

# Wireless Fuel Sensor

Remote Fuel Monitoring using Wireless Fuel Sensor.



OLED DISPLAY



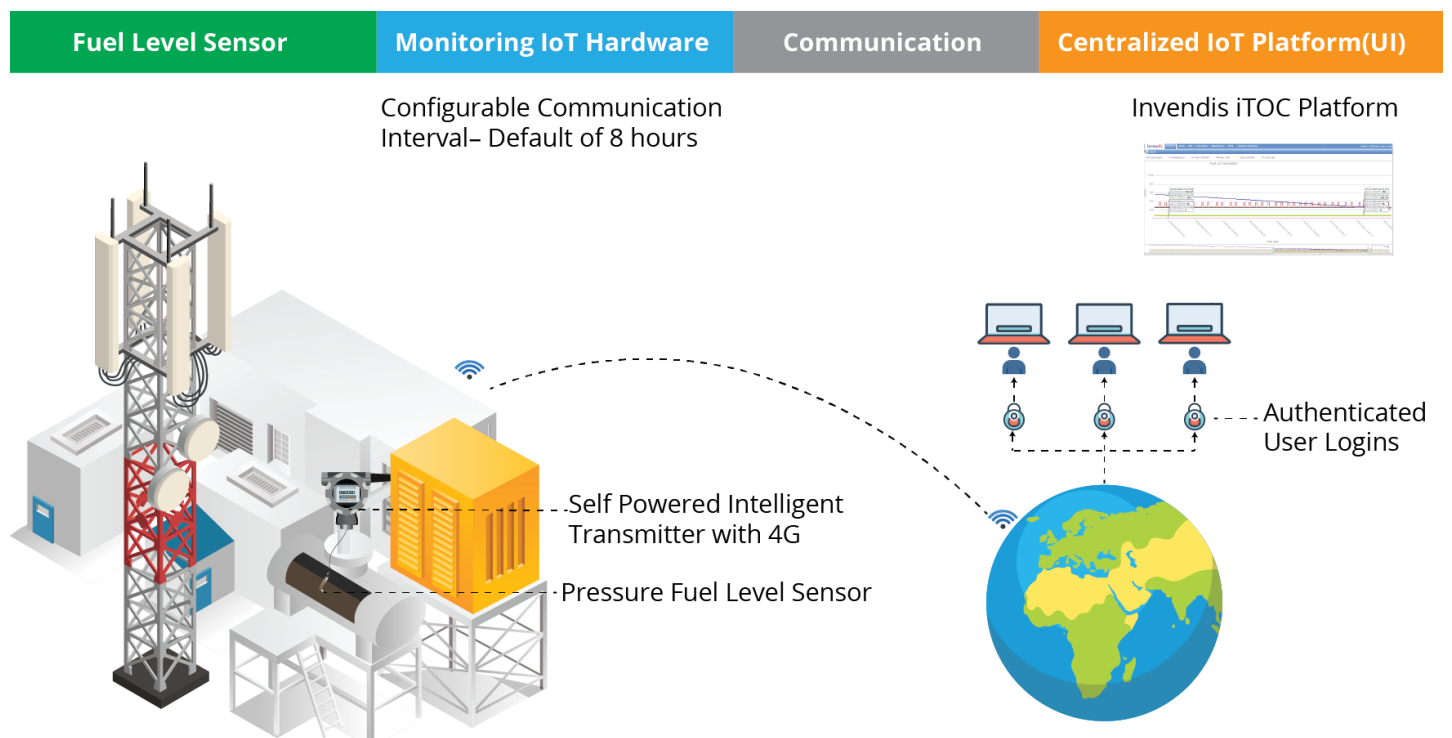
EXPLOSION  
PROOF DESIGN



ALARM FOR  
LOW POWER  
& FUEL

# Introduction

Fuel is the prime input for any generator / vehicles to run. Usage of fuel should be diligently handled and utilised to optimal level. Expenses on fuel implies the opex to run any operation involving fuel / generator. Specially the telecom towers depend on diesel generator as a standby power source and adequate fuel levels needs to be maintained in each telecom tower location. Fuel being versatile and can be used in generator or vehicle, the theft cases are inseparable. To have better control of the situation, enabling remote monitoring of fuel becomes very important and Invendis has a solution that enables the monitoring of fuel level in remote locations through its IoT enabled fuel sensor and the centralised platform.



