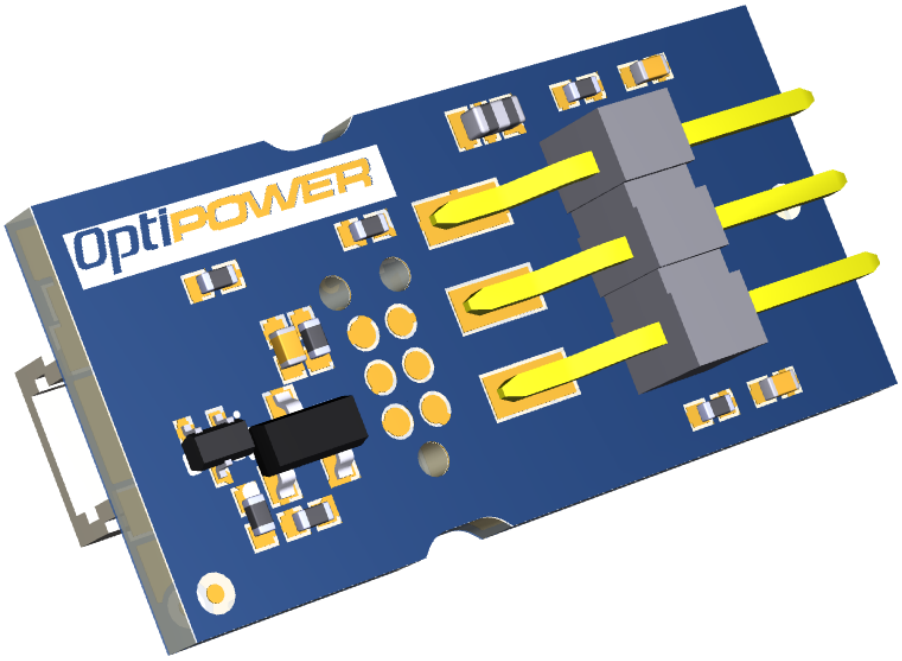
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Brook Mills House
Carr Lane
Slaithwaite
West Yorkshire
HD7 5BG



Ultra-Guard OPTISWITCH Manual and Overview

Feature Overview:

- 32 bit, 48MHz MCU controlled operation
- Auxiliary “off” switch for Ultra-Guard
- Stand alone or remote controlled operation
- Pass-through connection for Ultra-Guard LED FLASH ALARM
- Easy setup

Operation Range:

- Ultra-Guard System for electric Helicopters for safe emergency landing
- Effective buffering of servo reverse current

System requirements:

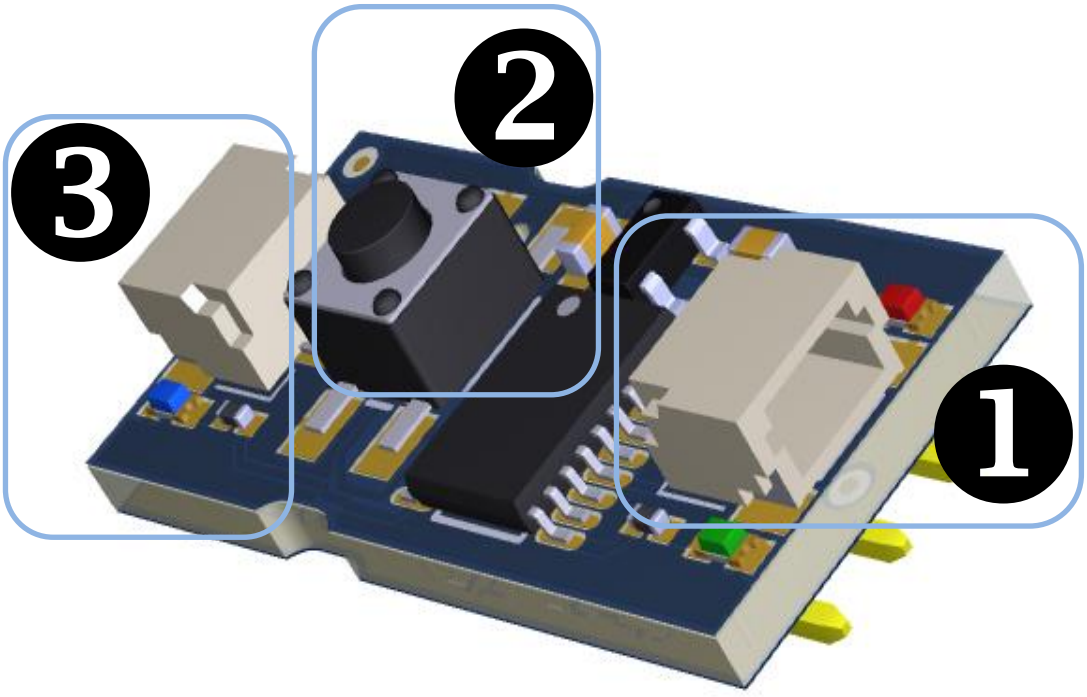
- Ultra-Guard Backup system
- Optional: PPM receiver channel with 1500uSec center pulse*

