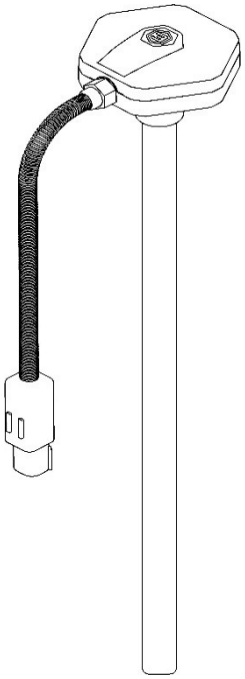


Capacitive fuel level sensor ESCORT TD-Online

Datasheet

Serial number S
Date D
MAC-address M

1 GENERAL INFORMATION

Device full designation:	Capacitive fuel level sensor ESCORT TD-Online
Device short designation:	TD-Online
Device code designation:	
Unit serial number:	S
Unit modification:	
Date of production:	D
Certification notes:	

2 GENERAL INFORMATION

2.1. The capacitive fuel level sensor ESCORT TD-Online (hereinafter - the ‘Sensor’, ‘Device’ or “TD-Online”) is designed to measure the level of light petroleum derivatives. The Device is designed to measure and monitor the fuel and similar light oil derivatives in the tanks of vehicles, machinery units and storage tanks.

2.2. The measured fuel level is then transmitted to an external web server. Additionally, the Device transmits the GPS coordinates, speed and ignition data onto the server.

2.3 DO NOT USE THE SENSOR IN CONDUCTIVE LIQUIDS (WATER, DAIRY PRODUCTS).

2.4 DO NOT DISASSEMBLE THE SENSOR!

2.5 DO NOT USE THE DEVICE UNDER THE OPERATING CONDITIONS DIFFERENT FROM THE STATED IN THE PRESENT DATASHEET!

2.6 AVOID PHYSICAL DAMAGE TO THE DEVICE, ITS PARTS OR WIRES DURING THE INSTALLATION AND USE.

3 DATASHEET

Table 1. Technical specifications of TD-Online

Spec	Value
Power supply voltage VDC, V	from 12 to 36
Power consumption (current), A, not more than	0.3
The margin of error, not more than	1% of MRV (maximum range value)*
Communication interface(s): - GSM - RS485 -BLE	Data communication protocol(s): 2G/4G LLS Escort BLE
Server connection protocol	Wialon IPS
Satellite positioning system	GPS/GNSS
SIM-card type	Nano SIM
Ingress protection marking in accordance IEC 60529:2013	IP69S
Electric shock resistance rating in accordance IEC 61140:2016	Class III
Tilt angle measurement range	180°
Tilt angle measurement margin of error**	±5°
Operating conditions: – ambient temperature, °C – extreme temperature limits, °C – atmosphere pressure, kPa – extreme operating atmosphere pressure, kPa	 from - 40 to 50 from - 60 to 85 from 84 to 106.7 from 57 to 110

Table 1. Technical specifications of TD-Online

Spec	Value
Dimensions, mm, not more than Length and width Height Height (cap included) Dimensions (cap and output cable included)	 97 x 88 23 34 822 x 97 x (L*** +34)
Length of measurement part (tubes) -	see the sticker (can be found in the Datasheet)
Weight,, not more than	0.35 +0.4 x L***
Note 1* MRV – maximum value of measurement range (1023 or 4095) 2.** Tilt angle relative to the transverse plane 3. *** L is the length of Sensor's measurement tubes	

4 SCOPE OF DELIVERY

Table 2. TD-Online: Scope of delivery

Item	Qty	S/ Nr.	Note
Capacitive fuel level sensor TD-Online	1		
Installation kit:	1		
Bottom detent	1		
Extension cable	1		
Centrator	1		
Seal	1		
Cap	1		
Rubber gasket	1		
Sealtech seal with serial number			
Self-tapping screw 5.5x51			
Sealing wire PP-N			
Lithol-24 white lithium grease			
DATASHEET	1		in electronic form
User manual	1		sent on request
Packaging	1		

Notes:

1) The manufacturer reserves the right to make changes in the product's design and in its scope of delivery without prior notice to the customer.
2) The bottom detent is included in the kit of the sensors 2+ meter long

5 PRECAUTIONARY MEASURES

During the installation, operation and maintenance of the Sensor follow general safety instructions for electric devices and equipment.

