration	ISO 16750-3:2007 10 Hz - 2000 Hz 20 g										
Free Fall	IEC 16750										
Mechanical Shock	DIN EN 60068-2-27:1995; 100 g / 11ms										
Dry Cold	DIN EN 60068-2-1:2006; -40 °C / 24 h (-40 °F / 24 h)										
Dry Heat	DIN EN 60068-2-2:2008; +125 °C / 96 h (+257 °F / 96 h)										
Temperature cycling	DIN EN 60068-2-14:2000										
Damp Heat	DIN EN 60068-2-78:2002										
Damp Heat, steady state	DIN EN 60068-2-30:2006										
Salt spray	DIN EN 60068-2-52:1996										
Flame retardant	① DIN 75 200										
Pressure resistance	2,5 MPa (25 bar / 362,6 psi) (25°C / 77°F / 1 h)										
<b>EMC</b>											
Conducted emission from the power port	CISPR 16 10 kHz - 30 MHz										
Electric field radiated emissions	CISPR 16 150 kHz - 2 GHz										
RF electromagnetic fields	EN 61000-4-3 1 MHz - 2 GHz; 100 V / m										
Conducted interference	EN 61000-4-6 150 kHz - 80 MHz; 10 V										
Conducted interference	IEC 60533 50 Hz - 10 kHz; 3 V / 0,5 V										
ESD	EN 61000-4-2 ± 8 kV Contact / Air discharge										
Burst	EN 61000-4-4 ± 2 kV DC power port / signal lines										
Surge	EN 61000-4-5 ± 1 kV line <-> ground ± 0,5 kV line <-> line										
High voltage	IEC 60092-504 550 V										
Power supply variations and interruptions	EN 61000-4-11 Ub +50% / -25%										



Block diagram



Functional diagram for MINIMUM Probes



field of application	admissible tolerance	surface	scale 1:1	position -	amount -
	ISO2768-vK				
description	date	name	CLS-50 oil level sensor		
	created by 19.05.2009	Schetnikova	low side switch - quiescent current		
	checked by 19.05.2009	Stark	with connector according to DIN EN 175 301-803-A		
drawing number	drawing path: \\CAD\50050076\US.sdw				
b: DIN-No.	31.05.10	Schet/Stark	BEDIA	500076	sheet 1/1
a: see drawing	05.03.10	Möderer/Saß			
rev.	modification	date	name/checked by		