

# K27 Engine Controller

## Intelligent Diesel Engine Asset Management System

*easy to use, safe, reliable, reduces running costs*

auto-start on two floats	pump pressure protection input	RPM reading overspeed shutdown	100 hour run timer	engine hours run count	battery voltage monitor/display
Run to fixed speed OPTIONAL PWM	low oil guage & shutdown	high coolant temp gauge & shutdown	J1939 CANBUS ready	configurable digital inputs	IP66 control module UV stable
pump flow protection input	loss of prime protection input	fuel level reading and protection	MODBUS / Telemetry Ready	fault history logger	Low Radiator Level Shutdown
				9-30VDC compatible	Engine Running Relay Output

- \* Engine Autostart and Stop on multiple triggers via float switches, Pressure, Flow Switch, SAT/GSM modems, PLCs and RTUs
- \* Bi-directional remote telemetry connection to a PLC and SCADA networks and to a website via Satellite or GSM modem.
- \* Bright graphical display showing all engine/equipment data and warning/faults.
- \* Complete asset protection on all sensors with built in 'Failsafe' protection. Includes low radiator coolant level detection.
- \* Connects to various analogue sensors, ie: 4-20mA pressure or flow sensors, including resistive sensors.
- \* Multiple sensor readout, with built in separate adjustable bypass timers and slush timers.
- \* Robust IP66 control module in a powder coated enclosure with tempered see through glass. Will not yellow in exposed sunlight.
- \* Automatic engine speed control to fixed speed, via CANBUS J1939 or MODBUS. (Optional extra, Pulse Width Modulation via electronic actuator on mechanical engine also available). Can also be controlled remotely.
- \* Save on fuel, running and maintenance costs. Fuel Level monitoring.
- \* Built in warmup and cooldown timers.
- \* Programmable 100hour run timer.
- \* One panel to suit mechanical engines or electronic CANBUS J1939 engines.
- \* Tier 4 emissions ready.
- \* In built data logging on all equipment faults.
- \* Engine Running output.
- \* Easy to set up and program.
- Will permit future software upgrades via a computer.

Sturdy enclosure with die cast hinges and latch.



Easy to read display, large icons and characters. The LCD can be viewed in direct sunlight.

### Product Description

#### **Reduce your operating costs and increase the engine's life cycle.**

The K27 engine autostart controller is designed for the off-road stationary diesel engine market. The software is application driver. The controller's primary function is the management of your diesel engine and the equipment it is driving. The software and hardware are designed to lower the cost of running and owning your asset. It will reduce your fuel and maintenance costs but most of all increase the engine's life cycle. The K27 is used in the following applications: waste water de-watering, irrigation pumping, power generation, air compressors, high pressure cleaners, lighting towers, dust suppression pumping, tank filling, sewer bypass, frost control and fire pumps.

#### **Telemetry will keep you connected to your asset. (Via Satellite/GSM/GPS)**

The controller's telemetry capabilities make certain you will always be connected to your asset via a smart phone, tablet or computer. You have the option of sending data to a 3G network or the option of a go-anywhere satellite network. Just choose the right modem/data package to suit your budget. PLC, RTU or SCADA users can also connect to the K27. The control panel has inbuilt data logging capabilities and captures all shutdown messages.

#### **Works with a wide range of diesel engines.**

Automatic engine speed control is offered on all engines, whether electronic or mechanical. This feature can adjust the engine speed to a set speed point or vvia MODBUS Communicaitons. All automatic throttling options come with adjustable engine warm up, cool down and line fill timers. This controller is suitable for use on the following engine brands: Caterpillar, Cummins, MTU, Detroit, Perkins, Deutz, Hatz, Scania, Kubota, Yanmar, JCB, Lister and various engines from Asia. \*\* Note, For engine speed control on mechanical engines, an electronic throttle actuator must be purchased separately.

