

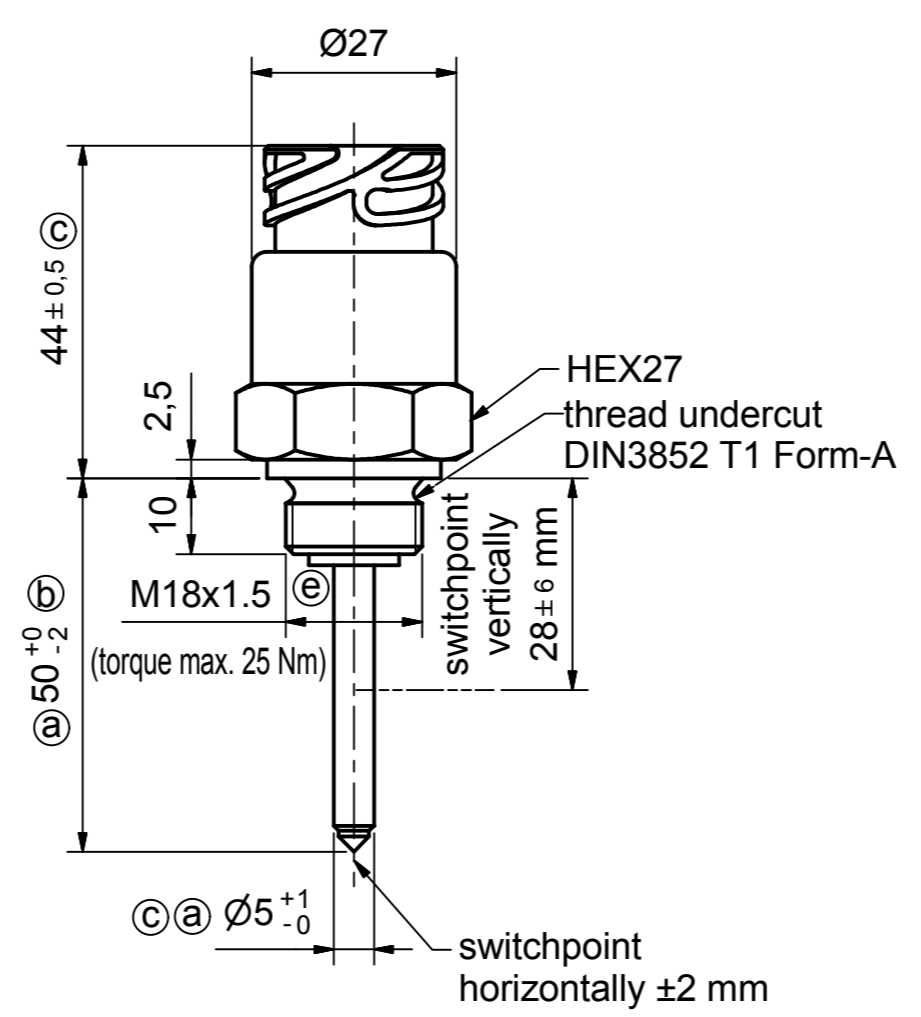
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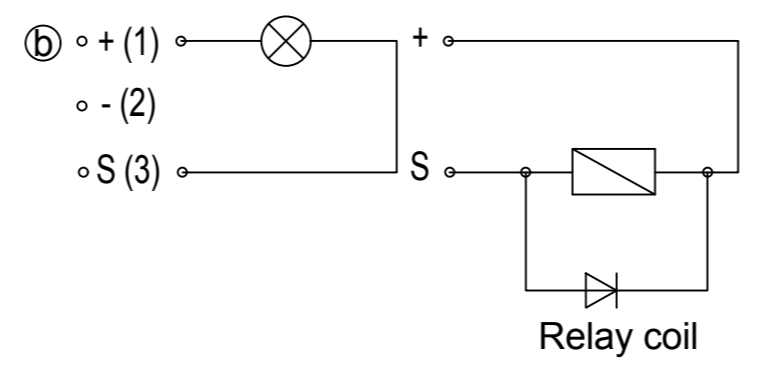
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**b) Technical data**