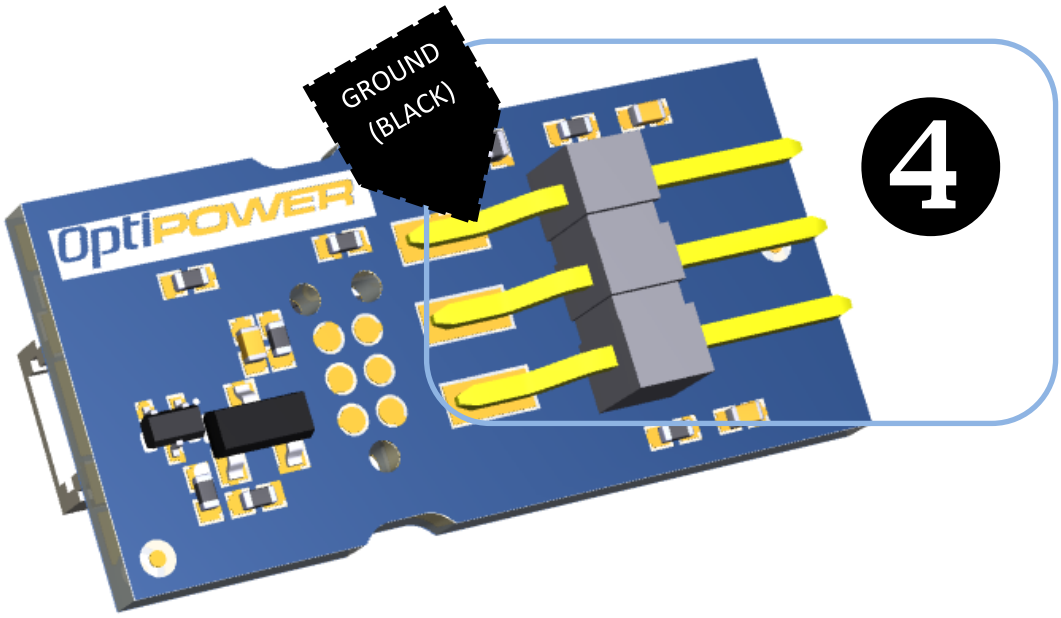
Ultra-Guard with software version V6. Units are supplied with current firmware since early 2017. You can always verify by checking the Serial number sticker on your system (it is located on the USB port) Serial Numbers greater than R2 F0 14 7E run the current Firmware.

Tel. 0044 (0)1484 843708 - Fax. 0044 (0)1484 843689
Email. sales@optipower.co.uk : sales@optifuel.co.uk

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* Option for use of remote controlled “turn-off” sequence





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CONNECTIONs and BUTTON:

❶ Connector for Ultra-Guard Backup System

❷ Auxiliary remote "turn-off" button

❸ Connector for "pass-through" LED FLASH ALARM

❹ Standard receiver port for optional remote-controlled operation

LEDs:

GREEN Indicates system is powered and ready to use

BLUE Indicated shutdown triggered (blinking) or detected R/C signal (steady)

RED Indicating power-fail (blinking

What's in the Box?

