

Operating Manual

Water Probe 12 – 24 V

Zusammenfassung:

Manual for Water Probe

Order Number: 06 1381
 06 3416
 06 2891
 06 1273
 06 1209

Electronic: HW-Version 0.1R12
 SW-Version 2.8



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1 Safety instructions

The outgoing terminals plus and minus may not be connected to the operating voltage. A connection of one or both of the outgoing terminals to the operating voltage (+12 VDC to 24 VDC or vehicle ground) destroys the water probe.

2 Intended use

The water sensor is designed for the use in fuel filters of the company Lösing Filter Produktion GmbH to detect water in fuel. The use in hazardous areas is not allowed. Any use other than the water detection is not provided.

Work on the electrical equipment must be performed only in de-energized condition.

3 Technical data

This operating Manual describes the device in the following configuration:

Hardware version:

Software version:

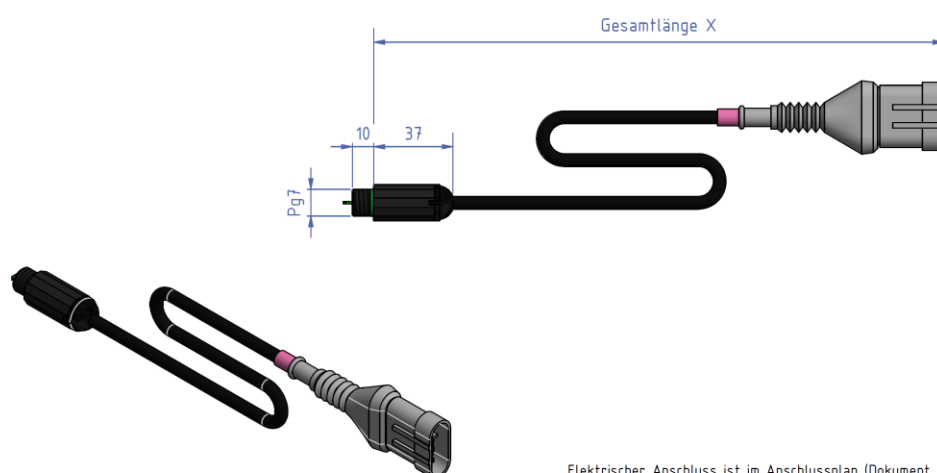
3.1 Electrical data

Operating voltage:	12 VDC bis 24 VDC
Maximum operating voltage:	34 VDC
Operating temperature:	-40°C ... 85°C
Storage temperatur:	-40°C ... 85°C
Output impedance @ logic 0:	approx. 100 Ohm
Output impedance @ logic 1:	approx. 2.300 Ohm
Operating current :	approx. 15 mA without outside connection (no indication bulb connected)

3.2 Dimensions 06 1381, 06 2891 and 06 3416

The dimensions (tolerances < 0,5 mm) can be gathered from the following drawing.

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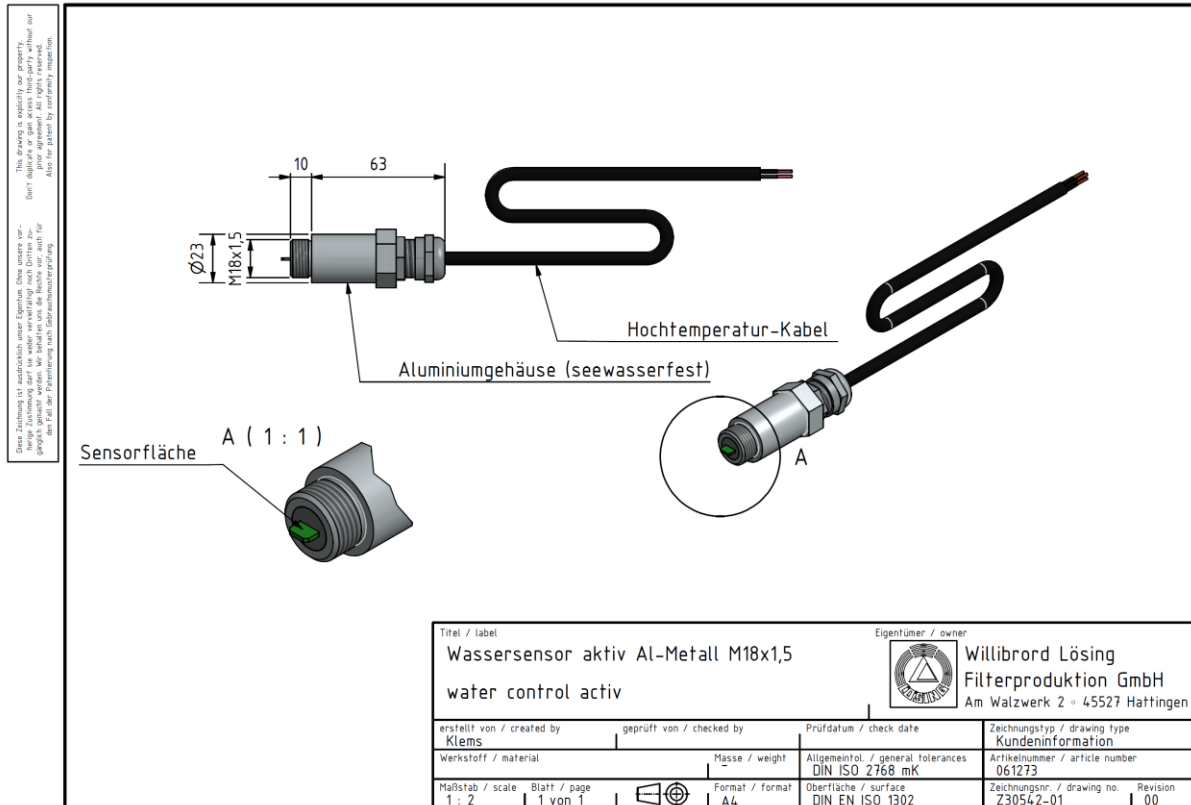
Elektrischer Anschluss ist im Anschlussplan (Dokument D10070) zu finden.
Das Gehäuse ist mit der Artikelnummer beschriftet.

