

# microFET



MicroFET is a basic MOSFET unit for an AEG rifle that redirects the current flow from the mechanical trigger to the unit and in effect lengthens the life of the gun, improves the response time, increases the rate-of-fire and improves the efficiency.

Due to its small size it can be installed inside the gearbox or in the buffer tube, even if there's a buffer tube LiPo already in use. It can also be installed on a Deans-T type connector, which is even more space efficient.

## 1 Features:

- **Protects trigger contacts** – MOSFET redirects the high current from the trigger contacts
- **Thermal protection** – If the temperature of the unit exceeds 120 degrees Celsius, the unit will turn off
- **Fully protected against inductive spikes from motor or trigger** – The unit is protected with powerful TVS diodes against motor and trigger spikes and static discharges.
- **Zero current draw** – When not trigger, the unit draws zero current – won't discharge the battery
- **Resistant against moisture and water** – For shorter periods the unit will work under water. Because of electrolysis, it is recommended to seal the unit for submersible operation

## 2 Technical data

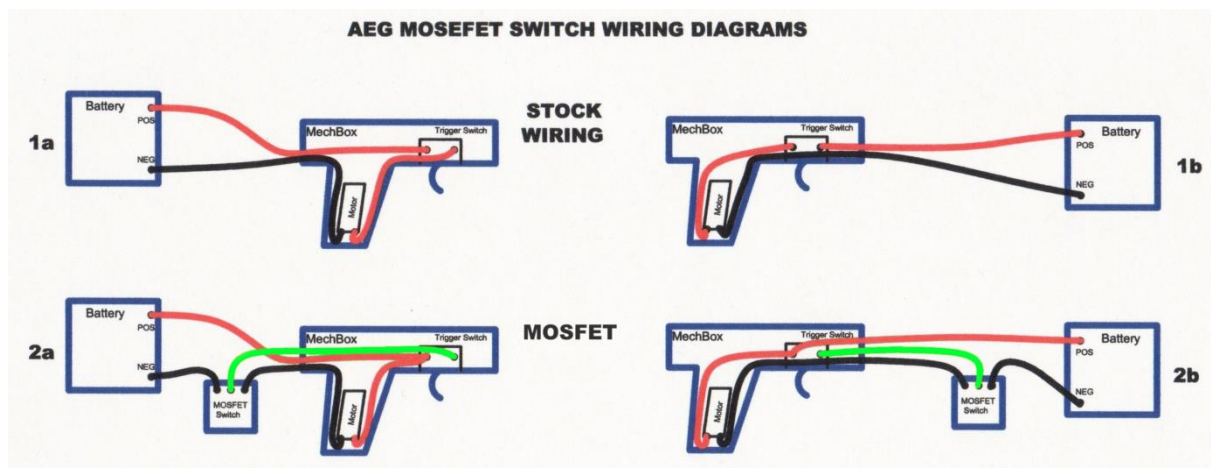
Dimensions:	19 × 13 × 4 mm
Max continuous current:	35 A +
Max pulse current:	1000 A
Internal resistance:	1.0 – 1.2 mΩ
Battery voltage range:	5 – 16 V (4S LiPo max)

## 3 Installation

Wire connections are marked on the unit:

- **MOT-** negative motor terminal (for thicker wire)
- **BAT-** negative battery terminal (for thicker wire)
- **TRIG** trigger wire terminal – on the bottom side of the unit (thinner wire can be used)

The recommended wire for connecting the motor and battery is 16 AWG or 1.3 mm<sup>2</sup>.



Follow these installation steps:

**1)** Desolder the positive wire from one side of the trigger and solder it with the other wire on the trigger. Now we have bypassed the trigger and we have a direct connection from the battery to the motor.

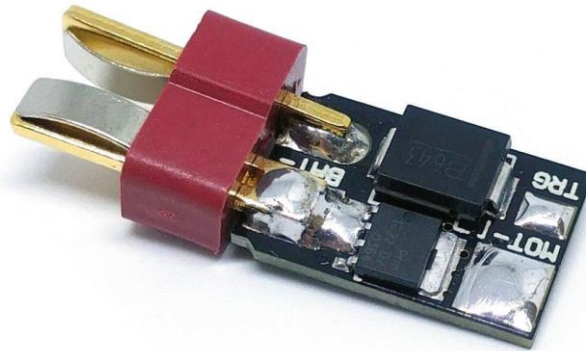
**2)** Solder a thin wire (used for signalling) on the empty trigger contact. Route this wire together with the other two wires outside the gearbox.

**3.1) Wire install:** Cut the black negative wire where the mosfet will be mounted. Add the heat shrink tubing on the wires towards the gearbox. Strip and solder the negative and trigger wire to the unit. The red positive wire goes directly to the battery. Solder the negative wire from the battery connector to the unit.

**NOTE:** Be careful when soldering, keep the soldering iron on the contacts for not more than a few seconds. Overheating the unit will damage it!

### 3.2 Connector install:

If you're installing the MOSFET on a Deans connector, first mount the unit on the connector. The positive terminal of the connector is mounted in the slot in the unit. First solder the negative (the flat) terminal of the connector and after that the positive terminal. The unit should look like this.



**NOTE: Be very careful when soldering to not overheat the unit. Keep the soldering iron on the contact for not more than a few seconds. Immediately after soldering, you can cool down the unit by blowing on it.**

Add the heat shrink tube towards the gearbox. Cut the negative black wire app. 1 cm shorter than the red positive wire. Solder the negative wire from the gearbox to the unit on the correct terminal. Solder the positive wire from the gearbox to the positive terminal of the connector. Solder the trigger wire. The wires should be soldered as shown below.

