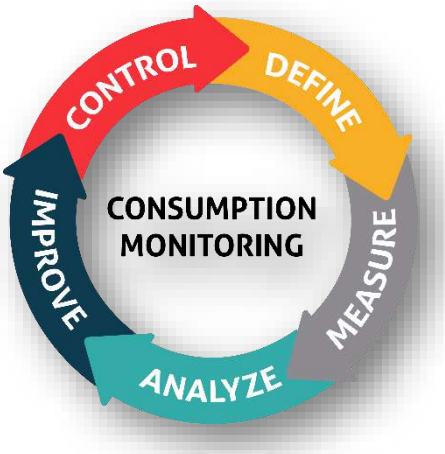
Fuel Level Sensor

FLS3600



brief features

FLS3600 latest version is an intelligent solution for accurate consumption measurement for Fuel. An affordable Fuel Level Sensor FLS3600 introduces a groundbreaking approach to accurate fuel measurement, employing LIDAR (Light Detection and Ranging) technology for unparalleled precision and reliability. Unlike traditional fuel level sensors that rely on float mechanisms or capacitance, the FLS3600 utilizes advanced laser-based technology to provide real-time, non-contact measurement of fuel levels in tanks of various shapes and sizes.

In this process, the FLS3600 emits laser pulses towards the fuel surface and measures the time it takes for the pulses to reflect back to the sensor. By precisely calculating the round-trip time of each pulse, the sensor accurately determines the distance to the fuel surface, enabling precise measurement of the fuel level.

One of the key advantages of the FLS3600 is its ability to deliver consistent performance across a wide range of environmental conditions, including temperature variations and fuel types. Whether monitoring gasoline, diesel, or other liquids, the sensor maintains its accuracy and reliability, making it suitable for diverse applications in industries such as automotive, marine, and industrial.

The intelligent FLS3600 use advanced dual core MCU and TFT color screen for display multiple parameters. Web enabled intuitive and easy-to-use menu for monitoring, configuration and diagnostics. Changing tank type, offset, tank parameters, totalizers can be done from any browser through by using smart phones, tablets or laptop or OTA. Modbus RS485 option can be used to connect with any PLC or SCADA.

applications customers

APPLICATIONS

For application in industrial and commercial Fuel Level monitoring

- Fuel Storage Tanks
- Generator Systems
- Vehicle Fleets
- Marine Applications
- Agricultural Machinery
- Construction Equipment
- Industrial Process Equipment

CUSTOMERS

Industrial and commercial sectors, such as:

- Chemical processing
- Textiles
- Power plants
- Steel rerolling mills
- Pharmaceuticals
- Gas distribution (supply organizations)
- Bulk customers (housing societies)
- Sub metering
- Hotels

technical specifications

DISPLAY

TFT color display: Display parameters: Meter ID, Fuel Level, Available Fuel, Tank Capacity, Distance, Fuel Fill, Fuel Consume, Fuel Pilferage, Total Fuel Consumption, Total Fuel Fill, Total Fuel Pilferage

SENSOR

- Measuring range: 40~1200 mm
- Accuracy: ±1mm

DISPLAY HOUSING

- Operating temperatures: 0~70 °C
- RH: 0~90%
- Protection: IP 65

COMMUNICATION

- Wi-Fi: Web enable
- Master/Slave auto switching
- Modbus RS485

POWER SUPPLY

- SMPS 100-250 V AC
- 9 ~ 24 V DC, 1 A

SETUP

- Calibration, Configuration & OTA: From any web browser through smart phone or laptop Wi-Fi