6 SERVICE AND SHELF LIFE, WARRANTY

6.1 Guaranteed service and shelf life is 12 months after the Device is shipped from the manufacturer.

6.2 Service life - 8 years.

6.3 The manufacturer guarantees that the Device meets all specifications and requirements if the user adheres to transportation, storage and operation requirements.

6.4 If any defect is found, contact the manufacturer.

6.5 The warranty does not cover any defects caused by failure to meet the operation, storage and transportation requirements.

6.6 The manufacturer reserves the right to make changes in the Device’s design and in its scope of delivery without prior notice to the customer.

7 PACKING CERTIFICATE

The capacitive fuel level sensor TD-Online. S/n._____S____

Packed _____

Manufacturer's name or ID code

In accordance with the requirements of the effective technical documentation.

Date of packing_____

Packed by_____ _____ _____

job title signature Full name

_____

year, month, date

8 DATE OF MANUFACTURE AND ACCEPTANCE CERTIFICATE

The capacitive fuel level sensor TD-Online. s/n _____S_____ is manufactured in accordance with the current technical documentation and is declared to be ready for operation.

Date of production_____D_____

Head of QA

Signature _____ _____
signature Full name

_____
year, month, date

9 INSTALLATION CERTIFICATE

The capacitive fuel level sensor TD-Online. s/n_____S_____ is installed in accordance with the relevant technical requirements and specifications stated in the technical documentation:

Name	serial number / public number

signatur e	Full name	day, month, year

Notes

10 MAINTENANCE NOTES

10.1Primary verification

Date	Conclusion	VERIFICATION OFFICER SIGNATURE	VERIFICATION OFFICER SEAL

10.2Periodic check

Date	Conclusion	VERIFICATION OFFICER SIGNATURE	VERIFICATION OFFICER SEAL

11 TRANSPORTATION AND STORAGE

The Device shall be transported in the original packaging in enclosed vehicles or craft. To store in a dry place at a temperatures of -20 to +30 °C and humidity up to 75 %. Conductive dust, aggressive substances and their vapors causing corrosion of parts and destruction of electrical insulation of the product are not allowed in storage rooms.

12 DISPOSAL REQUIREMENTS

12.1 The Device does not contain any hazardous materials.

12.2 The Device does not contain precious metals in the amount to be accounted for.

13 INSTALLATION SPECIFICS (ON VEHICLES)

13.1 Install the Sensor in the tank placing the gasket from the installation kit between the sensor's flange and the tank's top surface. Position the Device in such a way that it's field of view of the sky is at least 40 degrees.

13.2 In case the Sensor’s wires and the extension cable are not fitted with a corrugated hose or other means of additional insulation, be sure to provide them with such by covering them with a corrugated hose or any other means of insulation. Avoid placing the cables close to any sources of heat.

13.3 When installing the Sensor be sure to check the recommendations provided in the User Manual and the Appendix 2, 3.

13.4 A fuse must be installed. The fuse is to be placed in the vehicle’s cabin and connected to the power input of the sensor.

13.5 The length of the measurement tubes of the Sensor must be specified when placing the order.

13.6 If necessary, the tubes can be cut with a hacksaw but avoid metal shavings getting inside the tubes. The min length to cut the Sensor must be not shorter than 150 mm. If the Sensor is cut shorter, it will still work fine, however, in case of installing the Sensor that short in a vehicle's tanks getting comprehensible reports is highly

unlikely due to the magnitude of fuel fluctuations inside such Sensor's tubes during the movement.

ATTENTION! REMOVE ANY BURRS AND METAL SHAVINGS OFF THE TUBES!

