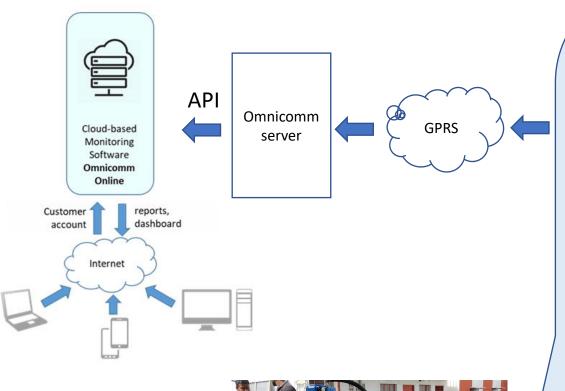


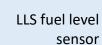
OMNICOMM fleet monitoring solution

Smart fuel pump solution

SOLUTION ARCHITECTURE











Water flow meter (MODBUS)



Engine temperature sensor 1



Engine temperature Sensor 2



Engine temperature Sensor 3



Vacuum pump temperature Sensor 4



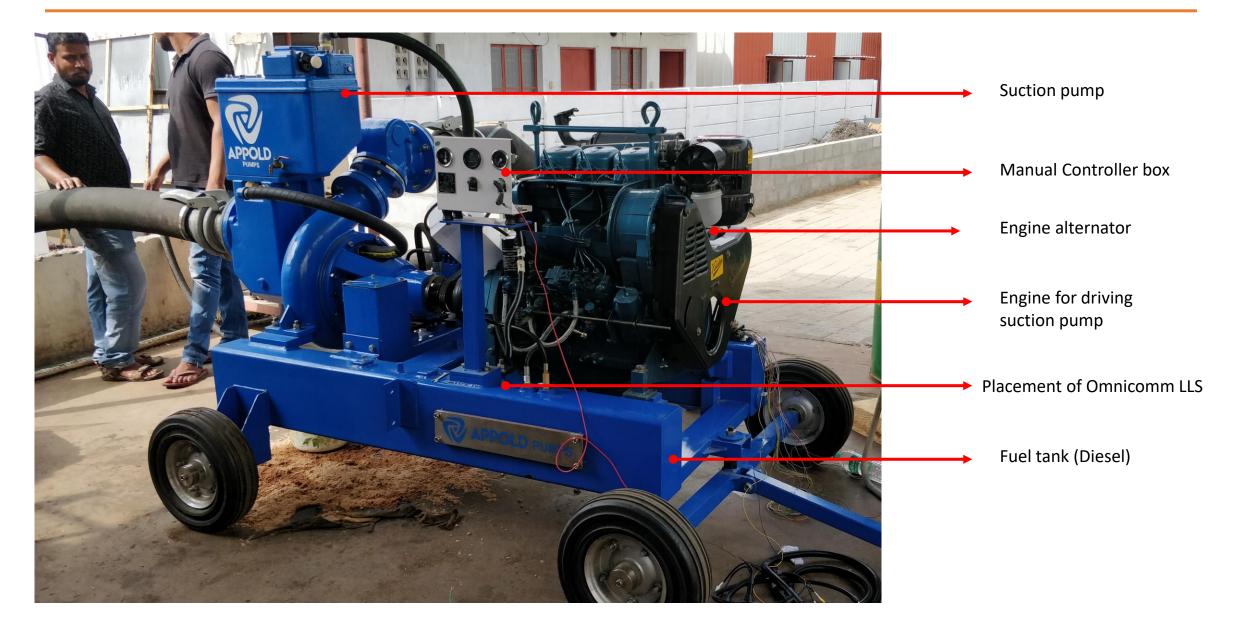
Water presence sensor

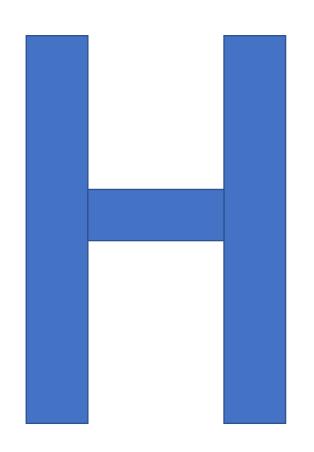


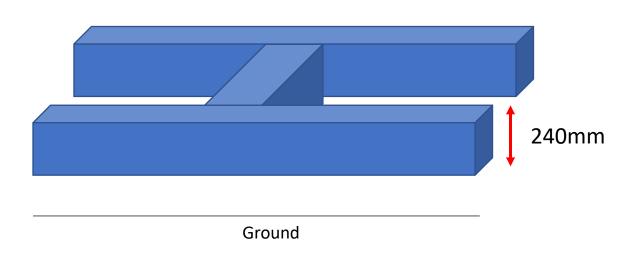


Omnicomm terminal **OPTIM 3.0**

WATER PUMP ENGINE





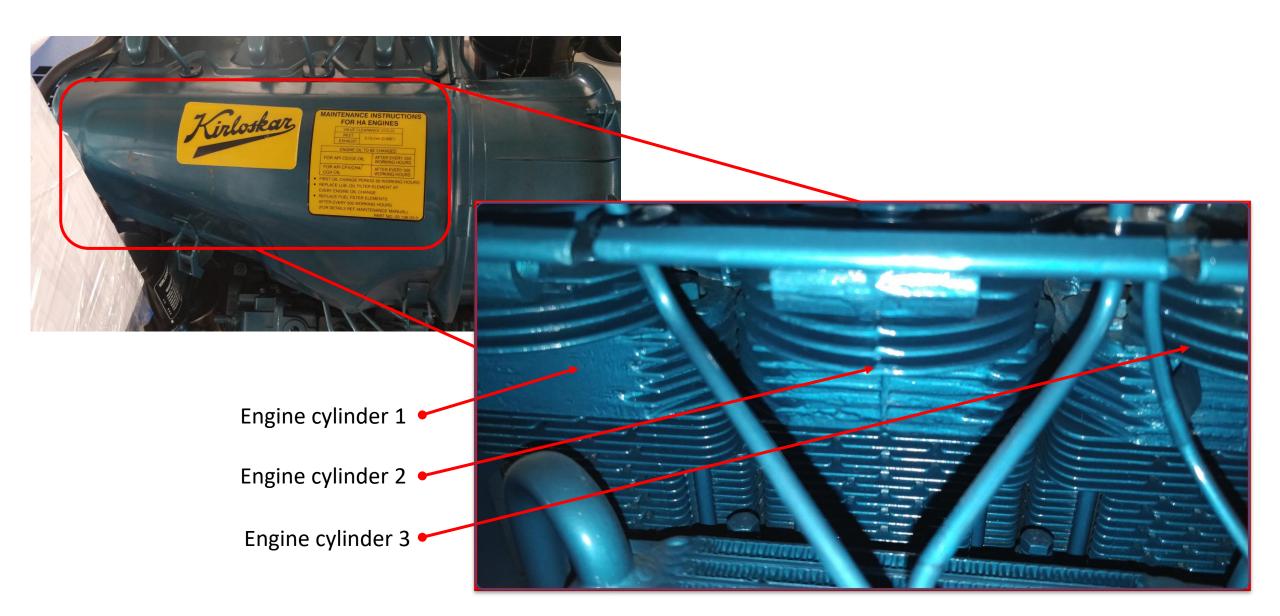


Top view

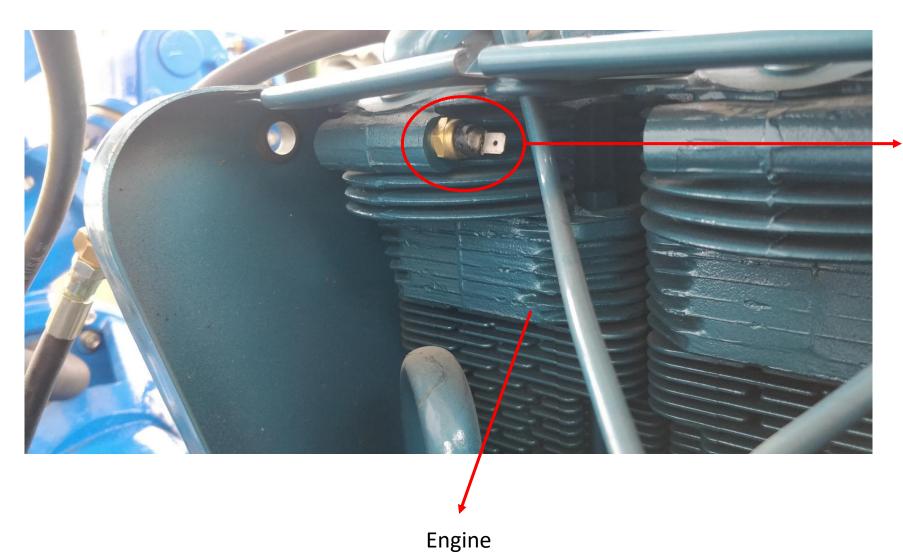