\*conditions apply

# Technical Specification

Parameter Description	Desired Value
Total Accuracy	±1.0% FS (typ.)
Stability	±0.2% FS/year
Compensation Temp.	(0~50)°C
Operation Temp.	(-10~70)°C
Storage Temp.	(-30~80)°C
Output Shock	20g, (20~5000)Hz
Impact	20g, 11ms
Protection	IP68 for sensor and IP65 for transmitter
Media Compatibility	Diaphragm: stainless steel 316L
Media Compatibility Mounting Weight	Housing: stainless steel 1Cr18Ni9Ti
	O-ring: Viton
	On the top surface of tank with sensor connected from bottom of mounting box
Wireless Compatibility	BLE – To communicate with nearby compatible device
Power Supply	3.6V@38Ah Lithium Battery
Expected Battery Life	Upto 2 Year when configured above 8 hours data send interval. May change when the interval is set differently for BLE Application.
Consumption	Average current at sending status≤100mA@3.6V DC, at sleep mode≤20uA@3.6V DC

\*conditions apply

# Solution Approach

- The wireless fuel sensor comes with fuel measuring unit (pressure sensor) and the data transmission unit all in an integrated unit.
- The wireless fuel sensor is self-powered with a Lithium battery which sustains the sensor for a year and more when configured to send data once in 8 hours.
- The wireless fuel sensor comes with 4G module that supports data enabled SIM to latch to network and send data.
- The application hosted in a centralised server enables monitoring of fuel level from multiple sensors deployed on ground.
- Alerts on low fuel enables user to take necessary action proactively.

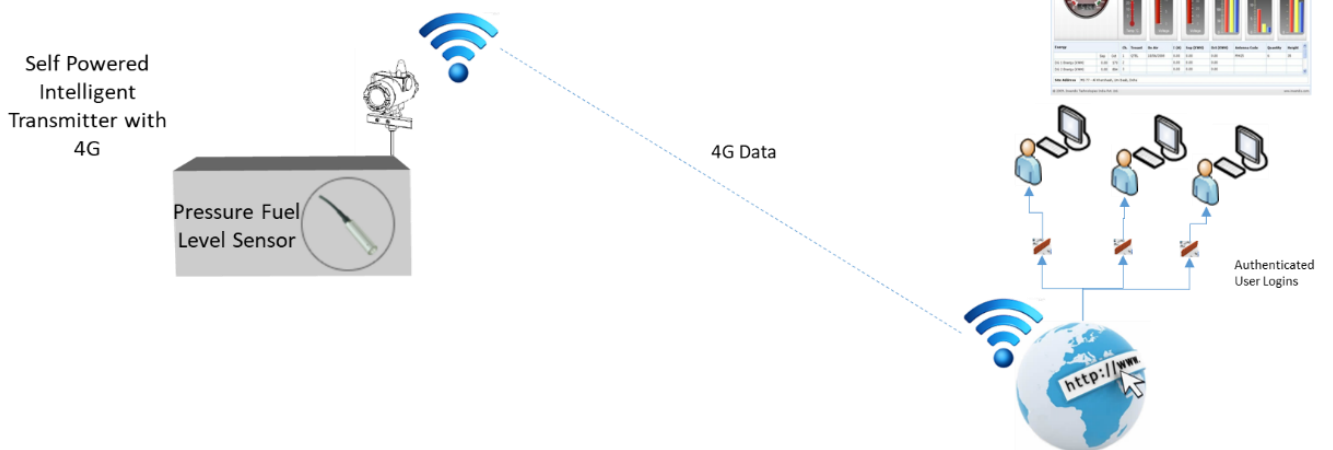
Fuel Level Sensor

Monitoring IoT Hardware

Communication

Centralized Monitoring Platform (UI)

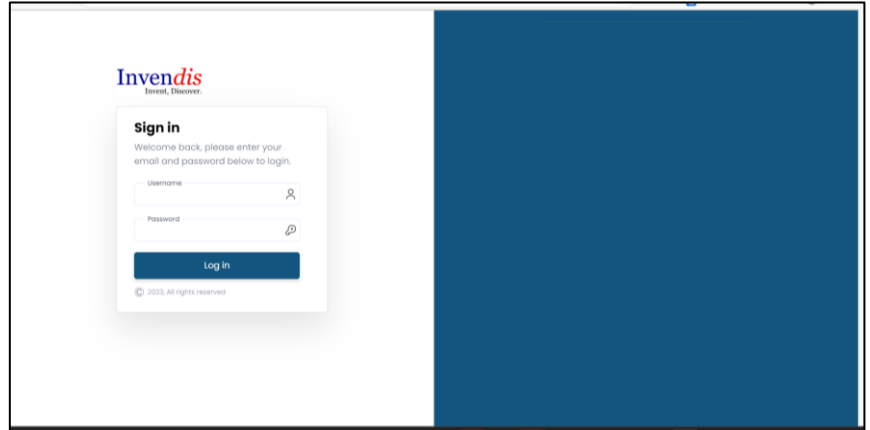
Configurable Data Send Interval – Default of 8 hours



