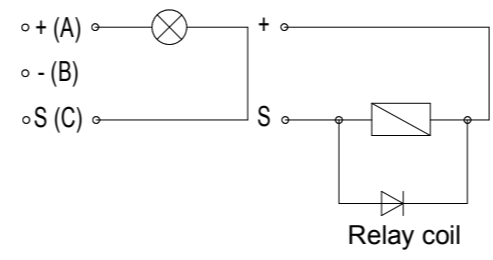
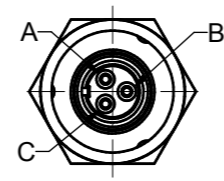
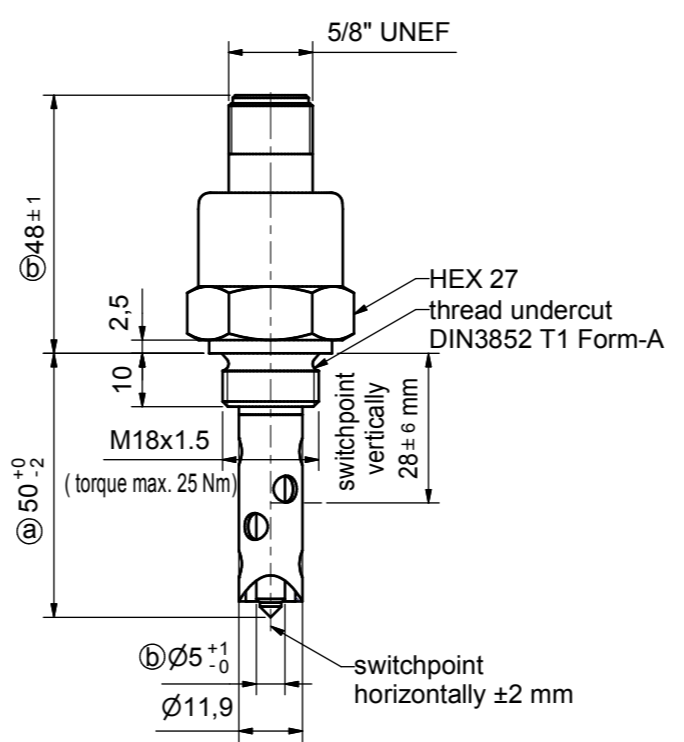


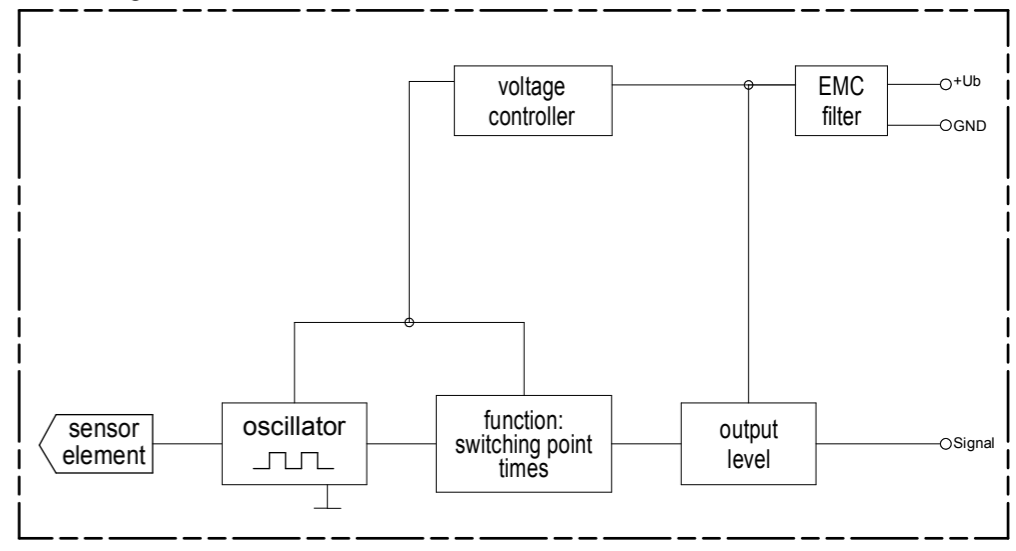
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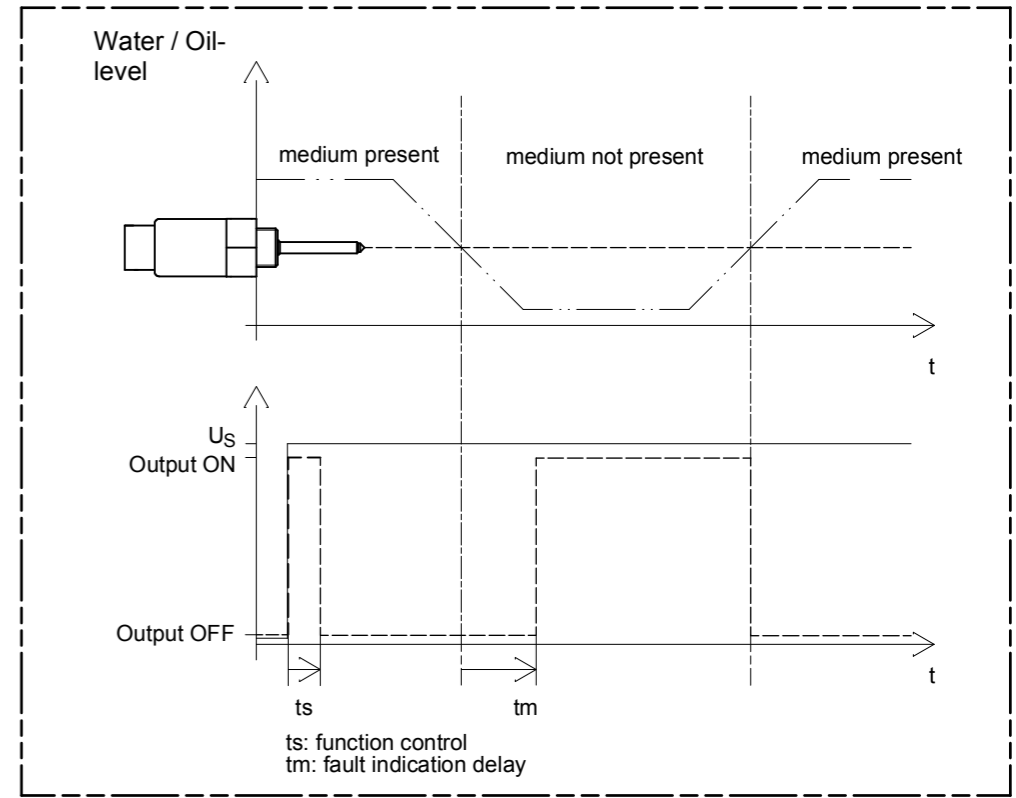
@ Technical data	
Medium	oil
Function	minimum - operating current (oc)
Operating voltage	12 / 24 V (-25% / +50%) (9 - 36 VDC)
Current consumption	< 8 mA
Output	low side switch ≤ 1 A over the whole temperature range short-circuit and overload protected over the ambient temperature range. At inductive loads freewheeling diode e.g. 1N4007, has to be mounted at the load.
Mounting thread	M18x1.5
Function control	2 seconds ± 5%
Fault indication delay	7 seconds ± 5%
Connection	connector fine thread 5/8" UNEF
Housing material	X5CrNi18 10 EN 10088-3:1.4301 capacitive connected to ground
Probe coating	Tefzel® ETFE
Probe protection	IP 67 to DIN40050
Weight	approx. 105 g
Marking	manufacturer; type; manufacturer no.; customer-article 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	inbuilt between positive and negative terminal
Caution !!	
Do not connect negative potential to signal terminal of the sensor and positive potential to negative terminal of the sensor.	
Approvals	ABS, BV, CCS, DNV, GL, KR, LR, NKK, RINA, RMRS
Customs tariff number	90261029
Environmental simulations	
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	DIN 75 200
Pressure resistance	2,5 MPa (25 bar / 362,6 psi) (25°C / 77°F / 1 h)
EMC	
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-mK				
date	name	description			
created by 05.08.2008	SchAl	CLS-50 oil level sensor low side switch - operating current with connector fine thread 5/8" UNEF			
checked by 07.08.2008	StaRo				
drawing number	drawing path: I:\CAD\50050058US.dwg				sheet 1/1
to see drawing	18.08.10	SchAl/StaRo			
a revised	02.02.10	MoE/Mi/StaRo			
rev. modification	date	name/checked by			