Side view



ENGINE BY KIRLOSKAR



TEMPERATURE SWITCH



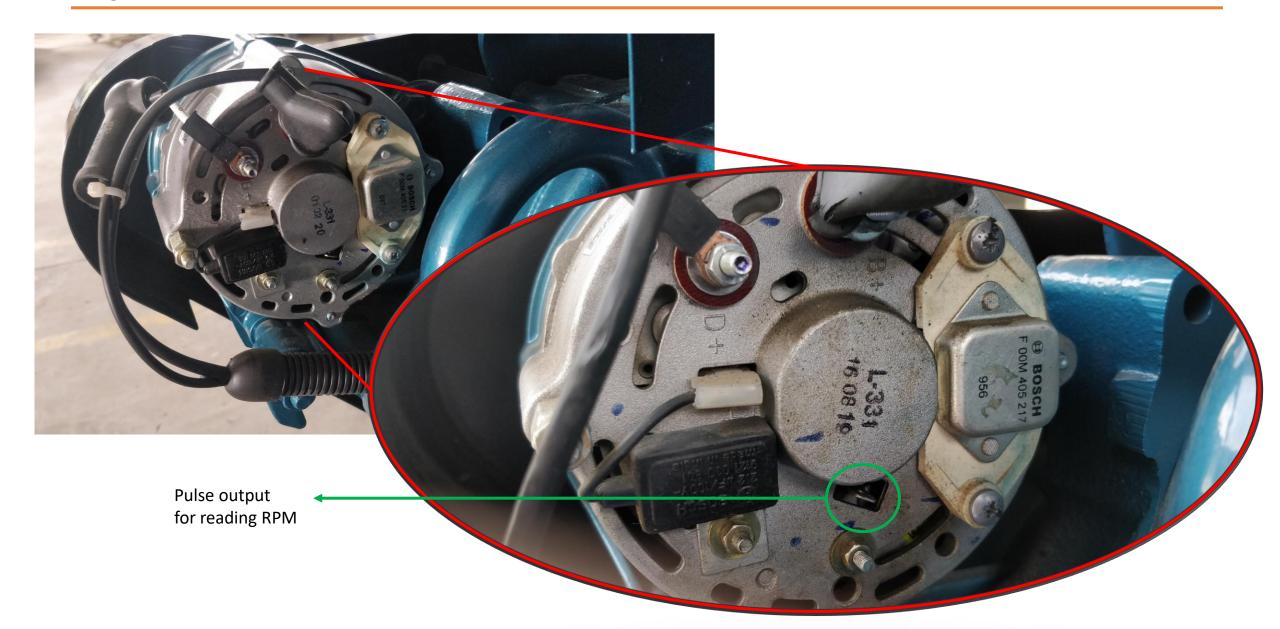
Normally open switch

Switch on temperature: 175+/- 5 deg c Output supply voltage : 5V (when closed)

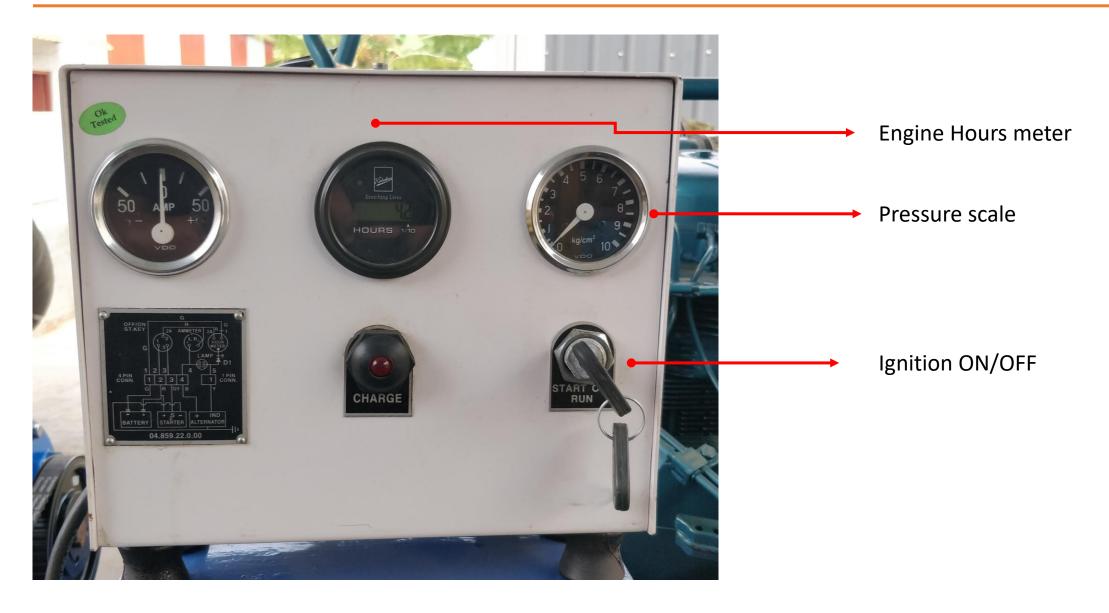
Totally three sensors placed fitted to all cylinders (each one)

