

PRODUCT INFORMATION

EXCESS IDLE SHUTDOWN CONTROLLER

Part No. 12362 | 12732

Operation and Use

The Muirhead® Excess Idle Shutdown Controller has two main modes of operation: Idle shutdown and excess idle shutdown. The default operation of these two modes are as follows:

Operation (1) – Idle Shutdown

1. Turn the ignition switch off with the vehicle stationary.
 - a. The machine will continue to run for the pre-programmed time cycle (three minutes by default) with the cycle LED (usually mounted in the instrument panel) illuminated. Once the timed cycle has been completed, the machine will shut down.
 - b. If the ignition is switched back to run at any time within the timed cycle, the timer will reset and commence the full cycle, once the ignition is switched back to off position.
2. Activating the engine shutdown switch while the unit is in idle down mode will cause the machine to shut down immediately. This will only occur with the ignition in the off position.
3. If the key is switched to the off position at any time while the vehicle is moving, the machine will immediately shut down. Alternatively, if the machine starts moving while the unit is in idle down mode (with the key in the off position) the machine will immediately shut down.
 - a. If the auxiliary output is configured as an alarm, either of these two conditions will cause the alarm to sound until the park brake is applied again.

Operation (2) – Excess Idle Shutdown

If the key is on and the controller senses that the machine is idle while the vehicle is stationary, the controller will enter excess idle mode and start the pre-set countdown timer (five minutes by default). Three minutes prior to shutdown, the LED will begin to pulse slowly.

1. At two minutes prior to shutdown, the cycle LED will pulse quickly.
2. In the last minute prior to shutdown, the cycle LED will illuminate constantly and the auxiliary output will also switch on.
3. At the end of the pre-set period, the machine will shut down and the cycle LED will flash slowly. The auxiliary output will then turn off for a period (default 10 seconds), and then turn back on, remaining on until the ignition is switched to the off position.

Raising the engine RPM or moving the vehicle will reset the excess idle counter and the controller will go through the entire excess idle shutdown procedure the next time it senses the vehicle is idle.

By default, both the ground speed and the engine RPM are used to reset the counter, but may be configured to be:




1. Ground speed only
2. Raising the engine RPM only
3. Either ground speed or raising the engine RPM

Warning

This product has been designed to shut down the engine while at idle only. If the engine RPM is high, there is a possibility of the control unit not being able to force a shutdown.

Controller Status Indicator Operation

State	Indicator Sequence
Battery Power-up	<ul style="list-style-type: none"> ■ All indicators will turn on. ■ All indicators will turn off. ■ After power-up, the controller will revert to normal operation.
Status Indicator in Operation	<p>RED – Fault.</p> <ul style="list-style-type: none"> ■ If outputs have problems, this will turn on. ■ Outputs 1 & 2 – high current outputs: checked for over current. ■ Output 3 – not checked as it is a low side driver. ■ Output 4 – checked for correct output voltage. ■ Temperature – checked for board temperature exceeding 80 °C. <p>YELLOW – Pulses during normal operation, indicates system OK.</p> <ul style="list-style-type: none"> ■ Flashes on and off at one-second intervals (on for one second, off for one second). <p>GREEN – On for normal operation.</p>

	Alarm Indication
	System Status
	Power Indication

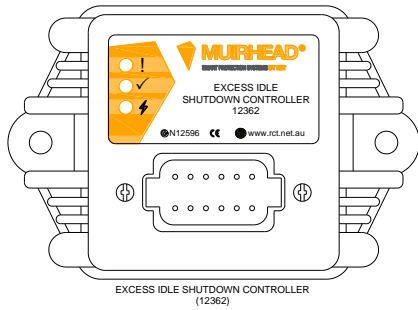
Installation Guide

1. Install the controller in a suitable location.
2. Refer to the wiring table and the wiring diagram below to connect the controller. It is recommended that the wiring is installed alongside the OEM wiring ensuring that it is secured at regular intervals; this will provide protection from heat and abrasion, and any other excess damage that may occur with extended vehicle operation. When securing the wiring to the OEM wiring, ensure that the loom is away from moving vehicle parts, which could lead to loom damage.

