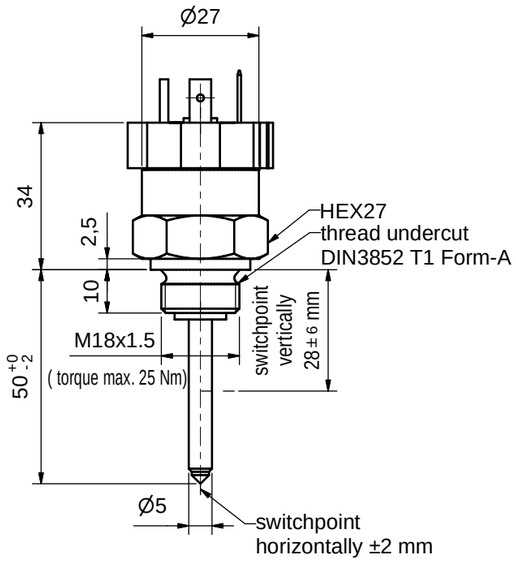
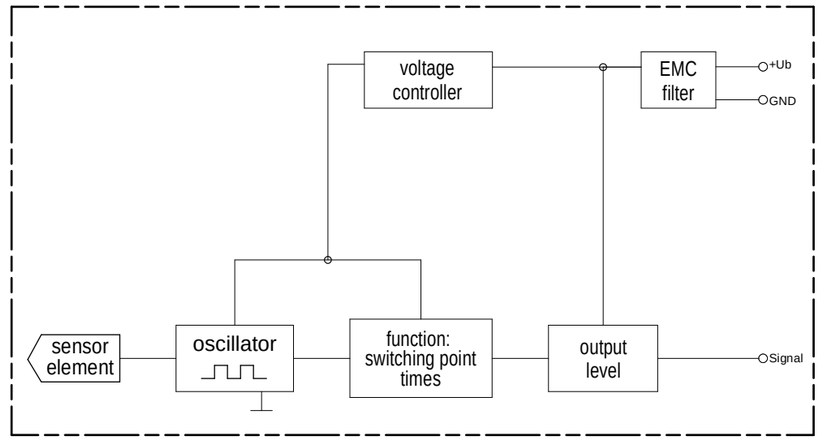
Technical data

Medium	water, coolant
Function	Minimum - quiescent current (rc)
Operating voltage	12 / 24 V (-25% / +50%) (9 - 36 VDC)
Current consumption	typ. < 8 mA
Output	high 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
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



Block diagram

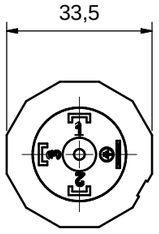


Caution !!
Do not connect positive potential to signal terminal of the sensor
and negative potential to positive terminal of the sensor.

Approvals	ⓐ ABS, BV, CCS, DNV, GL, KR, LR, NKK, RINA, RMRS
Customs tariff number	90261029

Environmental simulations

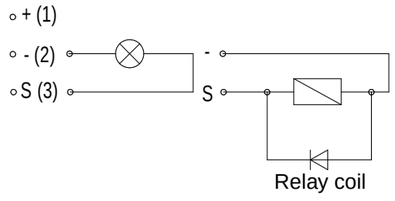
Vibration	ISO 16750-3:2007 10 Hz - 2000 Hz 20 g
Free Fall	IEC 16750
Mechanical Shock	DIN EN 60068-2-27:1995; 100 g / 11ms
Dry Cold	DIN EN 60068-2-1:2006; -40 °C / 24 h (-40 °F / 24 h)
Dry Heat	DIN EN 60068-2-2:2008; +125 °C / 96 h (+257 °F / 96 h)
Temperature cycling	DIN EN 60068-2-14:2000
Damp Heat	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)



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

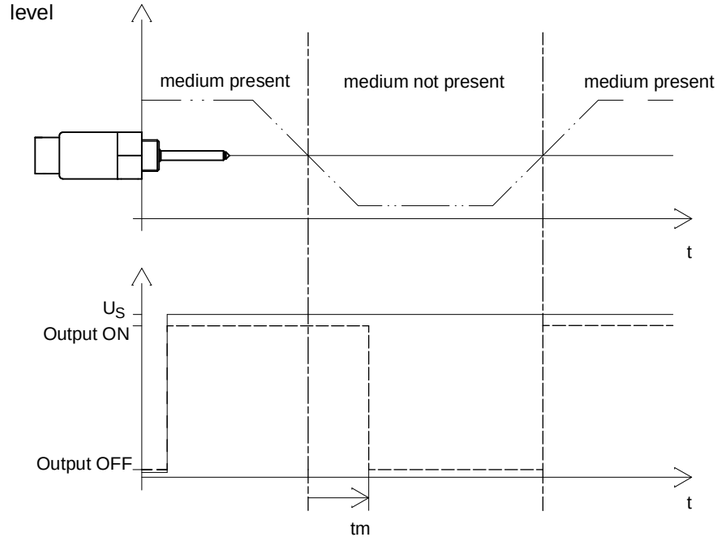
EMC

Conducted emmission from the power port	CISPR 16	10 kHz - 30 MHz
Electric field radiaded emmissions	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%



Relay coil

Functional diagram for MINIMUM Probes



tm: fault indication delay

field of application			admissible tolerance	surface	scale 1:1	position –	amount –
			ISO2768-vK				
				date	name	description	
			created by	28.09.2009	Möderer	CLS-50 water level sensor	
			checked by	28.09.2009	Saß	high side switch - quiescent current	
						with connector according to DIN EN 175 301-803-A	
b	DIN-No.	31.05.10	Schet./Stark			drawing number	sheet
a	approvals	05.03.10	Möderer/Saß			500043	1/1
rev.	modification	date	name/checked by			drawing path: I:\CAD\500\500043US.idw	

BEDIA Motorentechnik GmbH & Co.KG, Altdorf bei Nürnberg