Variantentabelle								
Zeich.-Nr.	Bezeichnung (DE)	Bezeichnung (EN)	Gesamtlänge	U+	U-	Ausg. plus	Ausg. minus	Art.-Nr.
Z31173-01	Wassersensor aktiv Standard	water control activ standard	520 mm	Pin 2	Pin 1	Pin 4	Pin 3	061381
Z31173-03	Wassersensor aktiv	water control activ	320 mm	Pin 1	Pin 2	Pin 4	Pin 3	062891/063416

Benennung Wassersensor aktiv		Werkstoff		konstruiert J. Klems 02.06.2015		Projekt: Wassersensor aktiv	
Allgemeintoleranz DIN ISO 2768 mk		unbearbeitete Kanten nach DIN ISO 13715		gezeichnet J. Klems 02.06.2015		Dokumententyp Kundeninformation	
Haftbarkeit ist		Oberflächenbehandlung		letzte Rev. A. Texter 15.09.2017		Zeichnungsnummer Z31173-XX-K101-DE-R00.02	
		Masse		freigegeben R. Vlahi 15.09.2017		Ersatz für: Ers. durch	
						1 2 E-60 Ak Blatt 1 von 1	

3.3 Dimensions 06 1273 (metal case with shielded cable)

The dimensions (tolerances < 0,5 mm) can be gathered from the following drawing. Cable length approx. 2 m.



3.4 Dimensions 06 1209 (spare part for filter mobile)

The sensor with the item number 06 1209 is available as a spare part for the filter mobile (item number 06 2386).

The dimensions (tolerances < 0.5 mm) of the sensor are equal to the sensors with the item numbers 06 1381.

4 Connection

The water probe has four connections:

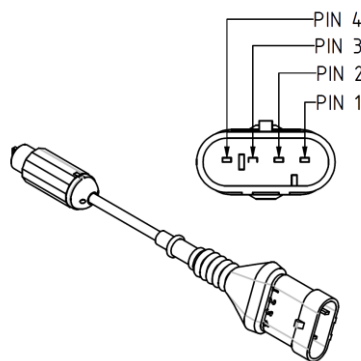
U+:	Power supply 12 VDC to 24 VDC
U-:	Vehicle ground
Outgoing terminal plus :	0 Volt with monitoring fuel, Operating current with monitoring water On this terminal an LED can be directly connected (Anode to „terminal plus“, cathode to ground).
Outgoing terminal minus :	Operating current with monitoring fuel, 0 Volt with monitoring water On this terminal an LED can be directly connected (Anode to „terminal minus“, cathode to ground).

The water probe is protected against reversed polarity. An operation of the water probe being connected with reversed polarity is not possible.

The water probe is available in an aluminum housing without connectors , supplied with shielded cable under item number 06 1273. With a four pin AMP Superseal plug it is available under the item numbers 06 1381, 06 2891 and 06 3416.

4.1 Connector pinout and cable colours

Connection	06 1273 shielded, round cable without plug	06 1381 AMP-plug	06 3416 and 06 2891 AMP-plug
U+	blue	Pin 2	Pin 1
U-	black	Pin 1	Pin 2
Out plus	brown	Pin 4	Pin 4
Out minus	white	Pin 3	Pin 3





5 Assembly

The water probe with the PG7-thread can be screwed into nearly all filter of company Lösing Filterproduktion GmbH (Item number 06 1273: **M18 x 1,5**). The bowls of the filters have a matching tap hole. The sealing will be effected with the attached O-ring. The thread of the probe will be coated with a thin layer of a thread locker (f. i. Delo-ML 5298) which is suitable and does not contain alcohol and is un-lockable. By this procedure the probe is protected against getting loose and has a perfect seal. The water probe will be screwed into the bowl hand tight only.

