

Electronic switch 2A (opto)



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1 Description

The electronic switch (opto) is a small device without any moving parts. Therefore it is resistant to any kind of impact and vibration. It is especially designed for the rough environment in RC-models. Due to the flexible programmability it can be used for virtually any application like lights, ignition, pyrotechnics, but also for functional models like tanks, trucks and many more. It is also possible to control more than one electronic switches with only 1 channel of your radio.

The electronic switch (opto) is controlled by a microcontroller **and galvanically isolated via an optocoupler from the load side**. You can use a separate power source for the load. The electronic switch (opto) switches the positive line.

The electronic switch is connected to a servo terminal on the receiver.

The programming of the on position/range is achieved by using a magnet. The current switch state and faults are displayed with the onboard green LED.

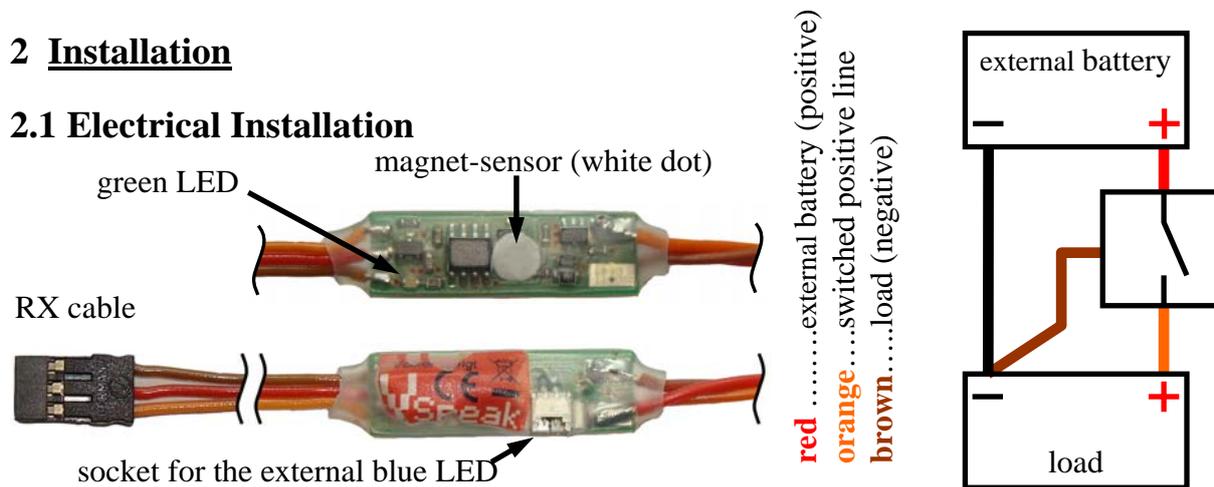
The optional "external blue LED" can be connected to the electronic switch (opto) and should be placed somewhere visible from outside of the model. The external LED is only lit when the switch status is "ON" and the external power source is connected. This helps when looking for faults (dead battery, damaged cable, ...).

If the servo-signal is missing for more than 2.5 seconds, the load is switched OFF and cannot be activated unless the receiver is power cycled. Also, the green LED will blink every half second.

The described characteristics make the electronic switch (opto) a perfect way to switch the ignition ON/OFF for **gas powered engines** with battery powered ignition. If there is no free channel on the receiver left, the electronic switch (opto) can be used on the same channel with the throttle servo. The "ON" range has to be programmed for the whole range of the throttle stick. To disable the ignition, use throttle cut or throttle trim to move the throttle signal below. You should consider programming the failsafe settings to cut the ignition.

2 Installation

2.1 Electrical Installation



2.2 Mechanical Installation

The electronic switch (opto) should be mounted using double sided foam tape or hot glue on the inside of the outer hull of the model, so you can program it using the magnet.

Notice: The electronic switch (opto) is programmed by a magnet. Make sure you place it away from strong magnetic fields, like brushless motors or canopy mounting magnets.

3 Programming

Make sure the radio and receiver are powered and the electronic switch (opto) is connected to the right channel. Also make sure the channel is set to the desired "ON" position.

Hold a magnet to the magnet-sensor (white dot). If the magnet is near enough, the green LED starts blinking. To enter programming mode, keep the magnet near the sensor for 4 seconds. The green LED will start flickering, the switch is turned "ON". If you only want to program a fixed switch position, you are done now. If you want to program a "ON"-range, then move the corresponding stick on the radio to the upper and lower limit. The electronic switch (opto)

will memorize these positions and switch "ON", as long the signal is within this range. Remove the magnet when you are done.

4 LED-Display

4.1 internal green LED

OFF: Switch is OFF

ON: Switch is ON

Blinking: Magnet near Sensor, switch status is kept on previous state

-or-

Fault, no servo signal for more than 2.5 seconds, switch is "OFF"

Flickering: Programming mode, switch is "ON"

4.2 external blue LED

OFF: Load is switched "OFF", no connection to the load battery

ON: Load is switched "ON", power from load battery

5 Technical data

Servo input	3,0 ... max 15V
Switching voltage	3,0 ... max 20V (3...13 Cells NiCd/NiMh, 1 to 4 Cells LiPo)
Switch current	max 2 A
Power consumption (control part, powered by the RX)	ON: about 9 mA OFF: about. 2 mA
Power consumption (switching part, powered by the external battery)	ON: about 8 mA/ 2mA with / without external blue LED OFF: ~0 mA (max. 0,001 mA)
Size	30 x 9 x 8 mm (PCB)
Weight	6 g (incl. Cable)
Connectors	RX cable (0,14 mm ²) switching part: 3-wire cable (0,25 mm ²) 2-pin socket for the external blue LED
The "ON" range can be programmed completely free.	

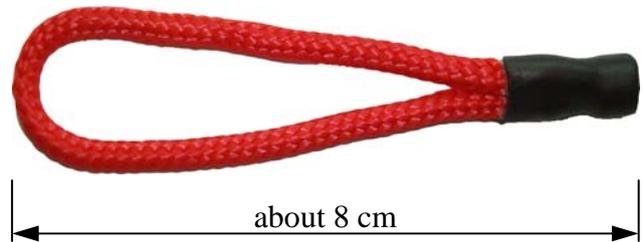
6 Accessories

The following accessories are **not included**:

6.1 external blue LED



6.2 Magnet



7 EG Declaration of Conformity

Manufacturer

VSpeak-Modellbau (Volker Weigt)
Priestewitz



We hereby declare that the product

Electronic switch 2A (opto)

complies with the following European directives:

2004/108/EC	EMC Directive
2006/95/EC	Low Voltage Directive (LVD)
2011/65/EC	Restriction of Hazardous Substances (RoHS)

The presumption of conformity is taken by applying the following harmonized standards:

EN60065	Audio-, video- and similar electronic apparatus - Safety requirements
EN60332	Tests on electric and optical fibre cables under fire conditions
EN60950	Information technology equipment - Safety
EN61000-6-1	Electromagnetic compatibility (EMC)
EN61000-6-3	
EN55022	Information technology equipment - Radio disturbance characteristics

Priestewitz, 2013/08/01



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Signature
Volker Weigt
Managing Director

8 Instructions for disposal



Equipment marked with the symbol should not be disposed of within household waste.