

11 10 9 8 7 6 5 4 3 2 1

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.
1/4" NPTF
2 seconds ± 5%
Fault indication delay 7 seconds ± 5%
Connection cable
Housing material CuZn38Pb2
EN12164; CW608N
capacitive connected to ground
Tefzel® ETFE
IP 69K to DIN40050
Weight approx. 115 g
Marking manufacturer; type; manufacturer no.; customer-part-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  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 / 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
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

Deutsch connector DT 04-3P
IP 67
@

500 ± 10 mm

cable 3 x 0,75 mm²
bn / wh / gn
-40 °C to +150 °C
(-40 °F to + 320 °F)

21 ± 1

Ø27

30

10

1/4" NPTF
(torque max. 25 Nm)

switchpoint vertically 28 ± 6 mm

50 +0 -2

switchpoint horizontally ±2 mm

Ø5 +1 -0

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

Relay coil

Block diagram

sensor element oscillator function: switching point times output level

voltage controller EMC filter

+Ub
GND
Signal

Functional diagram for MINIMUM Probes

Water / Oil-level

medium present medium not present medium present

Output ON
Output OFF

ts tm

ts: function control
tm: fault indication delay

field of application

admissible tolerance

surface

scale 1:1

position - amount -

ISO2768-mK

created by 20.01.2010 MoeMi

checked by 25.01.2010 SasCh

description

CLS-40 water level sensor
low side switch - operating current
with Deutsch connector DT 04-3P

drawing number

322225

sheet 1/1

drawing path: I:\CAD\322\322225\US.idw

11 10 9 8 7 6 5 4 3 2 1