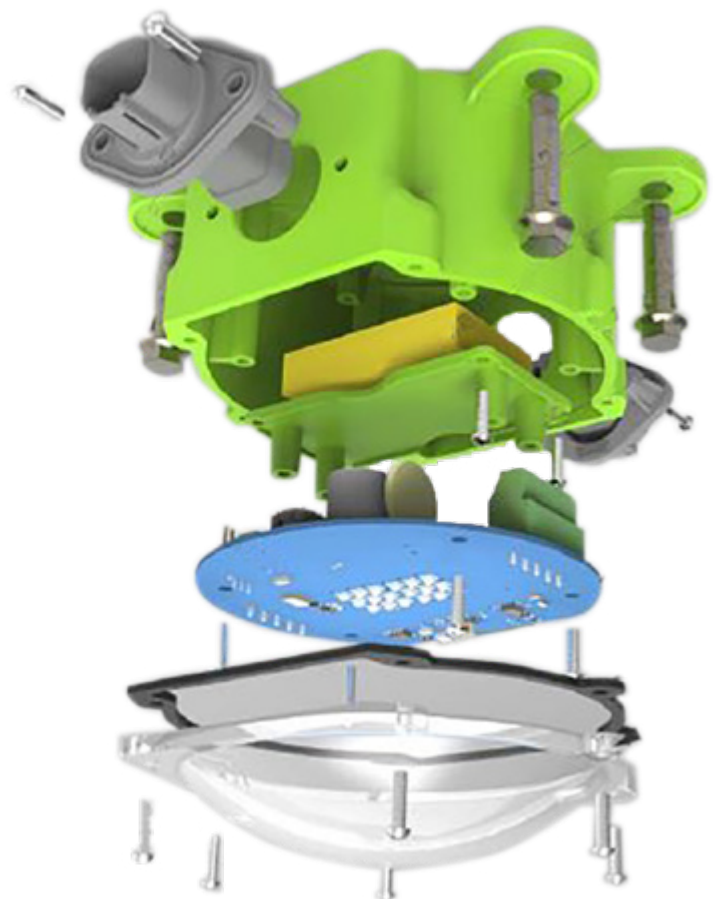# FIREFLY LED LIGHTING MODULE

The Firefly Smart Lighting System provides underground mining operations with a new and additional layer of safety. By using smart illumination devices and easy to use control software, the firefly smart lighting system can provide a robust and reliable solution for quick and effective area/ zone management, real-time demarcate of seismic zones, evacuation when seismic events occur, improved illumination lighting for post-event inspections and can provide guidance to refuge chambers and safe areas.

The Firefly LED lighting module is a rugged, fit for purpose and intuitive device that improves mine visibility, workflow and most importantly safety. Firefly's +48VDC multi-coloured addressable LED assembly can provide red, green, amber, blue or white tunnel illumination as required. It is also designed to provide emergency or evacuation lighting levels for underground workers. The Firefly modules are safe, reliable and wholly designed and manufactured in Australia.

Smart, connected
Firefly
Tunnel Lighting

Model: LED-FF

Smart Tunnel Lighting

- Quick and effective area/ zone management
- Real-time demarcation of seismic zones with immediate evacuation when seismic events occur
- An additional layer of warning during an emergency event
- Improved illumination lighting for post-event inspections
- Improved visibility
- Guidance to refuge chambers or safe areas
- Data backhaul for geotechnical sensors
- Personnel and vehicle tracking

Features

- IP65
- Voltage input 6VDC to 60 VDC
- Wireless communications 802.11 b/g/n
- Bluetooth Low Energy 4.0
- Wired communications RS-485
- Quick connect 4 pin connections
- Internal backup battery

Specifications

Dimensions	Weight: 0.4kg
	Length: 141 mm
	Width: 138 mm
	Height: 80 mm
Temperature	Operating: 40° to 159° F (-40° to 70° C)
	Storage: -40° to 176° F (-40° to 80° C)
Internal Battery	3.7V 1350Ah LiPo

Battery

Internal Battery	3.7V 1350Ah LiPo
Charging	During periods of a sustained power outage, Automatic Light Control (ALC) will decrease the light intensity based on battery SOC. When the power supply returns to a sustainable level, ALC increases intensity back to the system configured level.

Lighting

Light source high-power CREE LED	>100,000 hrs lifetime
Modes	On/Off/Flash/Chase/Strobe
Divergence	>8° FWHM Vertical Divergence
Chromatically	Red/ Amber/ Green/ White/ Blue
Illumination Performance (Distance 8km)	Luminous Flux: 377 lm
	Luminaire Power: 6.42 W
	Luminous Efficacy: 58.7 lm/W
Colour	The colour and mode settings for the Firefly LED lighting modules are set via the Firefly UPS control panel web app or by the Firefly smart lighting control web app.

Regulations

Restriction of Hazardous Substances (RoHS) Directive 2002/95/EC
CE EN 60945, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3
FCC Identifier – AC7Z-ESPWROOM3

Installation

The Firefly LED lighting modules are attached direct to the tunnel side walls or roof. They can be affixed via the four mounting feet holes by either M8 anchor bolts or cable ties.