# ENGINE INTERFACE

BERMAD Combustion Engine Monitoring and Control interface is integrating one of the most critical components of the water delivery system, the pump, into BERMAD's Integrated Management Solutions allowing operators and managers to remotely monitor, operate, and analyze the water system to operate at optimum efficiency.

The engine dashboard is presented clearly on a computer or mobile device with all system values, the system sends alerts, alarms, and performance notifications that allows conservation of water, energy, protecting the environment and increase labor efficiency. BERMAD Combustion Engine Interface reduce operating cost and increase profit.
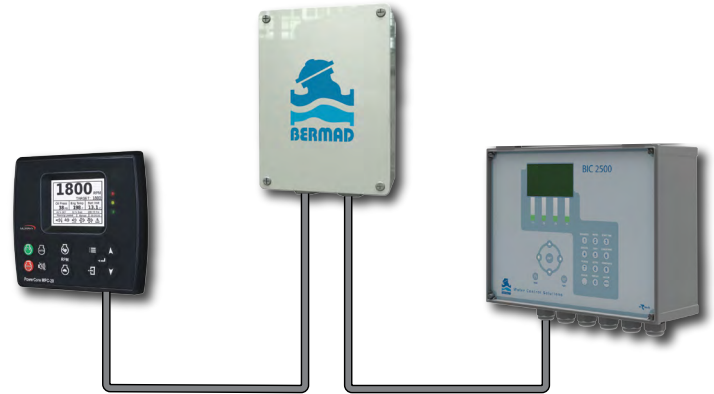
Features & Benefits

- Monitor health and readiness
  - Monitor common engine parameters:
  - Oil pressure, engine temperature, battery voltage, power output, fuel levels, engine run time and engine RPM.
- Remote operation and control
  - Remotely start and stop your engine irom computers and mobile devices.
  - Remotely acknowledge generated alarms.
  - Reduce expensive on-site service visits.
- Alarm management
  - Receive alarm notification when the fuel level reaches a preset level or fuel theft.
  - Direct alarms for Maintenance notifications directly to service personnel via email based on engine status; Fuel level, run hours, early stop.
- Statistics and reports
  - Create, Maintain and Manage engine service records, engine performance, fuel consumption, and RPM historical data for analyzing and improving efficiency.

Typical Applications

- Irrigation combustion engine driven pumps integration with the entire system
- Generators remote operation and monitoring
- Portable pumps remote management and control
- Portable pumps and filtration systems remote management and control

All images in this catalog are for illustration only
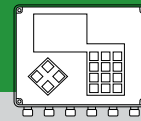
Technical Specifications

Units of measure: Imperial or Metric

Alarms and status: User can receive alarm notification / program the controller to automatically react to digital inputs status or analog sensors values.

Configuration: Automatic definitions in BIC 2500 controller.

Installation: Up to 1 mile away from the controller, using 2 x 16AWG cable.

Energy: Low energy consumption 12V DC - 40mA.

Inputs and Outputs:

Output control: Engine START/STOP

Digital inputs : Enable reading the status of 32 digital registers from the engine controller:

1. Over speed	9. Speed Signal Lost	17. Coolant Level	25. Low Suction
2. Under speed	10. Low Lube Level	18. High Level	26. High Suction
4. Low Oil Pressure	12. Fuel Filter Restriction	20. High Flow	28. High Engine Oil Temperature
5. High engine Temperature	13. Air damper closed	21. Low Flow	29. Low Gear Box Pressure
6. Low Fuel	14. Air Filter Restriction	22. High Pump Oil Temperature	30. High Gear Box Pressure
7. Low Discharge pressure	15. Oil Filter Restriction	23. High Pump Housing Temperature	31. Battery Charger Fail
8. High Discharge pressure	16. Remote Stop	24. Water in Fuel	32. Red Lamp Status

Analog Inputs: Enable reading the values of 7 analog sensors from the engine controller:

1. Running Hours	3. Modbus Voltage	5. Current Engine Temperature	7. Current System Level
2. Current RPM	4. Current Oil Pressure	6. Current Discharge Pressure	