MERCETECH INNOVATIONS

Mercetech Innovations Private Limited
ISO 9001:2015

FUEL LEVEL SENSOR

SP-BLE 4 MODEL PASSPORT


MERCETECH
Fuel Level Sensors
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882740
SP-BLE 4

GENERAL INSTRUCTIONS

This passport must be in the place of registration of operational documentation. When filling out a passport, pencil entries, erasable entries, and erasures are not allowed.

An incorrect entry must be carefully crossed out, and a new one written next to it. New entries must be certified by the responsible person.

When installing and operating the fuel level sensor (hereinafter referred to as the “Sensor”), the installation and operating instructions should be followed. This document is available upon request.

Before installing the Sensor, fill the tank with water, or drain the fuel and lubricants and clean the tank until all flammable liquids and their vapors are completely removed!

BASIC SENSOR INFORMATION

The fuel level sensor (FLS) is designed for use in transport monitoring (control) systems.

It measures the level of fuels and lubricants in a fuel tank or a stationary tank in real time.

The FLS is suitable for measuring diesel fuel, gasoline and oil.

The sensor (fuel level) values are read by the transport control terminal using Bluetooth.

Description of fields

1. x02 – Data block length
2. x01 – type (BLUE Flags)
3. x06 – advertising flags
4. x10 – data block length
5. xFF – type
6. x16 – constant
7. x0F – constant
8. x00 – constant
9. xCC – fuel level u_int16 x06CC=1740
10. x06 – fuel level u_int16
11. x23 – remaining battery power in months u_int8 x23=35 months
12. x1 – temperature int8 x1D=29 C F1=15 C..
21. x08 – block length with sensor name
22. x09 – type (block with the sensor name)
23. . . . . .x475F3132333435=G_12345

TERMS OF OPERATION

When using the sensor, it is prohibited to:

- DON'Ts use the Sensor not for its intended purpose
- DON'Ts expose the Sensor to aggressive environments
- DON'Ts expose the sensor to mechanical influences that can damage its structure.

MAIN TECHNICAL SPECIFICATIONS

Name of specification or parameter	Value
Permissible measurement error	No more than 1%
Supply voltage	Li-SOCL2 14500 3.6v battery
Operating temperature range	From -40 to +60 C
Enclosure protection class	IP68
Length of the standard model measuring part	1000mm
Maximum length of the sensor measuring part	5m
Minimum length of the sensor measuring part	Not limited
Measuring temperature range	From -40 to +85 C
Temperature error	0.5 C
Weight	Not more than 1kg
Average product lifetime	7 years

TRANSPORTATION AND STORAGE

- All forms of closed land and sea transportation (in railway cars, containers, closed cars, holds, etc.) are permitted for the sensor's transportation inside the manufacturer's packaging.
- It is permitted to travel in heated, sealed aircraft compartments.
- Sensors in factory packaging should be shielded from dust, dirt, and precipitation when being transported in an open manner.
- The handling signs printed on the group transport packaging must be followed during storage and transit.

DELIVERY SET

Main delivery set

Name	Q-ty
Level Sensor	1 pc.
Measuring tube	1 pc.
Self-tapping screws	5 pcs.
Plastic seal	5 pcs.
Rubber gasket	1 pc.

OPERATING PRINCIPLE

The fuel level sensor is a linear transducer of dielectric liquid level into electric capacitance. Two concentric tubes form the covers of a capacitor, the capacity of which changes when the liquid level changes.

The capacitor capacity change is converted into a digital code by the electrical circuit of the sensor. Temperature measurement (temperature sensor in the case) is made at the same time.

The received data is processed by the algorithm to calculate the fuel level with all corrections.

SENSOR INSTALLATION AND CONNECTION

Sensor installation and sealing are carried out in accordance with the Installation and Operation Manual.

The sensor can be used directly with equipment that supports BLE technology.

SENSOR INSTALLATION AND CONNECTION

The warranty period of operation of the sensor is 12 months from the date of sale of the sensor through a retail or wholesale trade network to the end user.

If there is no mark of the trading organisation on the date of sale in the warranty card, the warranty period is 18 months (calculated from the date of production of the sensor by the manufacturer).

The specified warranty obligations are valid if the consumer complies with the requirements of the current operational documentation.

In case of violation of these requirements, or in the presence of damage from the intentional application of high-voltage electrical voltage to conductive parts of the sensor, traces of aggressive environments or mechanical damage, the warranty obligations are considered to have lost their validity.

DISPOSITION INFORMATION

The materials used in the product do not contain substances that may have a harmful effect on the environment and human body during and after use of the product.

The product does not contain precious metals in quantities that are subject to accounting or surrender.

At the end of its service life, the product is subject to measures for preparation and shipment for recycling in accordance with the normative and technical documents adopted by the operating organisation for the disposal of ferrous and non-ferrous metals and electronic components.