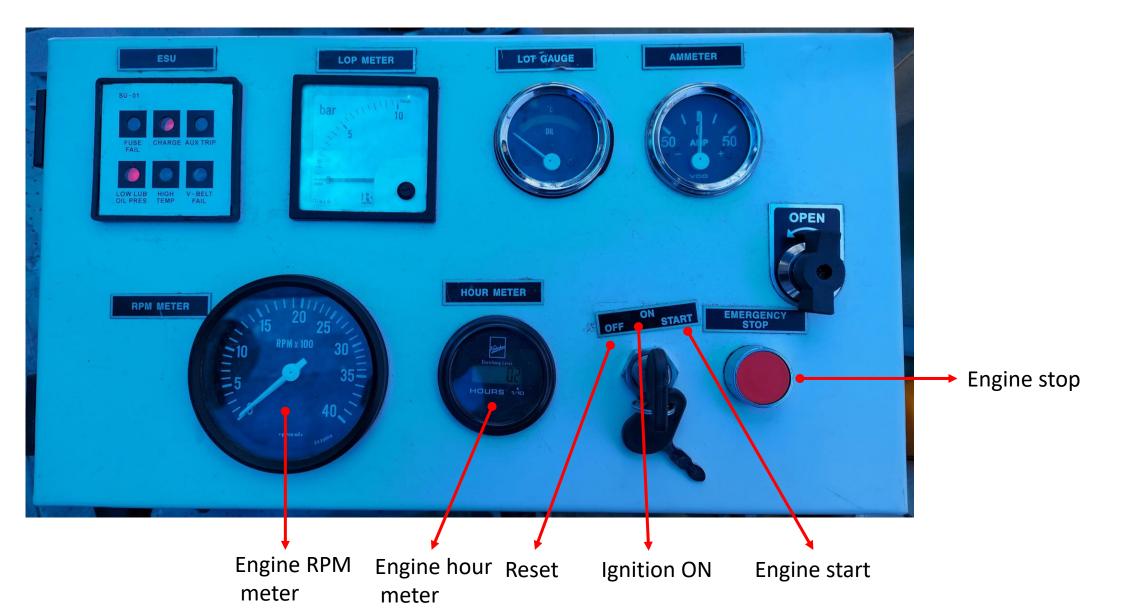


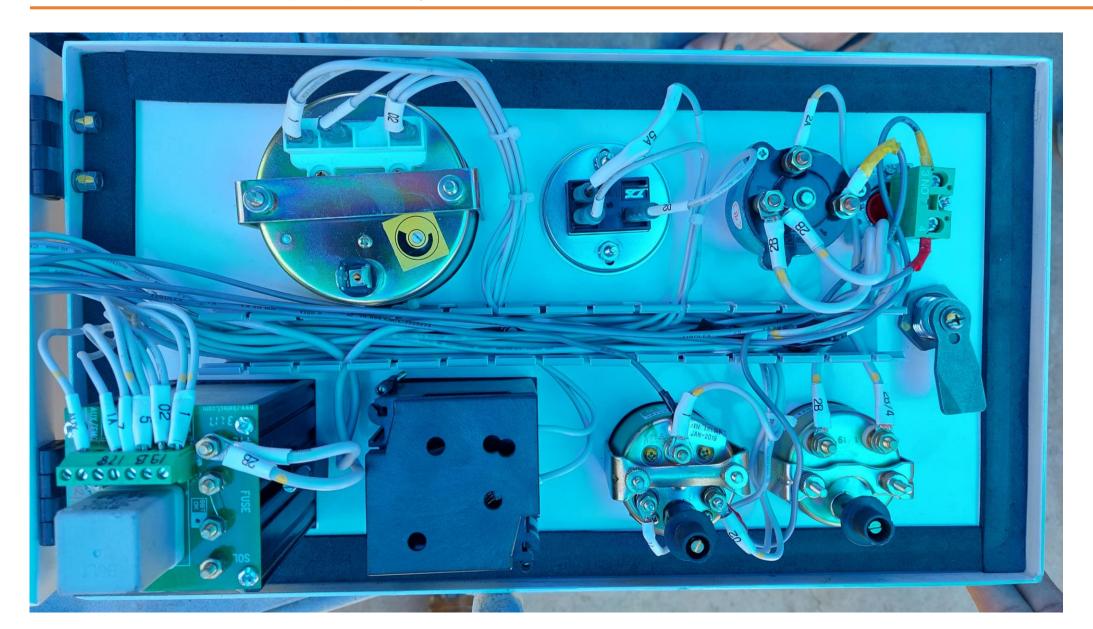
Engine Alternator coil



Manual controller box (OLD)



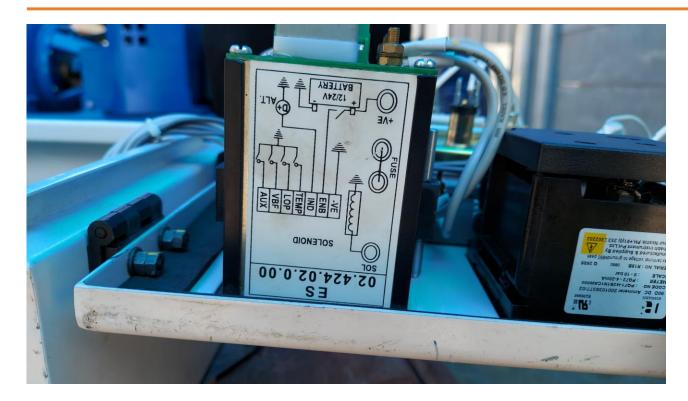


