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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	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	1/4" NPTF
Function control	2 seconds ±5%
Fault indication delay	7 seconds ±5%
Connection	connector bayonet 10SL
Housing material	CuZn38Pb2 EN12164; CW608N capacitive connected to ground
Probe coating	Tefzel® ETFE
Probe protection	IP 67 to DIN40050 with mounted mating connector (a)
Weight	approx. 105 g
Marking	manufacturer; type; manufacturer no.; SN; year / week; approval
Switch point hysteresis	< 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 positive potential to signal terminal of the sensor and negative potential to positive terminal of the sensor.

Approval (a) (E1) 10R-03 5459

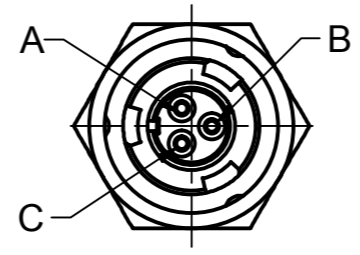
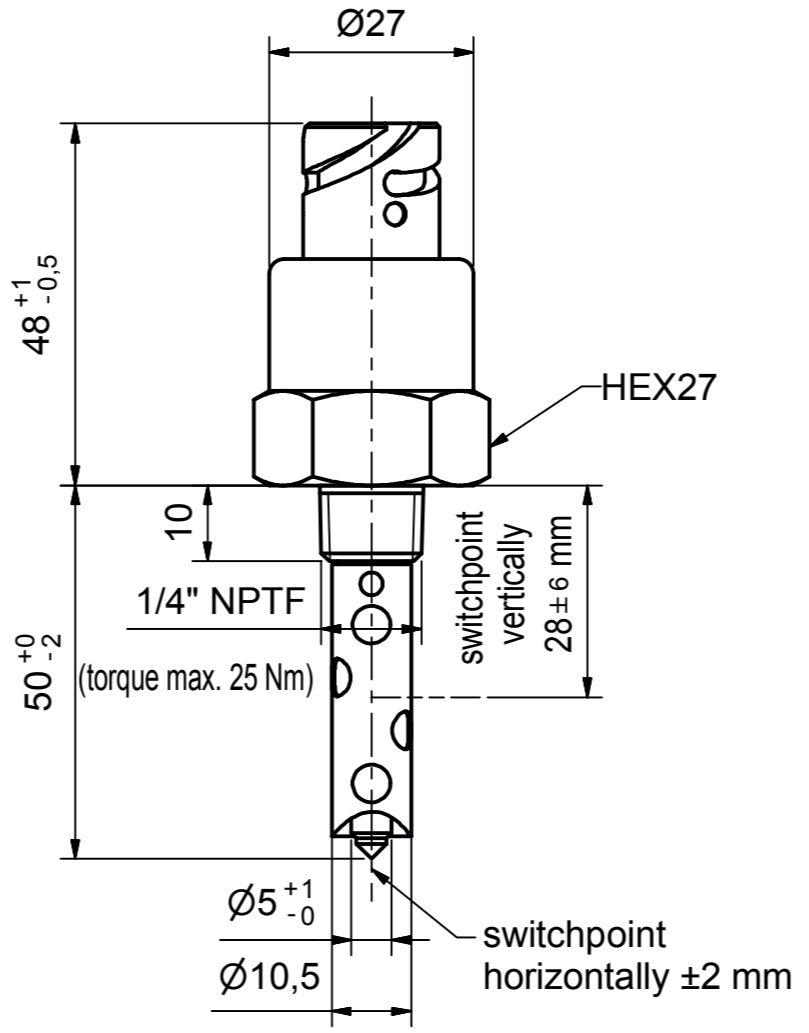
Customs tariff number 90261029

**Environmental simulations**

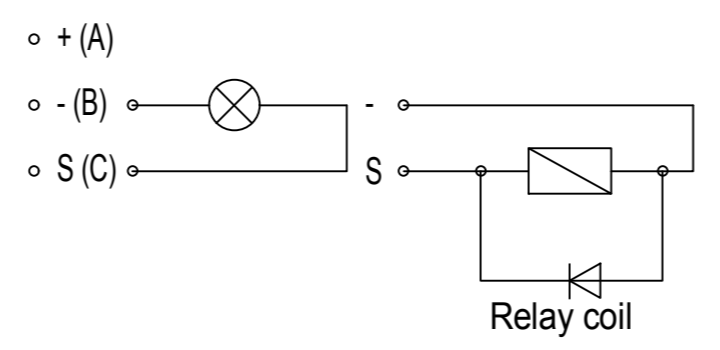
Vibration	ISO 16750-3:2007	10 Hz - 2000 Hz 20 g
Free Fall	IEC 16750	
Mechanical Shock	DIN EN 60068-2-27:1995;	100 g / 11 ms
Dry Cold	DIN EN 60068-2-1:2006;	-40°C / 24 h (-40°F / 24 h)
Dry Heat	DIN EN 60068-2-2:2008;	+125°C / 96 h (+257°F / 96 h)
Temperature cycling	DIN EN 60068-2-14:2000	
Damp Heat	DIN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

