

# AXON

## mesh<sup>+</sup> - portable wireless access point + BLE



Improving the safety  
of your underground  
environment

- > Full wireless meshing
- > Portable and lightweight with multiple mounting options
- > Dual hot-swap battery via unique Lachlan® wheel
- > Flexible antenna arrangements
- > BLE beacon send and receive capability
- > Intrinsically safe

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## mesh<sup>+</sup> - portable wireless access point + BLE

MST Global's mesh – portable wireless access point - is an industry leading intrinsically safe, mobile, self-meshing, network extender and access point. BLE (Bluetooth Low Energy) beaconing and receiving BLE broadcasts have now been added to the mesh to create the mesh<sup>+</sup>. Intended for the adhoc extension of a mine or tunnel's existing Wi-Fi network, the mesh<sup>+</sup> is fit for purpose for VoIP, tracking and data transport. The mesh<sup>+</sup> is devised for short to medium term deployment in the dynamic areas of underground mining and tunnelling, including hazardous areas and development sections.

The mesh<sup>+</sup> is lightweight, small and portable. It is simple to deploy, delivering Wi-Fi and BLE connectivity into areas of mines and tunnels where cabling is difficult or dangerous to install and maintain. The mesh<sup>+</sup> is designed to enable multiple nodes in a redundant mesh implementation, effectively filling communication black spots typically found between active mining faces and fixed infrastructure. This enables real-time data collection from personnel and equipment working in these areas, greatly enhancing the safety of underground personnel due to the tracking capabilities enabled by the mesh<sup>+</sup>. The mesh<sup>+</sup> broadcasts as a BLE beacon and also receives BLE broadcasts from tags and this information is used by MST's geolocation software to locate these BLE tags and their associated personnel and/or equipment in the mine or tunnel.

Offering more than 120 hours of battery-powered operation, the intrinsically safe mesh<sup>+</sup> is considerate of the 24-hour reserve required for emergency communications in certain mining laws. This can be further extended by hot swapping batteries in depleted units to maintain the network and keep the mesh alive.

A turnkey solution, from instrument sampling through to data hand over, the AXON mesh<sup>+</sup> is the perfect solution to extending the IP network of the modern mine or tunnel through Wi-Fi and BLE.

### SPECIFICATIONS

#### WIRELESS CONNECTIVITY

- > 1 x 802.11 b/g/n Wi-Fi radio
- > 802.11s Meshing
- > Transmit Power: 16dBm

#### MODULATION

- > CCK, OFDM, BPSK, DQPSK

#### NETWORK PROTOCOLS

- > MST Device Discovery
- > SNMP (for remote monitoring)
- > TFTP (for central configuration management)
- > MST Tracking Protocol
- > AeroScout® compatible

#### POWER

- > 2 x 96 Wh hot swappable Li-ion batteries
- > Power input parameters: 7.4V, 150mA
- > Typical operational time with fully charged batteries is more than 120 hours (dependent on the environment & the amount of data transmitted)
- > Low power consumption

#### BLE BEACON PROTOCOLS

- > Eddystone
- > iBeacon

#### CONNECTIVITY

- > 1 x N-Type male antenna connector
- > 1 x 2dBi Omni-directional antenna
- > Decipro antenna kit

#### STATUS INDICATORS

- > Mesh/uplink quality, Wi-Fi access point, Power, Tracking Tag (Wi-Fi), Fault, Battery

#### ENVIRONMENTAL PARAMETERS

- > IP67 rated
- > Operating temperature:
  - Hard Rock: 0 to 50°C
  - IECEx: 0 to 40°C

#### COMPLIANCE

- > EMC: CE, FCC
- > Intrinsically safe - IECEx

#### DIMENSIONS (mm) and WEIGHT

- > 233 x 310 x 92
- > 3.45kg (complete with two batteries)