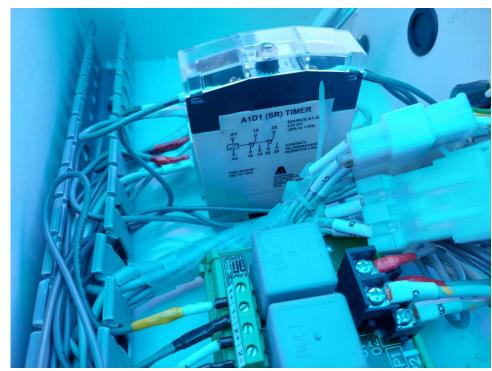


Manual controller box (NEW) Internal components

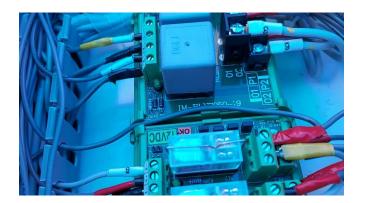


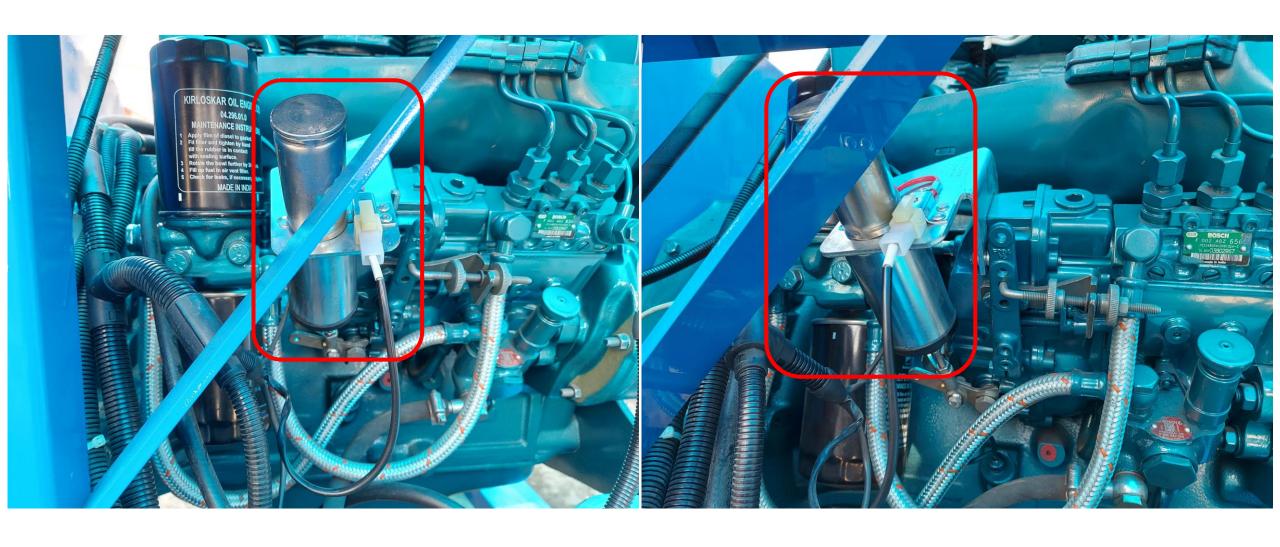
Manual controller box (NEW) Internal components