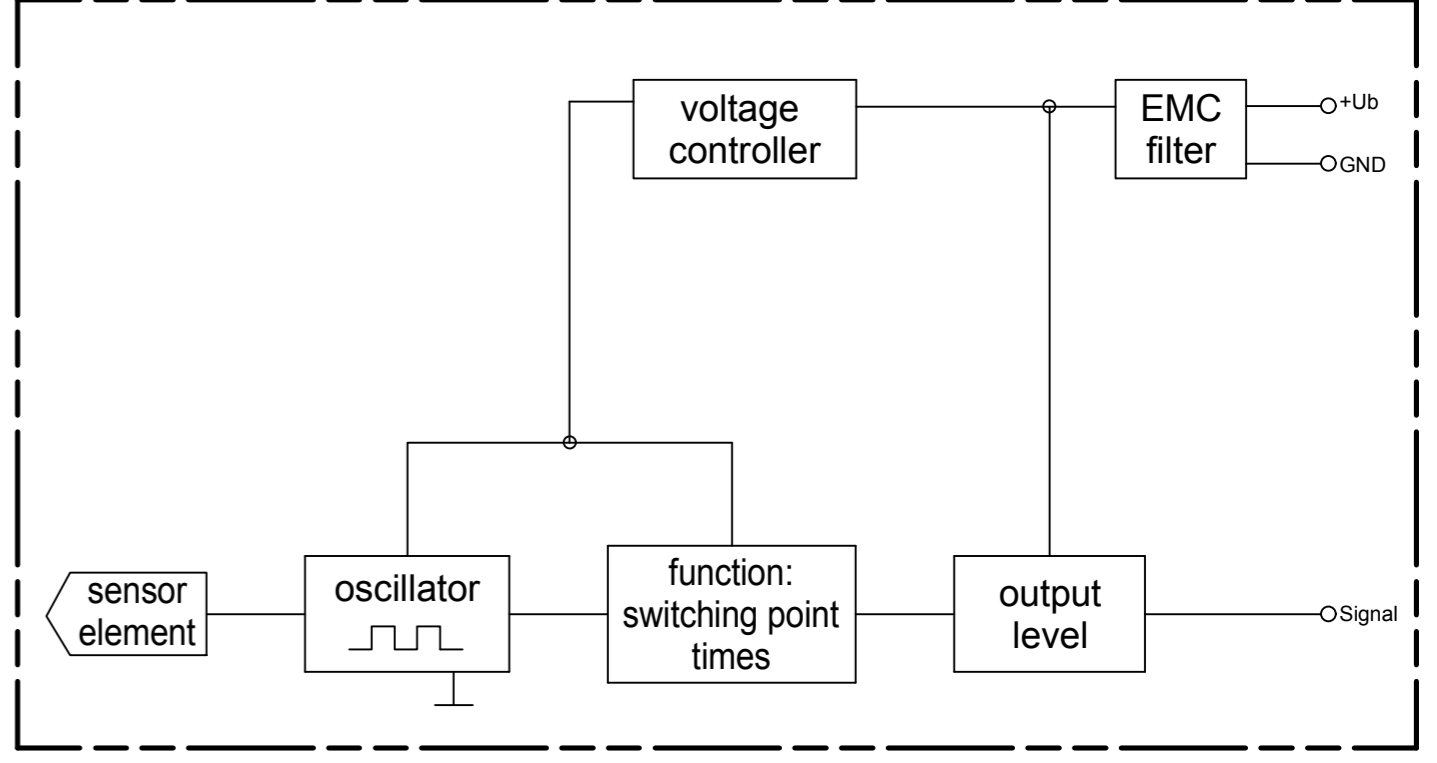
Radiated emission	2004/104/EG	30 MHz - 1 GHz; 1 m
Conducted transient emission	ISO 7637-2:2004	
Immunity to RF electromagnetic fields	ISO 11452-1/-2	1000 MHz - 2000 MHz; 150 V / m (rms)
Immunity to RF electromagnetic fields in the stripline	ISO 11452-1/-5	20 MHz - 1000 MHz; 150 V / m (rms)
Transient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



