

# Remko K37 Engine Controller

## Intelligent Diesel Engine Asset Management System

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

Auto-start on two floats	RPM reading overspeed shutdown	100 hour run timer	engine hour meter	battery voltage monitor/display	Start on Time & Stop on pump pressure
Run to fixed speed with PWM	Variable speed control to pump press sensor	Variable speed control to pump flow sensor	7 day 24hr Start / Stop Timer	Start / Stop Engine via pressure sensor	Start / Stop Engine via depth level sensor
pump pressure protection input	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
bearing temp reading / shutdown	engine running Relay output	common alarm relay output	9-30VDC compatible		

- \* Engine Autostart and Stop on multiple triggers via float switches, Pressure, Vacuum, Level Sensor, 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, flow and depth sensors, including resistive temperature sensors.
  - \* Multiple sensor readout, with built in separate adjustable bypass timers and slush timers.
  - \* Robust IP66 module in a powder coated enclosure with tempered see through glass. Will not yellow in exposed sunlight.
  - \* Automatic variable engine speed control via CANBUS J1939, MODBUS or Pulse Width Modulation via electronic actuator. Can also be controlled remotely.
  - \* Save on fuel, running and maintenance costs. Fuel Level monitoring.
  - \* Adjustable engine warmup and cooldown timers.
  - \* Programmable timers for, 7day 24hour timer and 100hour run timer.
  - \* One panel to suit mechanical engines or electronic CANJ1939 engines.
  - \* Tier 4 emissions ready.
  - \* I/O Expansion Capable.
  - \* In built data logging on all equipment faults.
  - \* Engine Running and Common Alarm outputs.
  - \* 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.

Direct access tactile buttons allow you to view engine faults/warnings quickly as well as alter timers and Halt/Pause the engine.

### Product Description

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

The Remko K37 engine auto-start controller is designed for the off-road stationary diesel engine market. The software is application driven. 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 Remko K37 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 K37. 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 vary the engine speed with respect to an external 4-20mA sensor. 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 Remko K37 offers great flexibility of use at the touch of a button. In automatic mode, the K37 is able to start and stop your engine based on a number of triggers such as: 7 day timer, single or dual float switches, low pressure switch, telemetry/PLC module, pressure transducer, water depth level transducer, suction (vacuum) pressure and mains failure contactor. The option is yours.

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

The Remko K37 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. The kit will save you on installation time and costs.

**Software features**

<p>Engine Hours display (Hour Meter)</p> <p>Engine RPM display and Overspeed protection</p> <p>Accepts tachometer RPM signal from: (adjustable)</p> <p style="padding-left: 20px;">Alternator W+</p> <p style="padding-left: 20px;">J1939 CANBUS ECU</p> <p style="padding-left: 20px;">Magnetic Pick Up over a Fly Wheel</p> <p>Automatic Engine Speed control from: (adjustable)</p> <p style="padding-left: 20px;">Go To Fixed RPM set point</p> <p style="padding-left: 20px;">MODBUS throttle commands</p> <p style="padding-left: 20px;">Discharge pressure sensor</p> <p style="padding-left: 20px;">Discharge flow rate sensor</p> <p style="padding-left: 20px;">Dam / Sump level sensor</p> <p>Automatic Start and Stop on: (adjustable)</p> <p style="padding-left: 20px;">Single or Dual Float Switches</p> <p style="padding-left: 20px;">Single Pressure Switch</p> <p style="padding-left: 20px;">Discharge pressure sensor</p> <p style="padding-left: 20px;">Suction/Vacuum sensor</p> <p style="padding-left: 20px;">Dam / Sump level sensor</p> <p style="padding-left: 20px;">7 day 24 hour programmable Timer</p> <p>Engine Oil Pressure display and engine shut down (adjustable)</p> <p>Engine Temperature display and engine shut down (adjustable)</p> <p><b>Note: ** Require the purchase of sensors.</b></p>	<p>Data logs all equipment fault messages</p> <p>Displays all equipment fault messages (J1939 included)</p> <p>MODBUS (RS232/485) Communication</p> <p>Low radiator coolant level shutdown</p> <p>**Fuel level reading / shutdown (adjustable)</p> <p>Battery Voltage VDC display</p> <p>Low Battery Warning</p> <p>Loss of RPM Engine Shut Down (adjustable settings and timers)</p> <p>**Loss of Prime Digital Input (adjustable settings and timers)</p> <p>99 hour programmable Stop Timer</p> <p>7 day 24 hour programmable Start / Stop Timer</p> <p>**Discharge Flow rate control, protection and reading (adjustable )</p> <p>**Discharge Pump Pressure control, protection and reading (adjustable )</p> <p>**Suction / Vacuum pressure control, protection and reading</p> <p>Programmable digital inputs (adjustable settings and timers)</p> <p>Programmable pump / bearing temperature sensor (adjustable )</p> <p>Clutch Control relay (optional extra)</p> <p>Vacuum priming relay (optional extra)</p> <p>Engine Running Output and Common Fault Output</p> <p>Glow Plug Excitation (requires high Current Relay)</p> <p>Can Start/Stop and control engine speed via Website</p> <p><b>Note: All sensors/inputs include adjustable bypass and slush timers.</b></p>
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**Hardware features**

<p>4.3" 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>
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#	Description	#	Description	#	Description
3	LED indication	1	Output 0-5VDC (option)	4	Sensor 4-20mA Inputs
8	Digital Inputs Active Low	1	Sensor 5VDC power output	1	Pulse Width Modulation Output (PWM)
3	Digital Inputs Active High	3	Relay Outputs 20A	1	J1939 CAN Hi, CAN Lo
1	Radiator Coolant Level Input	2	Relay Outputs 3A	1	RS232 MODBUS PC GUI, GSM Communication
1	Alternator W+ or MPU Input	3	FET Output Low Current 1A	1	RS485 MODBUS Communication
1	Alternator Excitation Output	4	Resistive Sensor Inputs	1	I2C MEMORY
1	PCB temperature	1	USB connection	1	Expansion I/O Board Connector

**Contact Information:**

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