# Voltcheck X
Receiver signal and Voltage monitor

Thank you purchasing a Proton Control Systems' product.
Voltcheck X is an on board type (installed in your model) monitoring device for receiver's servo signal and voltage level.  It can be used to prevent an uncontrollable situation due to low voltage or receiver's faulty servo signal.

## Specification

Voltage range  : 4.4 ~ 5.3V (4 cells), 5.4 ~ 6.7V (5 cells)
Current drain  : 10 mA
Size               : 46 X 25 X 11.8 mm (1.17" X 0.98" X 0.46")
Weight           : 19.2 g (0.68 oz)
Connector      : JR ™ type
Contents        : Voltcheck X 1 pcs, LED harness X 1 pcs, plastic washer X 2 pcs,
                       sponge washer X 2 pcs

## Feature

- On board type
Voltcheck X can be installed on your model and when receiver's power is turned on the battery voltage level and the servo signal status are displayed on the LED indicator.

- Monitors receiver's voltage
Voltcheck X monitors the receiver's voltage level at all times so that you can prevent an uncontrollable situation due to a low voltage level.

- Receiver-servo signal supervision
Voltcheck X monitors the receiver signal by comparing the standard signal kept in the memory against the current servo signal so that you can prevent an uncontrollable situation due to malfunction of receiver caused by damaged parts or connection problem with a crystal.

Caution : Receiver-servo signal supervision is for the signal between receiver and servo. It does not monitor or supervise the signal between receiver and transmitter. Therefore, when Fail Safe function is activated due to a malfunction of transmitter or an interference, receiver locks the servo based on the fail safe data stored within the receiver.  In this case, even though the transmitter will not be able to control, the signal between the receiver and the servo is still being sensed normally.
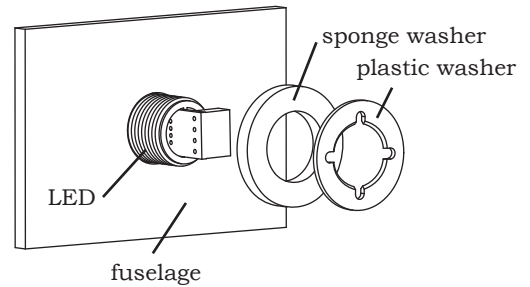
- Installing LED harness
Make a 13mm hole on the fuselage of model and
position the LED harness. From inside the fuselage,
insert a soft washer and then a plastic washer.  By
pressing in the plastic washer evenly, fix the LED
harness to the fuselage. (Extra soft and plastic washers
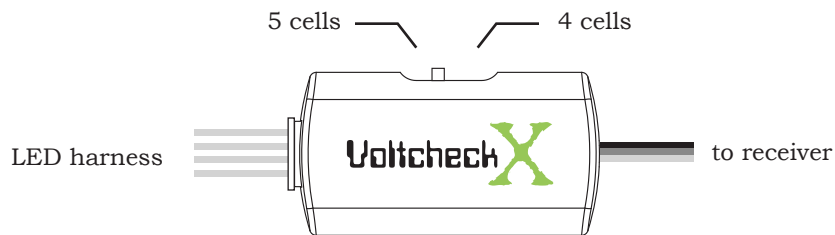are for spares in case they break.)

Caution:  Plastic washer should be pressed with an
even force all around the surface of washer, or it can
break.
power off and check all system including crystal
connections and try again.



- Setting number of cells
Depending on the number of cells in the receiver's battery, set the switch on the upper side of
Voltcheck X  accordingly. In case of 4 cells, set switch to the right. In case of 5 cells, set switch to
the left.



- Mounting
Insert the connector from LED harness to the LED slot on a side of Voltcheck X. Mount Voltcheck
X using vecro tape to a suitable location.

- Connction
Insert JR connector to one of the available slots on the receiver. You may use a Y cable (not
included) to share a slot with a servo if there is no extra slot available.

- Power on the transmitter and then power on the receiver.

- Check the battery level of receiver

|                 | blue        | green        | red          |
|-----------------|-------------|--------------|--------------|
| 4.8 V (4 cells) | over 5.3 V  | 5.1 ~ 4.5 V  | below 4.4 V  |
| 6.0 V (5 cells) | over 6.7 V  | 6.4 ~ 5.5 V  | below 5.4 V  |

Warning : When LED displays red, turn the power off to the model immediately and recharge the battery. If you are running many servos or expect high loading, prevent the low voltage situation by fully charging the battery even before the LED turns red.

- Confirm signal between receiver and servo
If the LED blinks, there is an abnormal condition with servo's signal to the receiver. Turn all power off and check all system including crystal connections and try again.