MECHANICAL

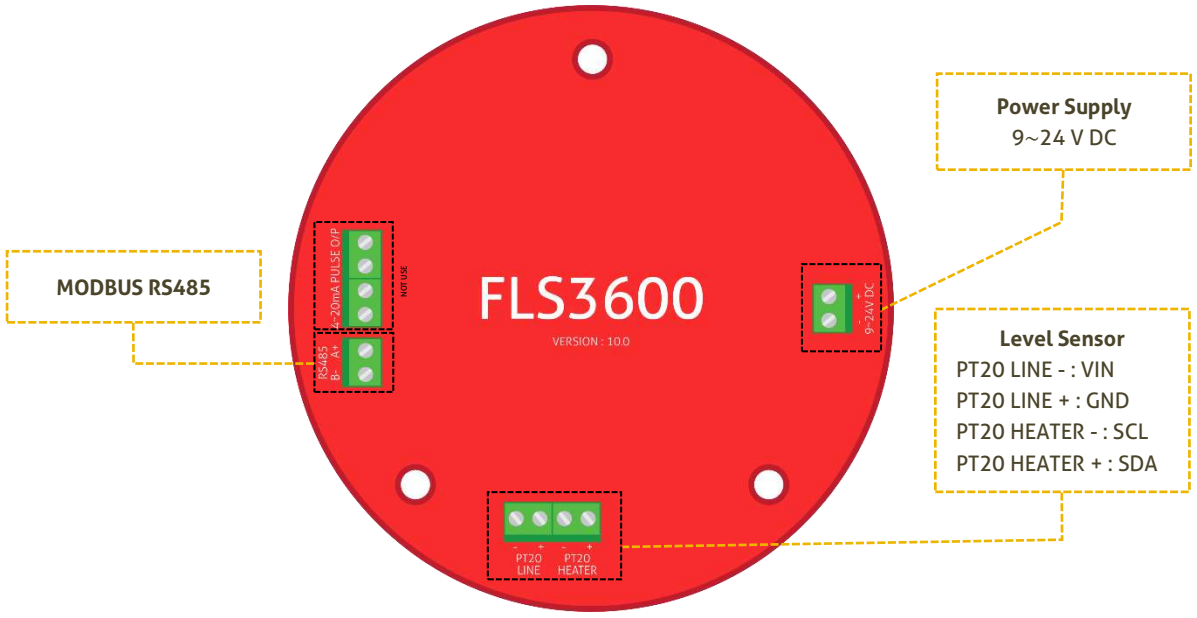
SHAFT

- Material: 304 and 316L
- Length: 186 mm
- Diameter: 16mm
- IP protection: IP67
- Fast ferrule fittings
- Flange fitting

DISPLAY HOUSING

- Aluminum die cast
- Epoxy resin painted
- IP protection: IP65
- Humidity: 0~100% RH
- Electrical wiring through: Glands J13.5 X 2
- Electrical connections: Detachable jacks

wiring connections



display screens

User friendly color TFT LCD industrial grade display, which is displaying all important required parameters.

STARTUP SCREEN

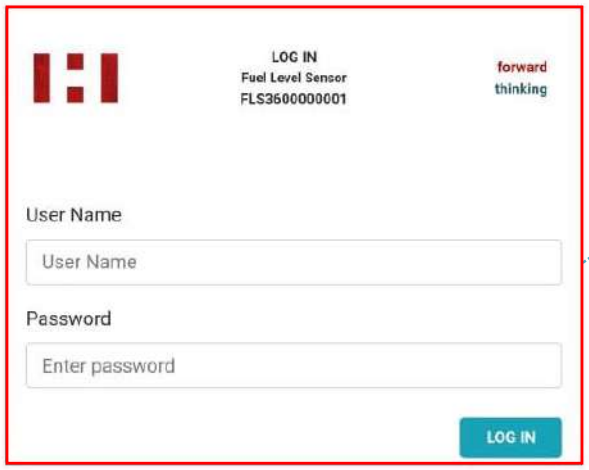
MAIN SCREEN (1)
Display parameters:
Fuel Consume
Fuel Fill
Fuel Pilferage
Available Fuel
Total Fuel Consumption
Tank Capacity
Fuel Level
Distance

MAIN SCREEN (2)
Display parameters:
Fuel Consume
Fuel Fill
Fuel Pilferage
Total Fuel Fill
Total Fuel Pilferage
Tank Capacity
Fuel Level
Distance