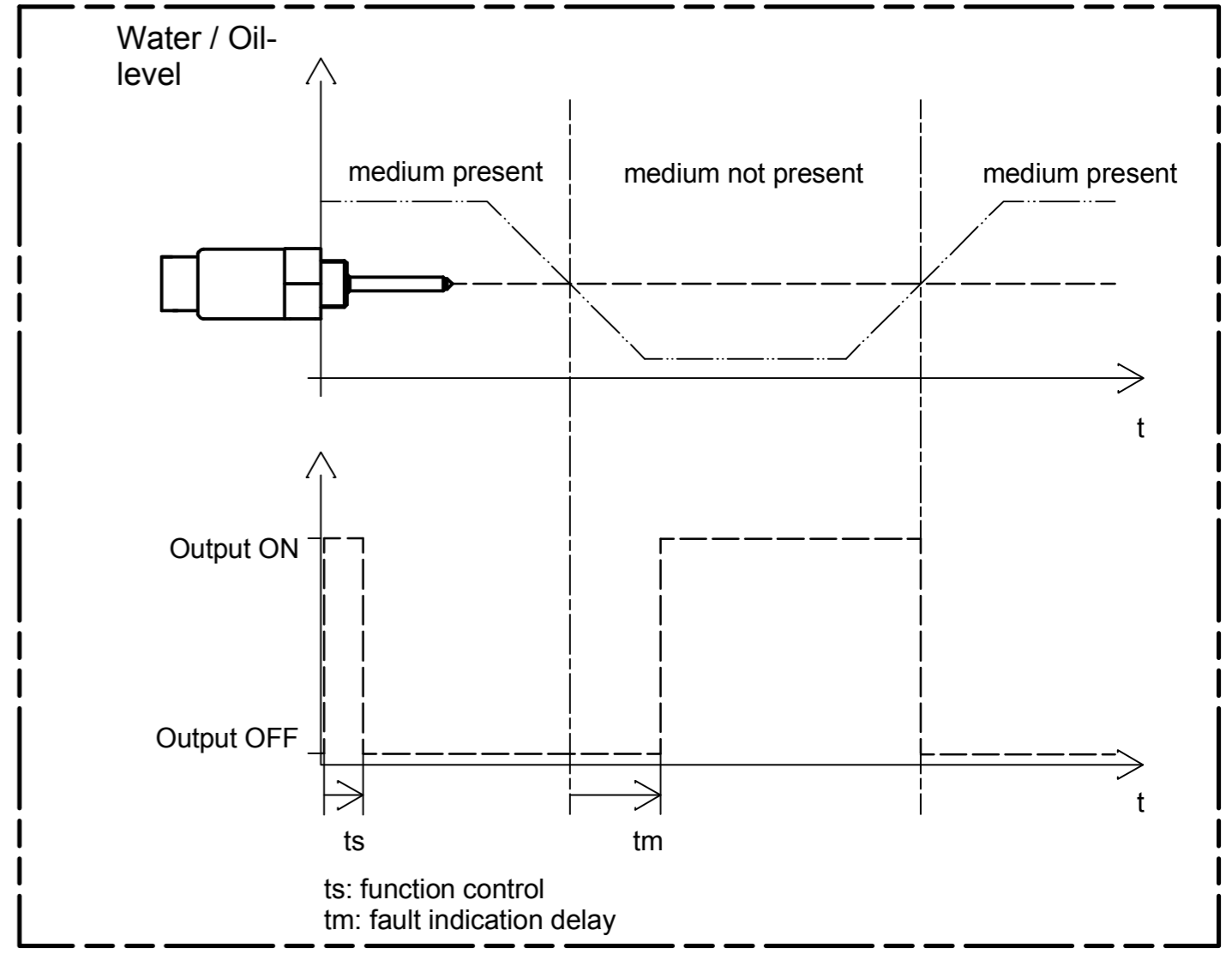
A = positive (+)  
B = negative (-)  
C = signal (S)



**Block diagram**



**(a) Functional diagram for MINIMUM Probes**



Zul. Abweichung / admissible tolerance	Oberfläche / surface	Maßstab / scale	Sprache / language	ENU	Blatt / sheet	1 / 1
ISO2768-mK	-	1:1	-	-	-	-
Erstellt / created by	Datum / date	Name / name	Benennung / description			
Schetnikova	04.08.2010	Schetnikova	CLS-40 oil level sensor			
Geprüft / checked by	04.08.2010	Stark	high side switch - operating current with connector bayonet 10SL			
Format / Size	Maßeinheit / dimension unit		Zeichnungsnummer / drawing number			
A2	mm		321499			
Zust. / rev.	Änderung/modification	Datum/date	Name/Geprüft checked by	Zng. Art/ drw.type		
a	le1 -> E1	14.01.16	Möderer/Stark	DRC		