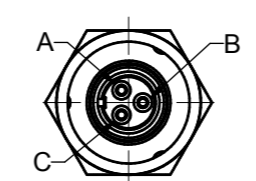
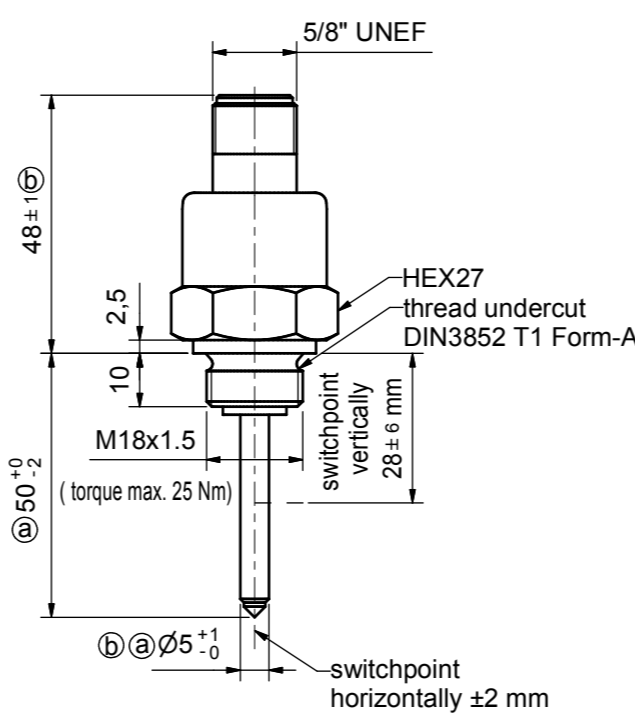


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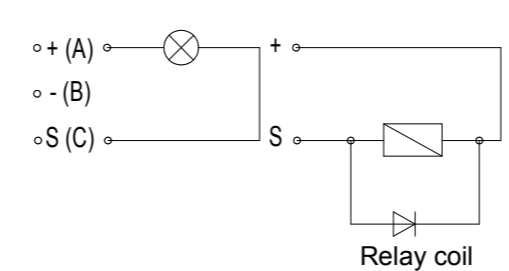
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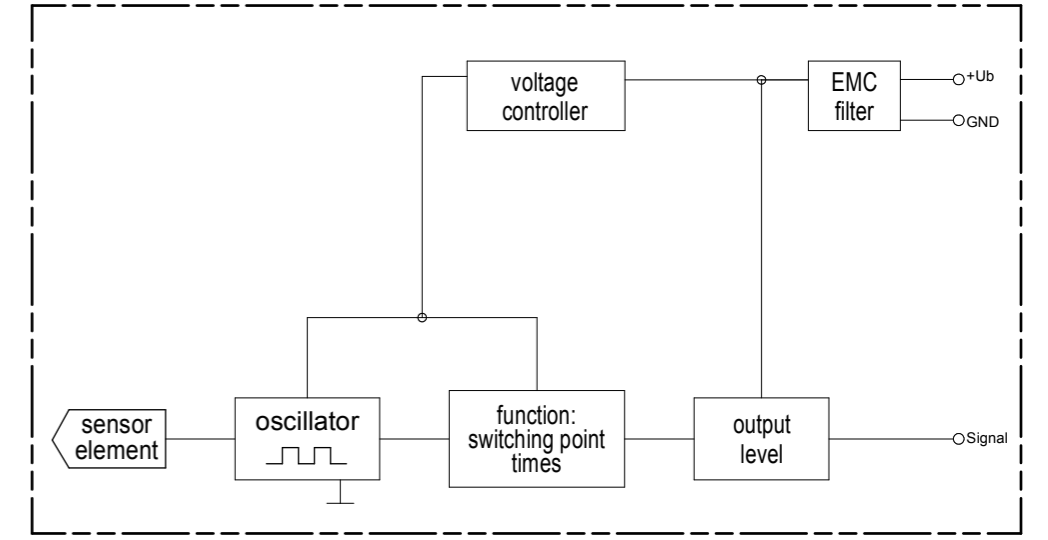
<b>a) Technical data</b>	Medium	water, coolant
Function	minimum - operating current (oc)	
Operating voltage	12 / 24 V (-25% / +50%) (9 - 36 VDC)	
Current consumption	< 8 mA	
Output	low side switch	
	≤ 1 A over the whole temperature range	
	short-circuit and overload protected over the ambient temperature 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	
Probe coating	Tefzel® ETFE	
Probe protection	IP 67 to DIN40050	
Weight	approx. 95 g	
Marking	manufacturer; type; manufacturer no.; customer-part-no.; SN; year / week; approvals	
Switch point hysteresis	typ. < 3 mm	
Medium temperature	-40 °C to +125 °C (-40 °F to +257 °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	
<b>Caution !!</b>	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	
<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	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%