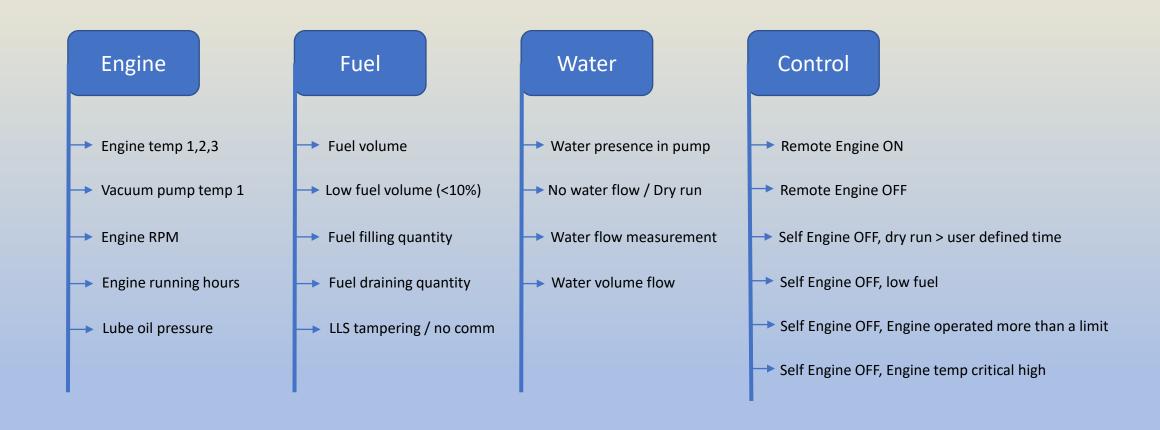




Video







Appendix: Parameters to monitor & Control

Engine

Engine temp 1,2,3 - Continuous monitoring of engine temperature. Alert the customer when temp exceeds more than maximum limit.

Vacuum pump temp 1 - Continuous monitoring of vacuum temperature. Alert the customer when temp exceeds more than maximum limit.

Engine RPM - Continuous monitoring of engine revolutions. Min Revolutions, Max revolutions, time stamps

Engine running hours - Total run hours for a duration or user selected period **Lube oil pressure** - Continuous monitoring of lube oil pressure

<u>Fuel</u>

Fuel volume - Measurement of exact volume in real time

Low fuel volume <10% - Measure the low level of volume in the tank and alert / take action on the event

Fuel filling quantity - Volume of fuel filled in the tank

Fuel draining quantity - Volume of fuel drained from the tank

LLS tampering / No communication - Fuel level sensor connection tampering / no communication of LLS data

Water

Water presence in pump - Identify and monitor water flow during the pump ON period No water flow / Dry run - No water flowing in the pump body
Water flow - Continuous measurement of water flow
Water flow volume - Total run hours for a duration or user selected period

Control

Remote Engine ON - Turn on the engine remotely

Remote Engine OFF - Turn off the engine remotely

Self Engine OFF, dry run > user defined time - Turning off the engine when fuel pump is running dry.

Self Engine OFF, low fuel - Turning off the engine when fuel is running low.

Self Engine OFF, Engine operated more than a limit - Turning off the engine when it runs more that a certain time limit.

Self Engine OFF, Engine temp critical high - Turning off the engine when engine running with a high temperature.

Thank you!

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