13.7 Insert the centrator from the installation kit.

13.8 Set full and empty calibration values (calibrate the sensor at full and empty tubes) using an iOS or Android device with Escort Configurator app installed. More information on the sensor calibration and installation can be found in the User Manual.

NOTE! CONNECT THE DEVICE TO A 12V POWER SUPPLY BEFORE ITS CONFIGURATION AND CALIBRATION!

13.9 Install the SIM card in the corresponding slot according to ANNEX 4. Coat the surface with lithium grease grease from the mounting kit. Secure the cover with four screws from the mounting kit.

13.10 The wiring diagram for the Device are provided in the Annex 1.

13.11 Seal the Sensor by means of the FAST-300 seal.

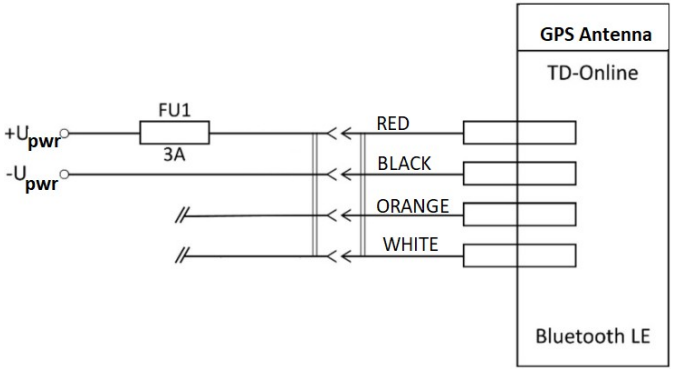
ATTENTION! FULL CALIBRATION VALUE MUST BE SET WHEN THE MEASUREMENT TUBES OF THE SENSOR ARE FILLED WITH FUEL UP TO THE DRAINAGE HOLES.

ATTENTION! WHEN INSTALLING A SENSOR WITH TWO METER LONG TUBES AND LONGER IT IS VITAL TO

INSTALL THE BOTTOM DETENT FROM THE INSTALLATION KIT IN ACCORDANCE WITH THE ANNEX 3.