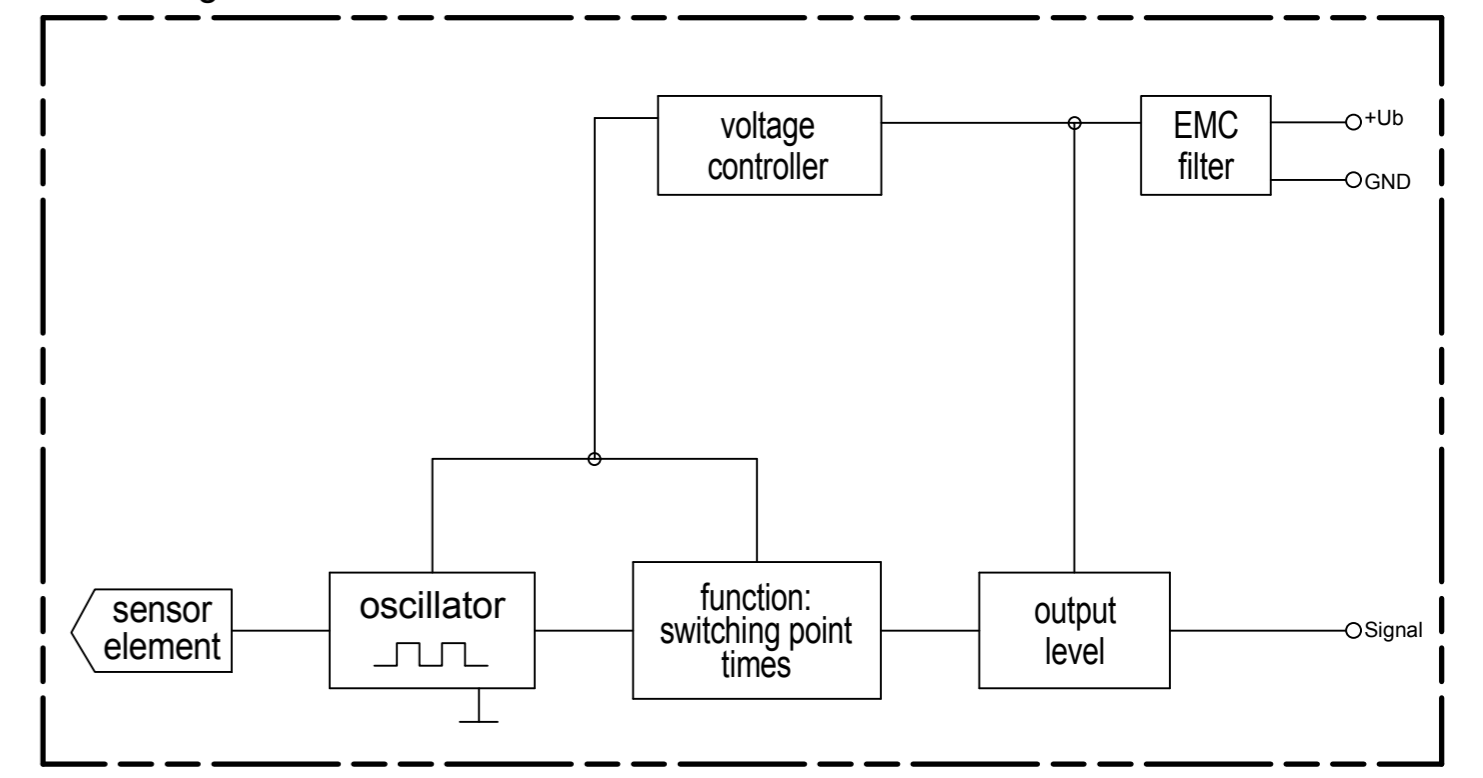
Medium	water, coolant
Function	minimum - operating current (oc)
Operating voltage	12 / 24 V (-25% / +50%) (9 - 36 VDC)
Current consumption	< 8 mA
Output	low side switch
	≤ 1 A over the whole temperature range
	short-circuit and overload protected over the ambient temperature range. At inductive loads 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% <sup>ⓔ</sup>
Connection	connector ISO 15170-A1-3.1-Sn/K1 (former DIN72585)
Housing material	X5CrNi18 10 EN 10088-3:1.4301
Probe coating	Tefzel® ETFE <sup>ⓔ</sup>
Probe protection	IP 69K to DIN40050 with mounted mating connector
Weight	approx. 85 g <sup>ⓓ</sup>
Marking	<sup>ⓐ</sup> manufacturer; type; manufacturer no.; customer-part-no.; SN; year / week; approvals
Switch point hysteresis	< 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



