

# PRODUCT INFORMATION

## IDLE TIMER WITH START INHIBIT

### Part No. 12535

## Operation and Use

### Idle Time

1. Turn the ignition switch off.
  - a. The machine will continue to run for the pre-programmed time cycle 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 will cause the machine to shut down immediately. This will occur with the ignition in the on OR off position. If the machine is shut down while the key is still ON, the cycle LED will flash until the key is returned to the OFF position

### Overcrank Protection

This feature reduces the chance of starter motor damage due to over cranking of the engine. This is achieved as follows:

1. Once a ground level shutdown has been activated, in addition to the effects detailed below, the control unit will not allow the engine crank signal to pass through to the starter motor.
2. To allow the engine to crank, the ground level shutdown switches must be reset.

### Engine Bypass/Ground Level Shutdown

These features are always enabled on this device, and require the engine shutdown switch and ground level

shutdown switches to be installed in series. These features work as follows:

1. If the operator wishes to shut down the vehicle immediately, irrespective of the unit being in idle down mode, a toggle of the engine shutdown switch will cause an instant shutdown.
2. If a person who is not operating the vehicle sees a hazard and wishes to shut down the machine, they may activate the ground level shutdown switches to cause an instant shutdown.

If the machine is shut down while the key is still ON, the cycle LED will flash until the key is returned to the OFF position.

### Note

The controller will not allow the vehicle to crank if any of the ground level shutdown switches are tripped.

### Park Brake Detection (Optional)

If this option is to be used, the park brake switch must be connected to the controller.

1. When the key is switched to the off position and the park brake is applied, the controller will enter idle down mode as normal. If the park brake is released while in idle down mode, the machine will shut down instantly, preventing an operator driving off with the key in the off position.
2. If the key is switched off at any time with the park brake released, the machine will shut down instantly.
3. If an operator is required to mobilise the machine whilst the key is switched to the off position and the machine is in idle down mode, the key must be returned to the run position before the park brake is released.

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

|   |                  |
|---|------------------|
|  | Alarm Indication |
|  | System Status    |
|  | Power Indication |

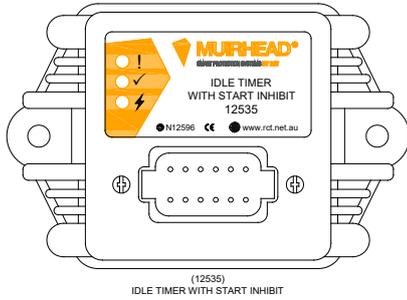
## Installation Guide

1. Install the controller in a suitable location.
2. Refer to the wiring table below and the wiring diagram in this manual 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.
3. Mount the LED in a suitable location that is visible to the operator. Install the engine shutdown switch in an area that is easily accessible to the operator.
4. Disconnect the existing ignition (OEM) wire from the ignition terminal at the key switch and connect the white wire (pin 5) to the ignition terminal.
5. Connect the yellow/blue wire (pin 3) to the (OEM) ignition wire previously disconnected from the ignition terminal at the key switch.
6. Disconnect the existing engine start/crank (OEM) wire from the start terminal at the key switch. Connect the pink wire (pin 7) to the start terminal.
7. Connect the purple wire (pin 10) to the (OEM) wire previously disconnected from the engine start/crank terminal.

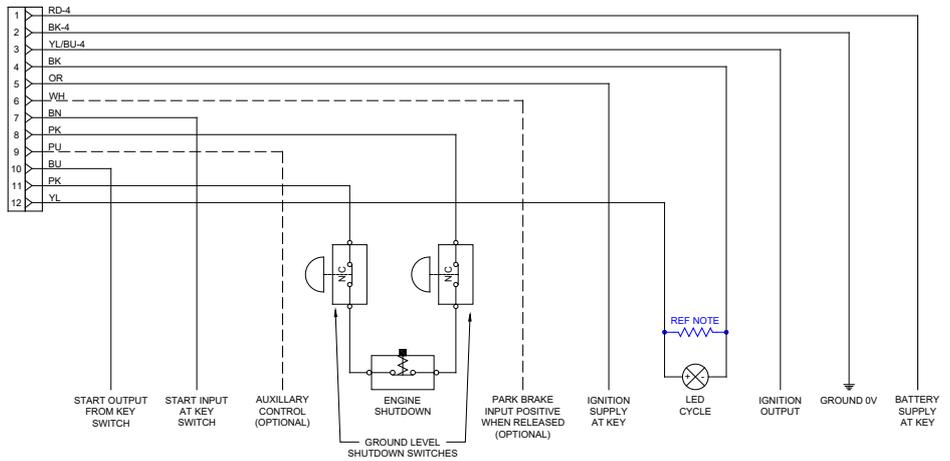
### Wiring Connections

| 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) | Disconnect the existing ignition (OEM) wire from the ignition terminal at the key switch. Connect this wire to the (OEM) ignition wire disconnected from the ignition terminal (10 A continuous output).   |
| 4   | Black            | Output 3                   | LED -VE (low side 0.6 A sink).   |
| 5   | Orange           | Input 1 (ignition input)   | Connect this wire to the ignition terminal at the key switch (OEM wires previously disconnected).  |
| 6   | White (Optional) | Input 3                    | Optional. Park brake input (positive when released).   |
| 7   | Brown            | Input 4 (start input)      | Disconnect the existing start (OEM) wire from the start terminal at the key switch. Connect this wire to the start terminal.   |
| 8   | Pink             | Input 2                    | Engine shutdown stop switch (N/C).   |
| 9   | Purple           | Output 4                   | 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 (start output)    | Connect this wire to the existing start (OEM) wire previously disconnected from the key switch.  |
| 11  | Pink             | - VE                       | Engine shutdown stop switch (N/C) (ground).  |
| 12  | Yellow           | Battery +VE                | LED +VE (supply 12-24 V).  |

# External Wiring Diagram (531y)



**NOTE:**  
 WHEN USING LED PART NO. 11109 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 NO. 11981)



For detailed product information, please contact your local RCT branch for a copy of the product manual [M0950](#). For configuration settings and adjustment, please contact your local RCT branch to purchase the Muirhead® Programming Utility, part number 13647.

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+27 (0) 83 292 4246

CANADA:  
+1 705 590 4001

RUSSIA / CIS:  
+7 (910) 411 11-74

SOUTH AMERICA:  
+56 3 5229 9409

USA:  
+1 801 938 9214