6 Function

Directly after switching on the operating current the outgoing terminals, independently from the media whereas the monitoring tip is exposed to, indicate no water (outgoing terminal plus has approx. 0 Volt, outgoing terminal minus has operating current). Approx. 1 second later the monitoring process starts. The water probe executes the necessary measurements by the two surfaces on the tip exposed to the surrounding media.

After evaluation the result will be passed on by the outgoing terminal "plus" and the outgoing terminal "minus". The indication is shown retarded to avoid flickering of the warning device in case of a rocking motion of the media.

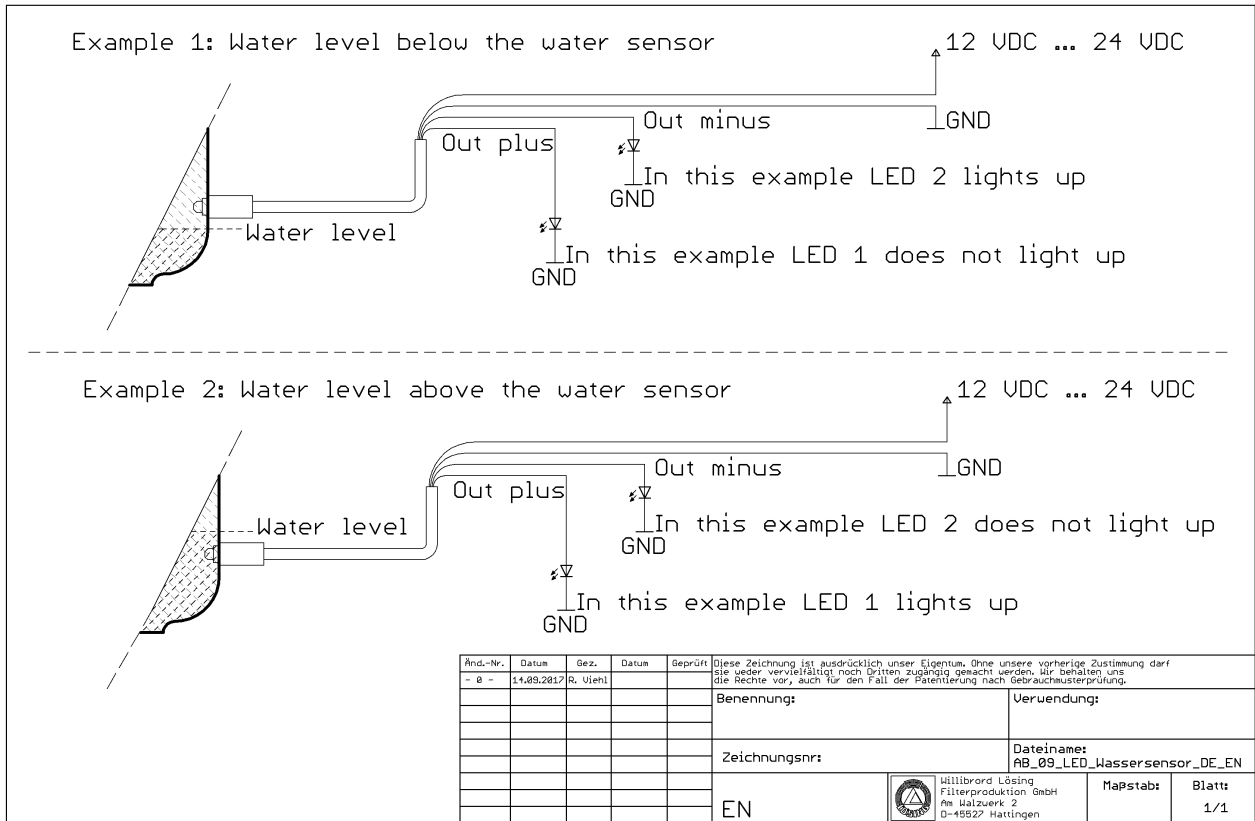
Regular operation: The water probe is surrounded by fuel. The outgoing terminal „plus“ shows approx. 0 Volt (above 100 Ohm internal resistance) and the outgoing terminal "minus" shows the operational current (above 2,300 Ohm internal resistance)

Water in fuel: The water probe will be surrounded by water. The outgoing terminal „plus“ shows operating current (above 2.300 Ohm internal resistance) and at the outgoing terminal "minus" 0 Volt (above 100 Ohm internal resistance). The polarity of the outgoing terminals is exchanged compared to the state of regular operation. This message stays till switching off the operating current, even if no water is surrounding the tip of the probe anymore.