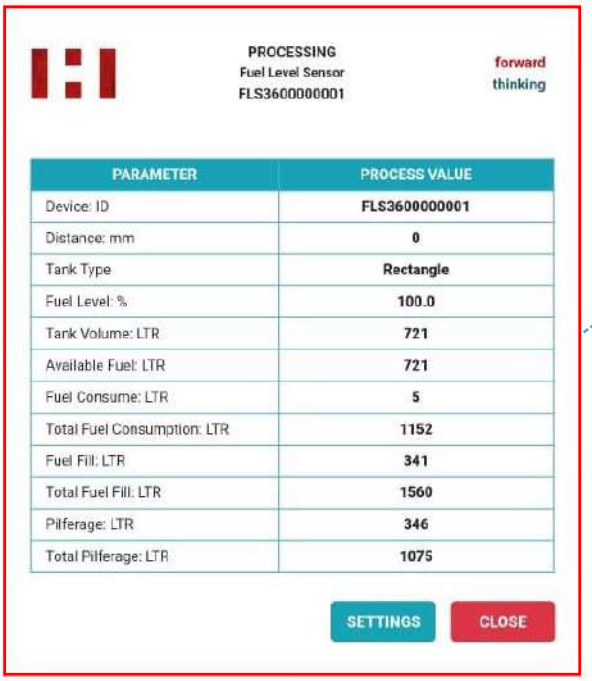
setup configuration

A user-friendly interactive web enabled browser interface for flow meter parameters configuration. Every screen is self-explanatory.

1ST Page
For display Distance & Available Fuel
IP: 192.168.9.**54**
SSID: FLS360000xxxx
Password: hunchxxxxxxxxxx



Login Page
User Name: hunch
Password: 77xx



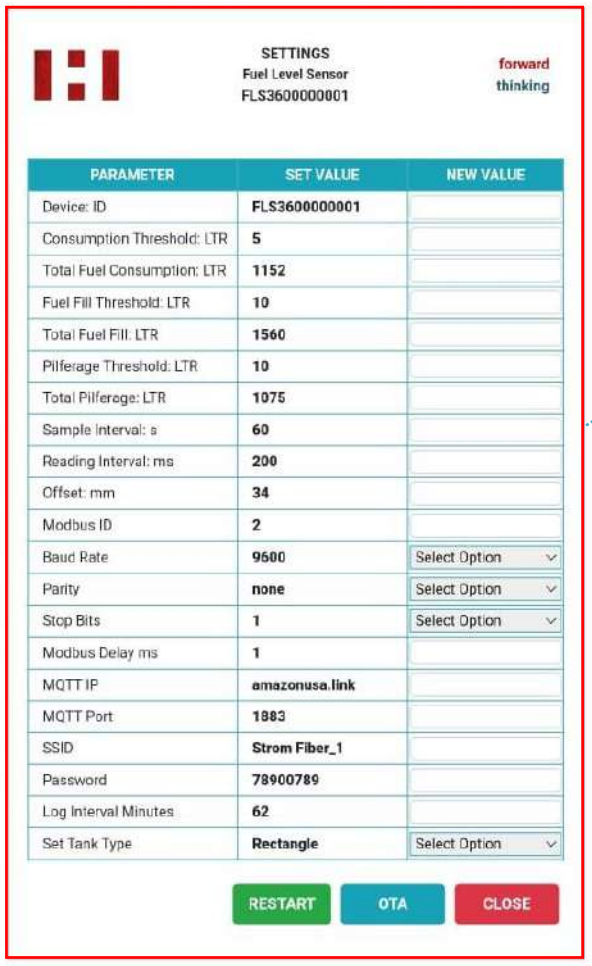
PROCESSING
Fuel Level Sensor
FLS3600000001

forward thinking

PARAMETER	PROCESS VALUE
Device: ID	FLS3600000001
Distance: mm	0
Tank Type	Rectangle
Fuel Level: %	100.0
Tank Volume: LTR	721
Available Fuel: LTR	721
Fuel Consume: LTR	5
Total Fuel Consumption: LTR	1152
Fuel Fill: LTR	341
Total Fuel Fill: LTR	1560
Pilferage: LTR	346
Total Pilferage: LTR	1075

