

EPro8 Challenge

Engineer Problem Solve Innovate

Electronics Starter Kit – Teacher’s Notes

Summary

Your EPro8 Electronics Starter Kit is designed to be used with your EPro8 Construction Equipment.

The equipment is designed to be intuitive. Students only require very basic instructions before they start exploring the electronics. These are shown on the Student's Instructions card.

Activities / Tutorial

Students should watch the tutorial before using the electronics starter kit.

Visit www.EPro8Challenge.co.nz/Tutorial and enter the Challenge Code ELST.

The activity menu at epro8challenge.co.nz includes the lightning bolt symbol for all activities that include optional electronics steps.



Battery Charging

Charge the battery after each use.

A flat battery will cut out under load.

The charger will show red when charging.

The Fuse (Protection)

The fuse is designed to protect equipment from overloading, and to protect hands and fingers in case of jamming.

If the battery's light does not turn on, then your fuse is blown.

Students should not repeatedly change the fuse, as this means there is an error in their construction.

There is a container with 100 spare fuses "hidden" under the charger.

Remove the container so that students will need to come to you if their fuse is blown.

The first time a student asks for a fuse, give them a replacement fuse. Ask them to think about why it might have blown. If it blows again, check their construction against the potential Causes of Blown Fuse.

Extra Spare Fuses

Order extra fuses at epro8challenge.co.nz

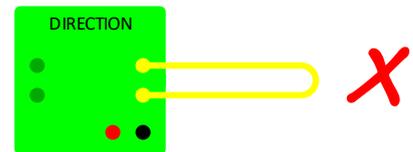
The fuses MUST be 1.25 Amp Slow Blow. Use of a different size of fuse can cause damage or harm.

Causes of Blown Fuse

Error in Wiring

Wiring colours that are NOT matched can cause a "short circuit".

Is a yellow wire looped from the direction box straight back to the direction box?



Motor is Forced to Stop

E.g. if a car hits a wall or a rope gets caught.

Jammed or Overloaded Motor

Remove the motor from the construction. Can the contraption be turned by hand? If not, then why not?

Is a bolt or rod is poking into a wheel or gear?

Has rope been tied around the motor? (Don't let students use the motor's gear as a reel.)