ULTRASONIC FUEL LEVEL SENSOR

Product Description

MODEL：TUB01/02

Catlog

1. Product Introduction

Ultrasonic fuel level sensor is an ultrasonic liquid level measurement sensor ，It is used to measure the level height of the oil tank, Tank and container. the products are mainly used in the field of car networking, which is designed for the fuel management needs of company fleet. This sensor can be used to prevent the driver to steal fuel,optimize the operating costs,optimize the driver's driving behavior and auxiliary statistical decision, etc. The sensor is equipped with a high precision ultrasonic probe, which can detect the fuel quantity in the fuel tank. Fuel quantity data will be sent to the server via GPS tracker，then generate the data report. Sensor support for serial output, so, it can easily docking with other system. The product can also be used in chemical industry, water conservancy, storage tanks and other liquid level detection areas.

2. Parts List

2.1 Standard parts list

List	PCS	Picture
Probe	1 pcs	 Probe ϕ33mm Probe height：12.7mm Wire length：1 M
8 meters extension wire	1 pcs	
Fuse	1 pcs	
Ultrasonic Couplant	1 box	
15CM cable tie	10 pcs	
Abrasive paper	1 pcs	
AB Glue	A&B 1 pcs	

2.2 Optional List

序号	可选配置清单	图片
1	WiFi installation tool	

2	Installation display tool	➢ 

2.3 Product packing specification

The packing weight of each product is about 550g. 20 PCS of a box

3. Get Started

3.1 Technical parameters

No.	Project	Introduction
1	Working Voltage	DC 9V~36V.
2	Working Temperature	-30℃~+75℃
3	Storage temperature	-40℃~+85℃.
4	Working humidity	5%~90%.
5	Maximum power consumption	0.4W/12VDC
6	Measurement accuracy	±0.5%;
7	Measurement resolution	0.1mm
8	Inbreaking Protection	IP66
9	Liquid level value unit	Millimeter
10	Measurement range	5-100cm
11	Peripheral interface	RS232 / RS485
12	Communication port parameter	Baud rate 9600, no parity bit, 8 data bits, 1 stop bit, no flow control. Sensor will smooth the height and temperature values, and transmits them every 10 seconds.All datas can be customized.

3.2 Power on

- Input voltage is between DC 9V~36V. Sensor can be connected to the 12V or 24V car battary directly.
- Sensor has no built-in battery.

3.3 Interface introduction

RS232：

NO	Pin color	Definition	Connect to GPS Tracker
1	Yellow	Tx	RX
2	Blue	Rx	TX
3	Brown	SGND	GND
4	Red	V+	V+
5	Black	V-	V-
6	Green	Reserve	Reserve

RS485：

NO	Pin color	Definition	Connect to GPS Tracker

1	Yellow	B	B
2	Blue	A	A
3	Brown	SGND	No need to connect
4	Red	V+	V+
5	Black	V-	V-
6	Green	Reserve	No need to connect

3.4 Digital outputs and Analog outputs

- When using the RS232 serial port to connect GPS trackers and sensors,connect up the sensor's yellow wire to tracker's Rx port, connect up the sensor's blue wire to the tracker's Tx port, connect up the sensor's black wire to tracker's Ground port.
- Connect the sensor's serial port to computer, watch over
- the output data through serial port debug tool.

3.5 Auxiliary installation display tool

Display	Introduction
	➢ 1、To check the number of echoes, the height, the status code
	➢ “3” represents the Echo number ➢ “2” represents the status code ➢ Specific can refer to *Installation guide(TUB).docx*
	➢ “018.9” represents the liquid level height is 18.9cm
	➢ If the probe tilt angle is too large, it will send the alarm ➢ F 4: "F" means tilt error alarm. "4" indicates an inclination angle of 4 degrees ➢ The alarm will not be issued only when the tilt angle of the probe is less than 4 degrees.
	➢ When the display powered, but not connected to the probe, the display will show "9 9", please connect the probe, before you can continue to it.
	➢ If there is "FFFF", please turn off the power and restart the device, if repeat sevel times, it will still be FFFF, please contact the after-sales engineer.

3.6 Couplant Introduction

Couplant	Introduction
	➢ The couplant is only used for selecting the installation area. ➢ Befor pasting, clean the residual couplant on the probe surface or at the bottom of the fuel tank.

3.7 Glue

A B Glue	Introduction
	➢ Mix A&B according to the volume ratio of 1:1 ➢ To stick probe：Push out 1cm A&B to the surface,mix evently ➢ Initial cure time is 6~15 min

3.8 Fuse

Fuse	Introduction
	➢ Please connect fuse to extension wire's red wire

4. Features of Product and Application range

4.1 Advantage of Ultrasonic fuel level sensor

1.High accuracy.

Resolution of sensor's measurement for fuel height is 0.1mm.And its measurement accuracy is ±0.5%. It keeps higher accuracy even in highest or coldest outside environment.

2.Excellent stability.

Being different from direct-contact measurement like float-type,pressure-type,magnetic sliding-type, untrasonic fuel level sensor adopts non-contact measurement, which can avoid pollution and corrosion from fuel and keep stability in a long period of time.

3.Easy installment and maintenance.

You only need to install the sensor probe on lower surface of fuel tank. You don't need to change its original measurement system or punch hole for it. Its original fuel meter operates as usual.

4.No pollution and lower consumption.

This non-contact measurement and non-punch hole for fuel tank can keep off pollution from fuel.

5.High reliability.

It can still work in harsh environment and it is damp-proof, acid-proof, flame-retardant, anti-interference,and intelligent.This product can be used independently to check fuel level data from auxiliary display unit. It seamlessly integrated with GPS tracker which sends fuel level data to host computer for statistics data collection, and perform analysis and query.

4.2 Application

The ultrasonic fuel level sensor is used for digital recording vehicle refueling, to prevent driver stealing oil , avoid the waste of resources, improve operational efficiency, and improve the traffic safety, strengthen the operation and management level.

This sensor is applicable to various types of vehicles such as trailers, taxis, buses, concrete mixer truck, engineering machinery, sanitation trucks and other.The products can also be used in chemical industry, water conservancy, storage tanks and other liquid level detection areas.The product can also be used in chemical industry, water conservancy, storage tanks and other liquid level detection areas.