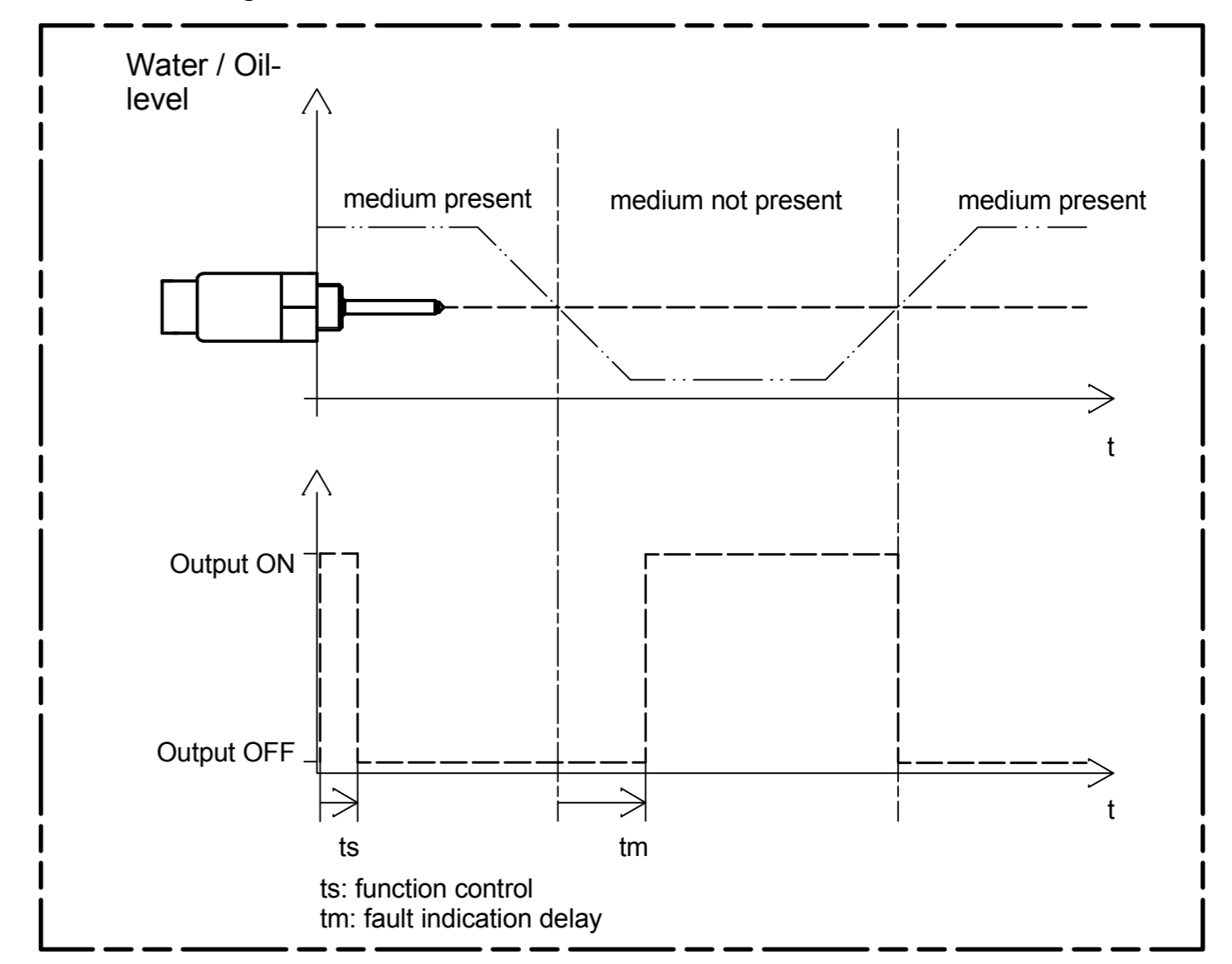
1 = positive (+)  
2 = negative (-)  
3 = signal (S)



**b) Block diagram**



**Functional diagram for MINIMUM Probes**



**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%

field of application	admissible tolerance	surface	scale 1:1	position -	amount -
	ISO2768-mK				
	date	name	description		
	created by 05.03.2008	Möderer	CLS-50 water level sensor low side switch - operating current with connector ISO 15170-A1-3.1-Sn/K1		
	checked by 05.03.2008	Sass			
e see drawing	29.03.12	Möderer/Saß	drawing number	sheet	
d customer-part-no.	09.02.11	Möderer/Stark	500015	1/1	
c revised	09.09.10	Möderer/Stark	drawing path: I:\CAD\5000\500015\SUS.sldw		
b revised	18.01.10	Möderer/Saß			
a see data; dimension	15.01.09	Möderer/Saß			
rev. modification	date	name/checked by			