1) OPTISWITCH device
2) 3-pin JST cable to connect to Ultra-Guard
3) 3-pin JR cable to connect to receiver

Connections

4) connect Ultra-Guard with supplied cable on port ❶ please make sure to get the correct orientation (black/dark brown wire oriented as indicated on the picture)
5) (optional): connect LED FLASH ALERT on port ❸
6) (optional): connect to a free port on your receiver with supplied cable on port ❹

Operation

Scenario A

Standalone operation (connection on port ❶ + optional port ❸ are made)

Your system is ready to use. You can power down the Ultra-Guard after turn-off pressing the button for 5 seconds. During the button is pressed, the BLUE LED is blinking. If shutdown is complete, all LEDs turn off.

Your system is configured and ready to use.

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Scenario B

Remote-controlled operation (optional connection ❹ has also been made)

Program a (preferably digital switching channel, analogue channels also work) with 2 positions on your transmitter to the selected channel. Program it on a free switch on your transmitter.

The midpoint is fixed to 1500 micro-Seconds. Any other mid-pulse length is untested and not guaranteed to work. 1500 uSec is industry standard on R/C servo systems, so if nothing specifically is configured, receiver will output this.

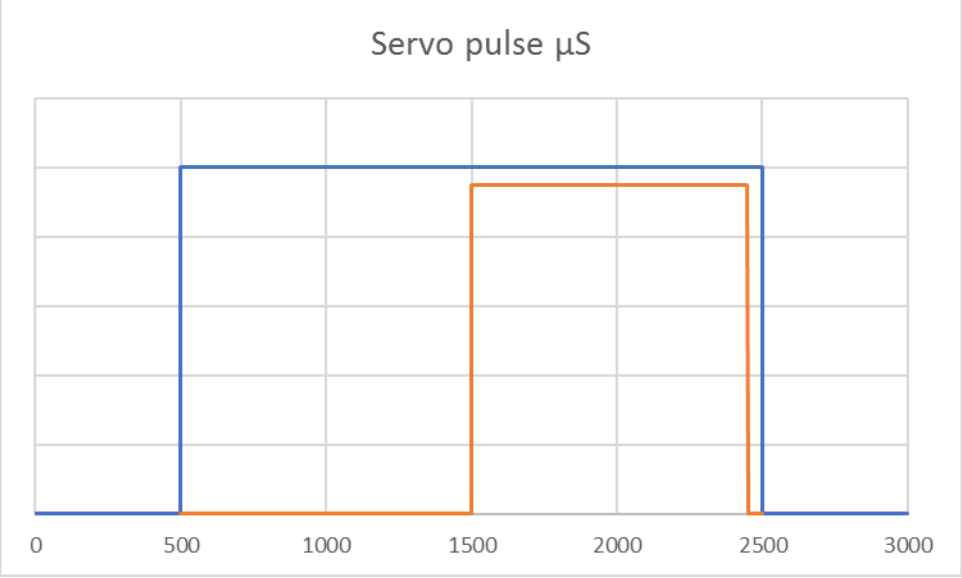
Now test the system, once the device is detecting a valid signal, the BLUE LED turn on (solid) which also indicated the on state. If you don't get a solid blue try to invert the channel or move the center trim.

To activate the shutdown delay trigger, flip the switch. The BLUE LED should change to blinking.

Your system is configured and ready to use.

For your reference, the following diagram shows:

- Operational range in µSeconds (blue line)
- Range where shutdown trigger is activated (orange line)



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Troubleshooting

If Ultra-Guard is not shutting down after shutdown-request from receiver or button, please verify firmware version installed on your Ultra-Guard unit by verifying against the Serial number (check page 1 of the manual for instructions) and update if required using the latest firmware. Download link can be found below.

http://optipower.co.uk/download/firmware

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