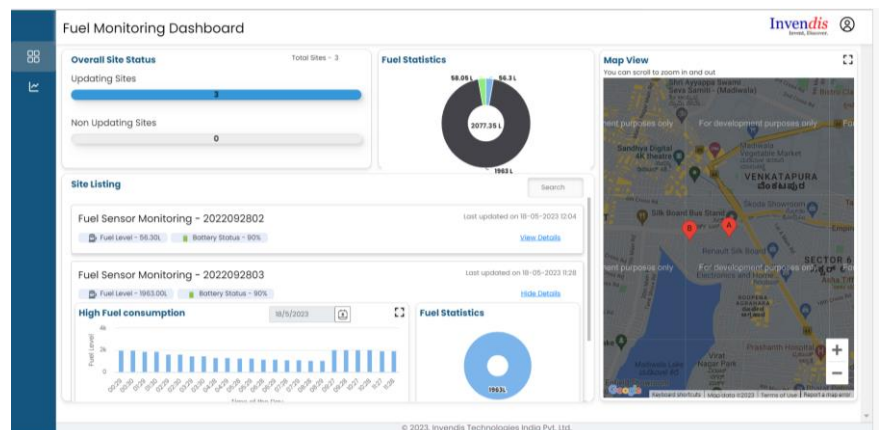
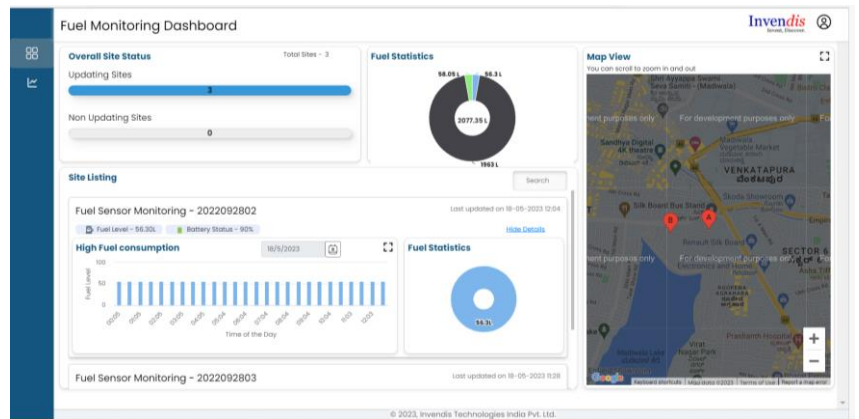
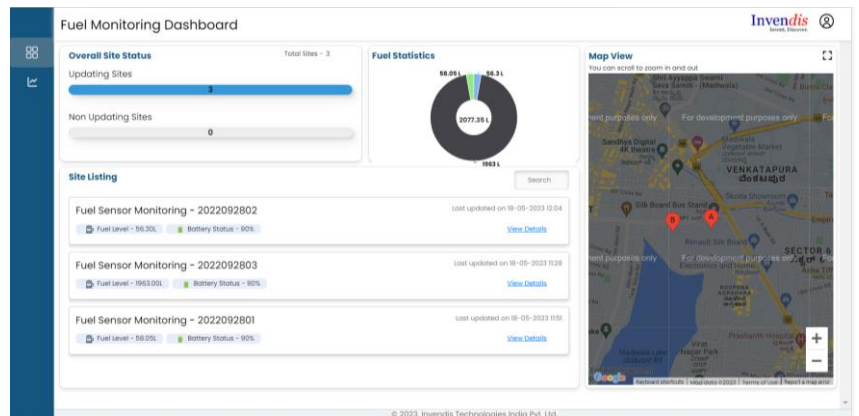
\*conditions apply

