MSHA Approval Number 23-A120006-0

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iPMine-ZAPs (Zone Access Points) are IEEE 802.11 wireless/wire-line access points, based on true wireless mesh network technologies. Placed in and around a mine, the iPMine ZAPs collectively define a resilient, highly reliable and available wireless in-mine voice and data communication backbone with redundant multi-paths and multi-hops. If a path stops working due to hardware failure or interference, mesh network automatically re-routes messages through an alternative path. Redundant data paths not only improve reliability, but also provide higher data rates than ingle-hop networks. iPMine-ZAP mesh networks are self-configurable, self-healing, and do not require a central server, and are expandable with minimal degradation in signal.

FEATURES & BENEFITS

Explosion Proof Enclosure
 Withstand the harsh underground mining operation and meet governmental mine-safety standards.

802.11 Wireless LAN / 802.3 for Ethernet LAN
 Widely accepted, cost-effective standards utilizing the latest technology.

Based on True Wireless Mesh Networking
 Highly reliable and available wireless network with redundant multi-paths and multi-hops;

automatically re-route messages through an alternative path.

True Wireless Backhaul with a Redundant Fiber to LAN Backhaul
Providing non-interrupted communications even up to both sides of a cave in.

Multi-Path and Multi-Hop Features Up to 5 Hops Between Portals
Providing a self healing network to and from each portal then fiber going to the surface.

IP-Communication
Efficient packet transmission that minimizes the risk of disconnection or packet loss.

Standarized Components
Easy and affordable maintenance and upgrades.

Max 600 Watts of Running Power @ 120VAC
Lower power requirements for better power management efficiency.

Charging Conditions-Max 60 Watts Constant Current @ 12VDC
Lower power requirements for better power management efficiency.

Flexible Configurations
Customize deployment of iPMine-ZAPs by utlizing options for combinational set-ups of wireless and wireline models as well as utilization of multiple radios to cover more entries using antenna stations.

Online Help and Product Support
Improve usability and effectiveness with product enhancements and guided instruction for troubleshooting.