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%
Connection	connector ISO15170-A1-3.1-Sn/K1 ⓑ (former DIN72585)
Housing material	CuZn38Pb2 EN12164; CW608N capacitive connected to ground
Probe coating	Tefzel® ETFE
Probe protection	IP 69K to DIN40050 with mounted mating connector ⓑ
Weight	approx. 95 g
Marking	manufacturer; type; manufacturer no.; SN; year / week; approval
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

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

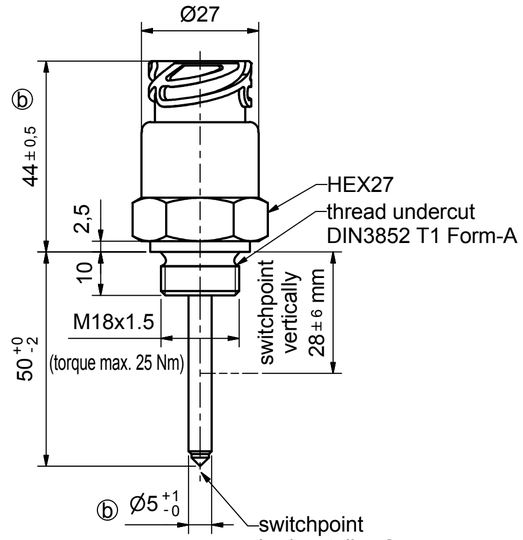
Approval	e1 035459
Customs tariff number	90261029

Environmental simulations

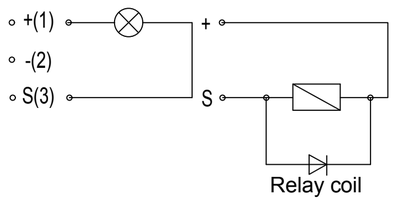
Vibration	ISO 16750-3:2007	10 Hz - 2000 Hz 20 g
Free Fall	IEC 16750	
Mechanical Shock	DIN EN 60068-2-27:1995; 100 g / 11 ms	
Dry Cold	DIN EN 60068-2-1:2006; -40°C / 24 h (-40°F / 24 h)	
Dry Heat	DIN EN 60068-2-2:2008; +125°C / 96 h (+257°F / 96 h)	
Temperature cycling	DIN EN 60068-2-14:2000	
Damp Heat	DIN EN 60068-2-78:2002	
Damp Heat, steady state	DIN EN 60068-2-30:2006	
Salt spray	DIN EN 60068-2-52:1996	
Pressure resistance	2,5 MPa (25 bar / 362,6 psi) (25°C / 77°F / 1 h)	

EMC

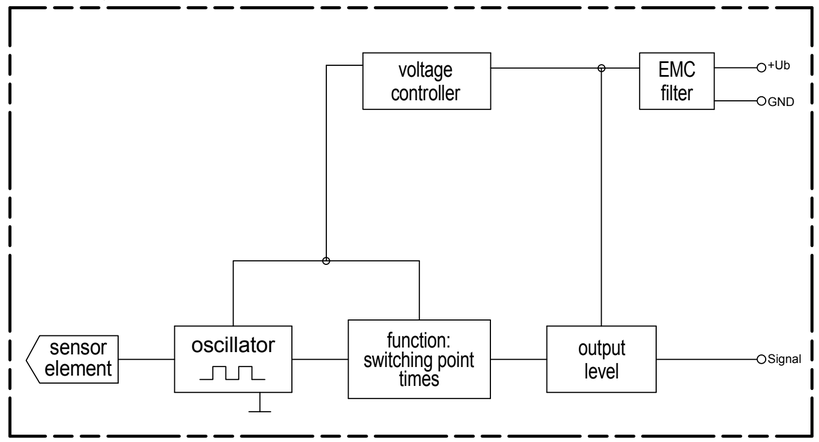
Radiated emission	2004/104/EG	30 MHz - 1 GHz; 1 m
Conducted transient emission	ISO 7637-2:2004	
Immunity to RF electromagnetic fields	ISO 11452-1/-2	1000 MHz - 2000 MHz; 150 V / m (rms)
Immunity to RF electromagnetic fields in the stripline	ISO 11452-1/-5	20 MHz - 1000 MHz; 150 V / m (rms)
Transient immunity test on power lines	ISO 7637-2/2004	Impulse 1, 2a, 2b, 3a, 3b, 4



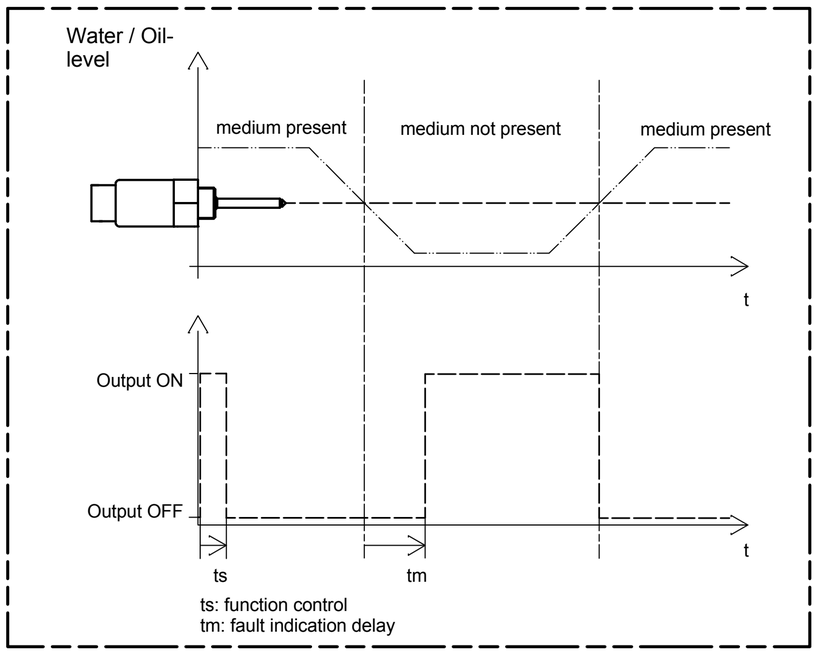
1 = positive (+)
2 = negative (-)
3 = signal (s)



Block diagram



Functional diagram for MINIMUM Probes ⓑ



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field of application	admissible tolerance	surface	scale 1:1	position –	amount –
	ISO2768-vK				

				date	name
			created by	04.02.2010	Möderer
			checked by	04.02.2010	Saß

rev.	modification	date	name/checked by
b	revised	03.09.12	Kern/Stark
a	admissible tol.	23.06.10	Möderer/Saß

description
CLS-40 water level sensor
low side switch - operating current
with connector ISO15170-A1-3.1-Sn/K1

drawing number 320404 | sheet 1/1

drawing path: I:\CAD\320\320404US.idw