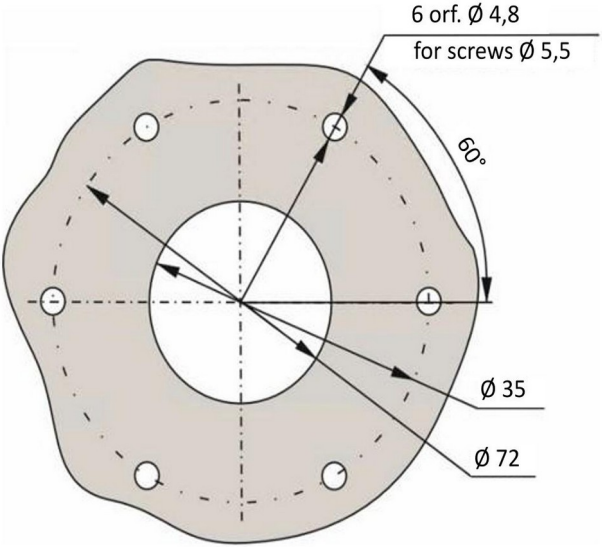
ANNEX 1

Wiring diagram for regular operation



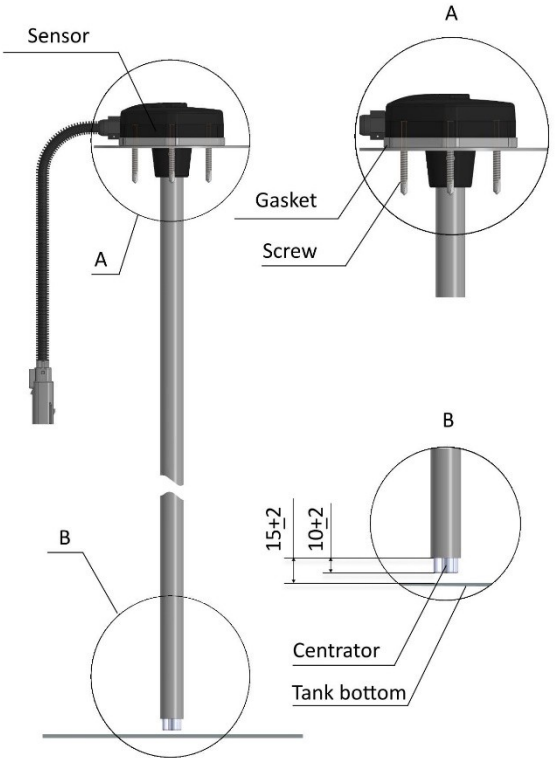
ANNEX 2

Mounting dimensions for the installation out of the default installation spot.

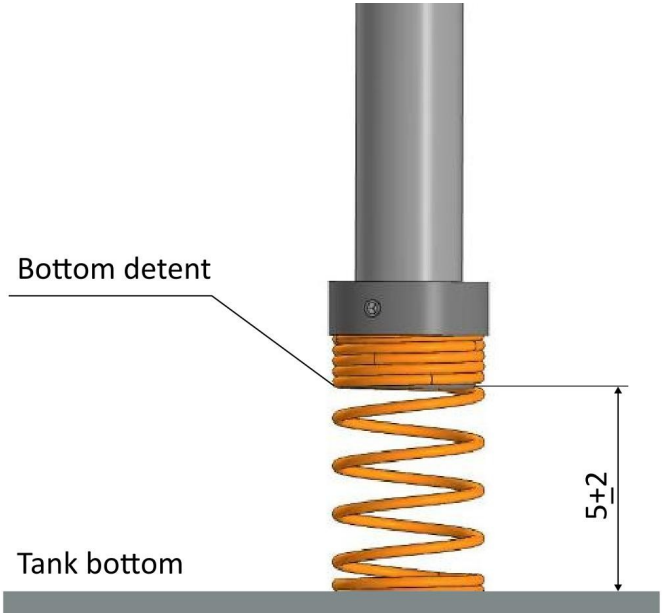


ANNEX 3

Sensor installation in a tank.

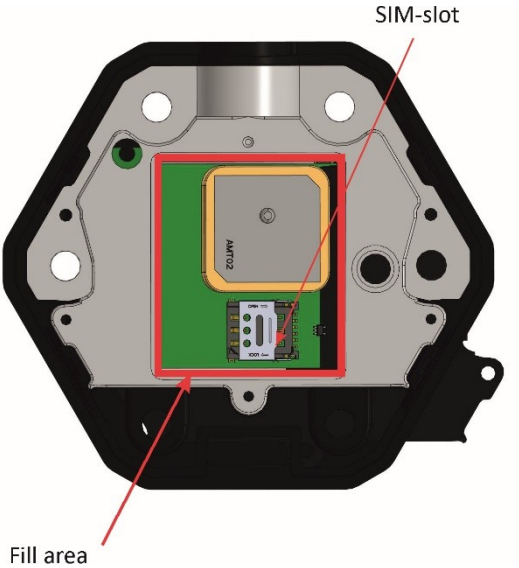


Bottom detent installation.



ANNEX 4

SIM-card installation



ANNEX 5

Sealing the Device’s head and the cable’s connector.

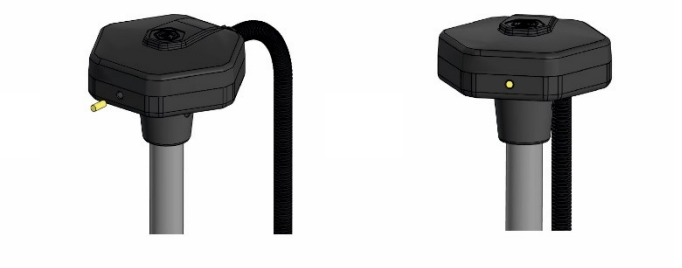


Figure 1. Sealing the Device’s head by means.

Figure 2. Sealing the Sensor’s head by means.

Figure 3. Removing the Device’s seal.

SPECIAL NOTES