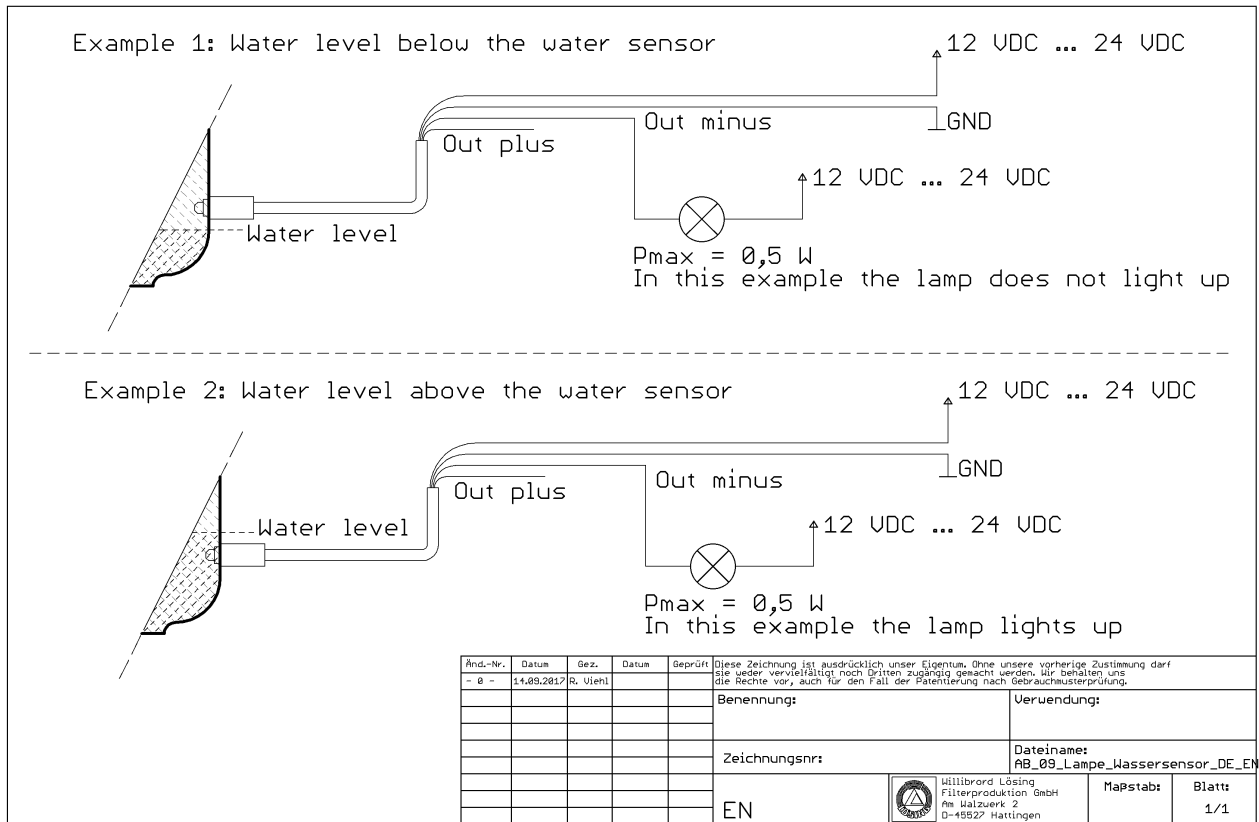
Disturbance of the water probe: The outgoing terminals change their polarity approx. four times per second (flashing mode). After fixing the disturbances the outgoing terminals show the results of the monitoring.

6.1 Examples of connection and function

6.1.1 Connection of LEDs



6.1.2 Connection of bulbs (max. 0,5 Watt)



7 Application recommendations

The water probe may not be used with damaged monitoring tip. For easier identification of damages the monitoring tip is painted with green lacquer. Scratches or lacquer free areas might indicate defects of the probe and make a probe replacement necessary.

7.1 Maintenance

The water probe is wear and tear free. Attention has to be paid to the surface of the probe tip in respect of contamination with dirt or damages to get unequivocal monitoring results.

7.2 Cleaning

The water probe can be cleaned with a smooth cloth. Sticky contaminates can be remove by pouring an alcohol free commercial household detergent on the cloth. The cleaning detergent has to be removed from the tip surfaces completely and carefully thereafter. Reassembly of the water probe has to be done after thorough drying of the probe.

The use of aggressive cleaning detergents or sharp and pointed tools can result in harm to the tip surfaces of the probe and has to be avoided.



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