Specifications

Max input voltage	60V
Max current (continuous)	100A
Max current (peak)	160A
Voltage resolution	4mV
Current resolution	20mA
Weight (without cables)	8gm
Size	30x28mm

eLim
energy limiter

Features

User can select 1 of 4 pre-programmed energy levels.

LED indicates the energy level selected and if the energy level is used.

With a separately available programming device, the following can be done:-

Calibrate the voltage and current.

Configure –

- The four energy levels.
- Ramp down time from max to min throttle.
- Min percentage throttle when limited.
- Limit period before re-enable.

mlm

What does it do?

The **eLim** energy limiter is an electronic device which is used in R/C models to provide a calibrated amount of energy from a battery power source.

Why is it needed?

The quest for ever greater performance leads to competitors pushing the battery packs to their limits by charging to maximum voltage and discharging to or below their minimum voltage.

The result is that the life of packs can be short and the cost of racing has become a concern.

Also, despite what it may say on the label, not all batteries deliver their rated capacity and if they do, they don't do it for long. This means that not all racers are competing with the same amount of energy.

How does the eLim help?

The **eLim** is connected to a larger more robust battery but only allows a pre-determined amount of energy to be used. Because the battery is not fully discharged, it will now last much longer and they will now deliver exactly the same amount of energy each time to all competitors.

How does it do this?

The **eLim** constantly monitors the instantaneous voltage and current so that the power (watts) can be calculated. This power when logged over time is deducted from a pre-programmed amount of energy. When the limit is reached, the throttle demand to the ESC is reduced to a configurable value (can be zero) over a configurable period.

Is the model now dead?

If the Min Throttle setting is set to zero then yes. It will re-enable in a configurable time so that it can be recovered.

Will it work with any radio gear?

If the receiver outputs the standard 1-2mS PWM signal then yes. The **eLim** automatically senses the pulse width at zero throttle and so will adjust to any gear, even pistol grip transmitters.

How can it be programmed?

The **eLim** can be calibrated and configured with an associated programming device which is obtained from mlm Solutions.

The voltage and current can be calibrated independently. The four energy levels, Ramp Down time, Min Throttle percentage and disable time can be configured.

This programmer has security features so that race organisers can be confident that once programmed and/or calibrated that they are not changed during the meeting.

Without the programmer, only 1 of 4 pre-programmed energy levels can be selected.

How is it connected?

The picture below shows how to connect the **eLim** into your model. Note which side of the eLim is connected to the battery. This is important.

When powered up, an LED will flash to indicate which energy level has been selected.

When the energy limit is reached, the throttle will be reduced to a configurable value over a configurable time to avoid an abrupt stop. The LED will indicate this condition.

After a configurable time, the throttle will be re-enabled.