#### **Multiple engine start/stop methods**

Featuring both manual and automatic start modes, the K27 offers great flexibility of use at the touch of a button. In automatic mode, the K27 is able to start and stop your engine based on a number of triggers such as: single float switches, low pressure switch, telemetry/PLC module, pressure transducer and mains failure contactor. The option is yours.

**Can be customised to your application. Save time and value add.**

The K27 can be supplied in its current form (as shown in this brochure), or customized to suit your application. Just tell us what it is you want to achieve and we will make it happen. We can supply the engine module or produce a controller specific to your application in an enclosure you want.

**Engine Wiring and Panel Kits to suit your build.**

The controller is normally supplied in kit form. This kit includes the controller in an enclosure, an engine wiring loom, a throttle actuator, secondary solenoids, mounting brackets and any other components your build will require. Just mention what you need and we will supply.

**Software features**

<ul style="list-style-type: none"> <li>* Engine Hours display (Hour Meter)</li> <li>* Engine RPM display and Overspeed protection</li> <li>* Accepts tachometer RPM signal from:             <ul style="list-style-type: none"> <li>Alternator W+</li> <li>J1939 CANBUS ECU</li> <li>Magnetic Pick Up on Fly Wheel</li> </ul> </li> <li>* Automatic Engine Speed control from:             <ul style="list-style-type: none"> <li>Go To Fixed RPM set point (CAN J1939 only)</li> <li>MODBUS throttle commands</li> </ul> </li> <li>* Automatic Start and Stop on:             <ul style="list-style-type: none"> <li>Single Float Switches</li> <li>Single Pressure Switch</li> <li>Discharge pressure sensor</li> </ul> </li> <li>* Engine Oil Pressure display and engine shut down</li> <li>* Engine Temperature display and engine shut down</li> <li>* Low radiator coolant level shutdown</li> </ul>	<ul style="list-style-type: none"> <li>* Data logs all equipment fault messages</li> <li>* Displays all equipment fault messages (J1939 included)</li> <li>* MODBUS (RS232/485) Communication</li> <li>* Fuel level reading / shutdown (sensor required)</li> <li>* Battery Voltage VDC display</li> <li>* Low Battery Warning</li> <li>* Loss of RPM Engine Shut Down</li> <li>* Loss of Prime Digital Input (sensor required)</li> <li>* 99 hour programmable Stop Timer</li> <li>* Pump Flow rate control, protection and reading (sensor required)</li> <li>* Pump Pressure control, protection and reading (sensor required)</li> <li>* Programmable digital inputs</li> <li>* Programmable pump / bearing temperature sensor (sensor required)</li> <li>* Engine Running Output</li> <li>* Glow Plug Excitation (requires high Current Relay)</li> <li>* Can Start/Stop and control engine speed via Website</li> <li>** All sensors/inputs include bypass and slush timers.</li> </ul>
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**Hardware features**

<p>3.4" Graphical monochrome display (visible in direct sunlight)</p> <p>9-30VDC Input Voltage</p> <p>&lt;40mA Current Consumption in Sleep Mode</p> <p>-40 to 85°C Storage Temperature</p>	<p>IP65 Enclosure Powder Coated 270tall x 350wide x 150deep</p> <p>IP66 control module water ingress protection</p> <p>-20 to 75°C Operating Temperature</p> <p>Reverse polarity protection</p>		
#	Description	#	Description
3	LED indication	1	Output 0-5VDC (option)
3	Digital Inputs Active Low	1	Sensor 5VDC power output
1	Digital Inputs Active High	3	Outputs 20A
1	Radiator Coolant Level Input	3	FET Output Low Current 1A
1	Alternator W+ or MPU Input	1	RS232/485 MODBUS Communication
1	Alternator Excitation Output	1	I2C MEMORY
4	Resistive Sensor Inputs	1	PCB temperature
4	Sensor 4-20mA Inputs	1	Pulse Width Modulation Output
1	J1939 CAN Hi, CAN Lo		

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