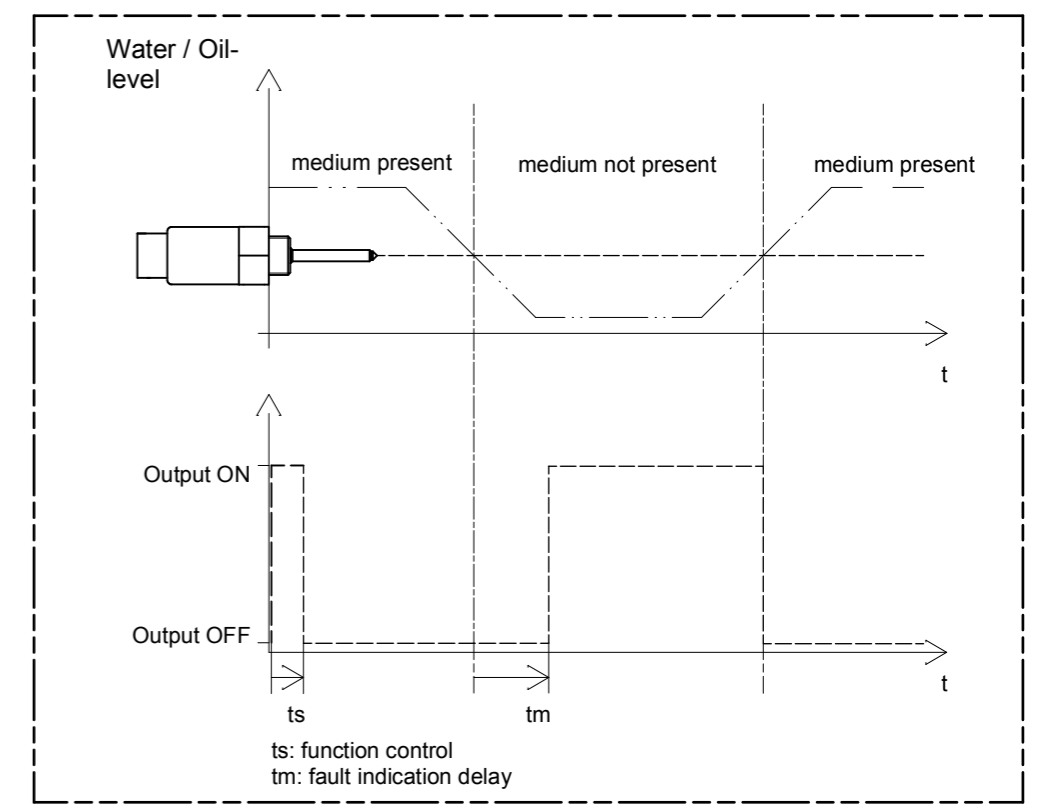
A = positive (+)  
 B = negative (-)  
 C = signal (S)



**a) 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	Schetnikova	CLS-50 water level sensor		
	checked by 07.08.2008	Stark	low side switch - operating current with connector fine thread 5/8" UNEF		
c	customer-part-no.	14.02.11	Möderer/Stark	drawing number	sheet
b	revised	09.09.10	Möderer/Stark	500005	1/1
a	revised	01.02.10	Möderer/Stark		
rev.	modification	date	name/checked by	drawing path: I:\CAD\500\500005US.dwg	