SETTINGS CLOSE

Parameter display page



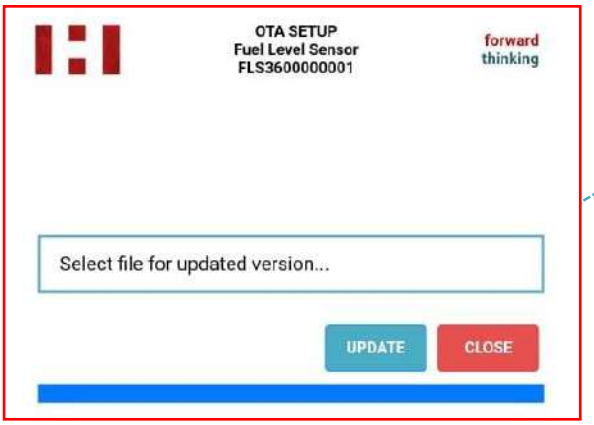
SETTINGS
Fuel Level Sensor
FLS3600000001

forward thinking

PARAMETER	SET VALUE	NEW VALUE
Device: ID	FLS3600000001	
Consumption Threshold: LTR	5	
Total Fuel Consumption: LTR	1152	
Fuel Fill Threshold: LTR	10	
Total Fuel Fill: LTR	1560	
Pilferage Threshold: LTR	10	
Total Pilferage: LTR	1075	
Sample Interval: s	60	
Reading Interval: ms	200	
Offset: mm	34	
Modbus ID	2	
Baud Rate	9600	Select Option
Parity	none	Select Option
Stop Bits	1	Select Option
Modbus Delay ms	1	
MQTT IP	amazonusa.link	
MQTT Port	1883	
SSID	Strom Fiber_1	
Password	78900789	
Log Interval Minutes	62	
Set Tank Type	Rectangle	Select Option

RESTART OTA CLOSE

Settings Page
Configuration
Calibration



OTA
Over The Air firmware upload

communication Modbus tags

CONFIGURATION

FLS3600 has built-in Wi-Fi module with complete SPIF web enabled stack. Therefore, there is no need of any special data communication hardware or software, an end user can easily configurate it by using any browser through HTTP. In configuration mode FLS3600 will act as a Master.

DATA LOGGING

Furthermore, FLS3600 has comprehensive feature of data transferring of its tags to local or cloud server by using its built-in Wi-Fi module in Salve mode through HTTP/MQTT. By using feature end user can log the data to its local or remote server for online monitoring and reporting purpose.

MODBUS RS485

FLS3600 has built-in Modbus RS485 module, therefore, end user can get the data to PLC, DCS, SCADA, OPC server or any data communication module/software.

Standard Modbus tags detail is as under for communication.

DEFINE NAME	TYPE	ADDRESS	
Distance	Swapped long	0X02	
Tank Capacity	Swapped long	0X04	
Fuel Level	Swapped long	0X06	
Available Fuel	Swapped long	0X08	Function code: 03 or 04
Fuel Consume	Swapped long	0X0A	
Fuel Fill	Swapped long	0X0C	Register type: Holding register
Fuel Pilferage	Swapped long	0X0E	
Total Fuel Consumption	Swapped long	0X10	
Total Fuel Consumption	Swapped long	0X12	
Total Fuel Consumption	Swapped long	0X14	

mounting instructions

For proper fuel measurement, Fuel Level Sensor should be installed perpendicularly and kept 15mm above the tank surface.

forward thinking

HUNCH AUTOMATION PRIVATE LIMITED

4/17 M Block, Gulberg III, Lahore, Pakistan
Email: info@hunch.com.pk
Website: **www.hunch.com.pk**