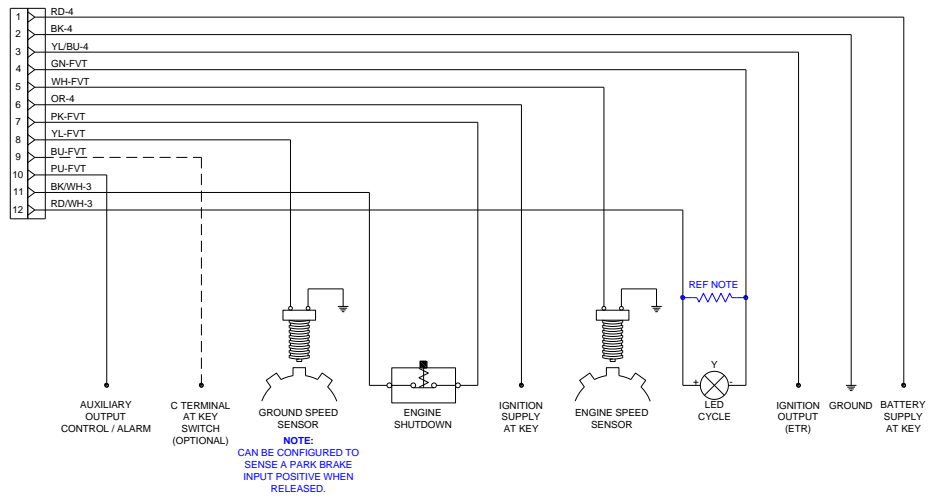
Wiring Connections

No.	Colour	Function	Description
1	Red	Battery +VE	Connect to the permanent battery supply at the key switch. (Supply 12-24 V DC).
2	Black	Ground	Earth (ground).
3	Yellow/Blue	Output 1 (ignition output)	Connect to the OEM ignition wires previously disconnected from the ignition terminal at the key switch (10 A continuous output).
4	Black	Output 3	LED -VE (low side 0.6 A sink).
5	Brown	Input 1	Connect to the engine speed sensor.
6	Orange	Input 3	Disconnect the existing ignition (OEM) wires from the ignition terminal at the key switch and connect the orange wire to the ignition terminal.
7	Pink	Input 4	Connect to the engine shutdown stop switch (N/C).
8	White	Input 2	Configurable input: (Default). Ground speed sense — connect to the ground speed sensor Park brake input : (Positive when released). Connect to the park brake switch of the vehicle. The input will sense the park brake as released when a positive signal is sensed.
9	Purple	Output 4	(Optional). Only to be used on machines using the C terminal at key switch for auxiliary control after shutdown, e.g., Caterpillar. Disconnect the existing (OEM) wire no. 326 from the C terminal at the key switch and connect to the purple wire from the controller (maximum 0.7 A continuous output. If a larger load is required, this output can be used to trigger a relay).
10	Blue	Output 2	Option 1: Lighting Control – Connect to the positive side of a relay coil. Put C-NC terminals in series with lighting circuit. Option 2: Alarm – Positive alarm output.
11	Pink	- VE	Connect to the engine shutdown stop switch (N/C) (ground).
12	Yellow	Battery +VE	LED +VE (Supply 12-24 V DC).

External Wiring Diagram (525r)



NOTE:
WHEN USING LED PART NO 11111, OR AN EQUIVALENT NO LOAD LED, A RESISTOR SHOULD BE CONNECTED ACROSS THE LED TO PREVENT CURRENT LEAKAGE WHICH CAUSES A FALSE INDICATION. RESISTOR TYPE IS (1W 1.2K OHM RCT PART NUMBER 11981)



For detailed product information, please contact your local RCT branch for a copy of the product manual [M0892](#). For configuration settings and adjustment, please contact your local RCT branch to purchase the Muirhead® Programming Utility, part number 13647.

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