# Application Features

**Login Screen:** Allows only users with valid credentials to access the information.

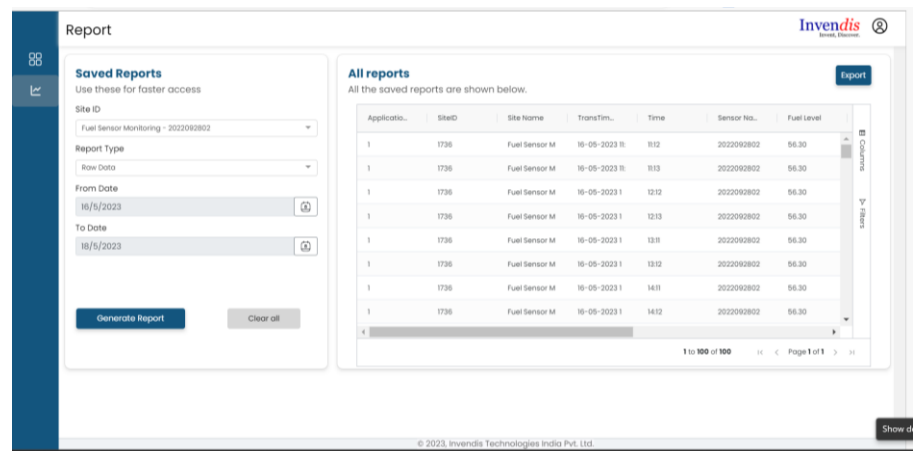
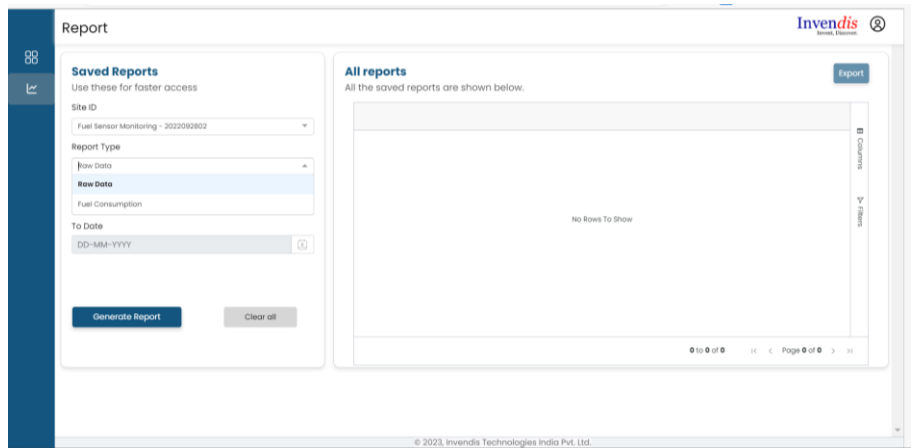


**Site Listing Screen:** Shows all sensors connected to the platform with last updated information from each sensor. This also gives the details of last 24 hour graph and can be toggled to see older date trends for each sensor. This screen also gives the alarm information and the portfolio level fuel availability.

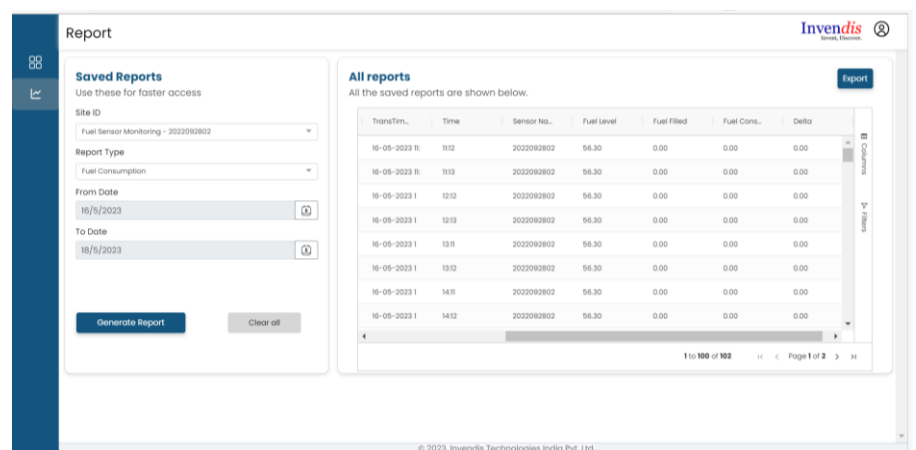


\*conditions apply

**Raw data** – This is the data as received from sensor at every time interval. The data is represented with each row depicting one time series record of data as received from sensor.



**Fuel Consumption** – This gives the information on fuel filled value or fuel reduction value as per sensor information for the selected time duration.



\*conditions apply

# Conclusion

Invendis wireless fuel sensor is a tailor-made pressure-based fuel sensor. The primary sensing element is a pressure sensor which gets to the bottom of the tank and the communication attachment is a 4G GSM Module. The entire unit is powered using a battery which enables sensor to work for long period without external power source



118,000+  
Telecom Towers



30,000+  
Routers



15+  
Global  
MNO/Tower CC



26+  
Countries



500,000+  
Connected Assets



20,000+  
Enterprise Users

