

Fuel Quality Sensor TD-Q

DATASHEET

1 GENERAL PRODUCT INFORMATION

Full product name:	Fuel Quality Sensor TD-Q
Short product name:	TD-Q
Design documentation code:	
Product serial number:	
Date of manufacture:	

2 BASIC CHARACTERISTICS

2.1 The TD-Q Fuel Quality Sensor (hereinafter referred to as the sensor) is designed to determine relative changes in the dielectric constant of diesel fuel in vehicle fuel tanks and storage tanks.

2.2 In vehicles, the sensor is used to correct fuel level sensor (FLS) readings to account for changes in fuel properties.

2.3 The Fuel Quality Sensor converts the measured relative change in the dielectric constant of the fuel into a correction coefficient and transmits its value via Bluetooth Low Energy (BLE) using the Escort BLE protocol.

WARNING! THE SENSOR IS INTENDED FOR USE IN DIESEL FUEL ONLY!

DO NOT IMMERSE THE SENSOR IN ELECTRICALLY CONDUCTIVE LIQUIDS, INCLUDING WATER OR AQUEOUS SOLUTIONS, AS THIS MAY CAUSE INCORRECT OPERATION, CORROSION, OR DAMAGE!

DO NOT DISASSEMBLE THE SENSOR!

3 TECHNICAL SPECIFICATIONS

TD-Q Fuel Quality Sensor specifications are given in Table 1.

Table 1 – Technical specifications of the TD-Q Fuel Quality Sensor

Parameter	Value
Operating mode	digital
Rated battery voltage, max., V	3.6
Operating frequency range, GHz	2.402-2.480
Digital mode: - interface - data exchange protocol	 Bluetooth LE (BLE) Escort BLE
Operating range (under normal operating conditions, with no interference or obstacles, when used with TD-BLE), m, min.	3
Data exchange interval with TD-BLE (advertising), s	1
Receiver sensitivity / transmitter power, dBm (relative to 1 mW)	-96 / 4
Enclosure protection rating IEC 60529:2013	IP69S
Protection against electric shock IEC 61140:2016	Class III

Table 1 continued

Parameter	Value
Operating conditions: - operating temperature, °C - limiting operating temperature, °C - operating atmospheric pressure, kPa - limiting atmospheric pressure, kPa	 from -45 to +50 from -60 to +85 from 84 to 106.7 from 57 to 110
Overall dimensions, mm, max.	146×32
Weight, kg, max.	0.15
Fuel sensor output level correction range (correction coefficient variation range), %	±20

4 SCOPE OF SUPPLY

The scope of supply for the TD-Q Fuel Quality Sensor is given in Table 2.

Table 2 – TD-Q scope of supply

Item	Qty.	Serial No.	Notes
Fuel Quality Sensor TD-Q	1 pc.		
Spring clamp 20-24	1 pc.		
Product Datasheet	1 pc.		
Operating Manual	1 copy		Supplied separately
Note: The manufacturer reserves the right to change the scope of supply without prior notice to the customer.			

5 SAFETY PRECAUTIONS

During installation, operation, and maintenance of the sensor, electrical and fire safety requirements, as well as safety precautions for handling fuels and lubricants, must be observed.

6 SERVICE LIFE, STORAGE PERIOD, AND MANUFACTURER WARRANTY

6.1 The warranty period is 12 months from the date the sensor is shipped by the manufacturer.

6.2 Service life: 2 years.

6.3 The manufacturer guarantees that the sensor complies with the technical requirements provided that the customer observes the operating, transportation, and storage conditions.

6.4 If any malfunction is detected, contact the manufacturer.

6.5 The warranty does not cover products with defects caused by the customer due to violation of the operating, storage, or transportation conditions.

6.6 The manufacturer reserves the right to make changes to the product design and scope of supply without prior notice to the customer.

7 PACKING CERTIFICATE

Fuel Quality Sensor TD-Q, serial No. _____, was packed by the Manufacturer in accordance with the requirements of the applicable technical documentation.

Packing date _____

Packed by

_____ _____/_____/

position signature printed name

Packing accepted by

_____ _____/_____/

position signature printed name

_____

year, month, day

8 ACCEPTANCE CERTIFICATE

Fuel Quality Sensor TD-Q, serial No. _____, has been manufactured in accordance with the applicable technical documentation and is approved for operation.

Date of manufacture _____

Head of Quality Control

Stamp _____/_____/
signature printed name

_____
year, month, day

9 INSTALLATION CERTIFICATE

Fuel Quality Sensor TD-Q, serial No. _____, has been installed in accordance with the applicable technical documentation on the following vehicle/equipment:

name	identification number / registration number

signature	full name	day, month, year

notes

10 TRANSPORTATION AND STORAGE

The product shall be transported in the manufacturer's packaging in enclosed vehicles. Store the product in dry premises at a relative humidity of no more than 80% and at a temperature from +5 to +40 °C. Storage areas must be free of conductive dust, aggressive substances, and vapors that may cause corrosion of components and deterioration of electrical insulation.

11 DISPOSAL

11.1 The product shall be disposed of by the operating organization in accordance with the regulations and rules applicable in the country of use.

11.2 The TD-Q Fuel Quality Sensor contains components that must be disposed of in accordance with the established procedure: printed circuit boards with electronic components and polymer parts.

11.3 The sensor does not contain precious metals in quantities subject to accounting.

12 INSTALLATION ON VEHICLES AND MOBILE MACHINERY

12.1 Attach the TD-Q to the measuring tube of the TD-BLE sensor using the spring clamp, as shown in Figure 1.

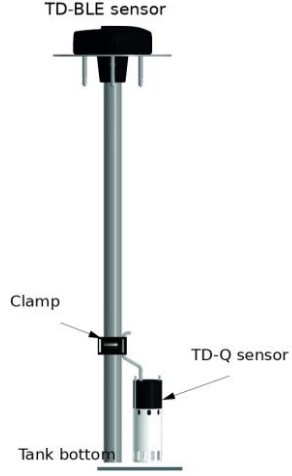

Figure 1 – Mounting the TD-Q sensor on the TD-BLE sensor

12.2 Detailed information on TD-Q setup, installation, and calibration is provided on the wiki page; see the QR code below.

13 CONTACTS

Technical Support, ext. 2

8 960 046 46 65 – WhatsApp messages, 24/7.

help@escortsensors.com

The QR code contains a link to the manufacturer's website:

Appendix 1

Overall dimensions of the TD-Q Fuel Quality Sensor

