



**AMR** **PEMCO**

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PROVEN PARTNER IN TECHNOLOGY

[WWW.AMRPEMCO.COM](http://WWW.AMRPEMCO.COM)

# Corporate Overview



- AMR PEMCO and sister companies operate to provide electronic monitoring, controls, communications, tracking, and collision avoidance systems as well as industrial buildings, circuit breakers, dry-type transformers, and automation integration.
- Markets served include global mining, aggregates, tunneling, power generation, utilities, transit, nuclear, water/wastewater, and general industry.
- Primary sales in the U.S., Canada, Mexico, India, South Africa, and South America with sales in many other countries around the world.

AMR est. 1975



PEMCO est. 1960 - Acquired in 2016



ERM est. 1979



CMS est. 1995



# Delivering Projects Worldwide



# Codes and Certifications



AMERICAN  
PETROLEUM  
INSTITUTE



American  
Welding Society



# Experience With Popular Brands



GE Infrastructure  
Water & Process Technologies





# Clients and Customers



*NORTHROP GRUMMAN*

**Balfour Beatty**



**TMEiC**



**Rockwell  
Automation**



# Core Capabilities



- Industrial & control buildings (ICB) and equipment enclosures including HVAC systems and design, installation and integration of all types of electrical equipment
- Complete skid mounted systems including switchgear, AC & DC Drives, transformers and control systems
- Complete skid mounted power centers and substations for harsh duty applications
- Custom designed dry type transformers up to 4 MVA and 25kV class.
- Specialty magnetics for custom applications including reactors, inductors, and rectifier duty transformers
- UL and CSA certified control panels with custom enclosure design and fabrication
- 3D modeling capabilities for all enclosures and bus assemblies.
- Electrical, mechanical, and transformer engineering



# MINE NET MESH WI-FI SYSTEMS



# Mine Net Mesh Wi-Fi Systems



Mine Net Mesh is the second generation of AMR PEMCO's communications and tracking solutions adding real time voice and 802.11 data connectivity. The primary purpose of these systems is to expedite miner location and rescue efforts, but they also greatly increase productivity during daily operations.



# VoIP Handset



- 2.4 GHz, IEEE 802.11 Compliant
- Send preset or custom text message to a single person, a few, all users or the system operator
- Continuous calls and Push-To-Talk (PTT) voice options
- PTT allows broadcast calls and call groups
- NEMA 4X with rubber grips
- LCD Color Display



# VoIP Handset Specifications



<b>Enclosure Dimensions:</b>	4.75"L x 2.25"W x 1.1"D 120.65mm x 57.15 x 27.94
<b>Enclosure Type:</b>	NEMA 4X, Molded Plastic with rubber grips
<b>Unit Weight:</b>	12 oz (168 g)
<b>Frequency:</b>	2.4 GHz
<b>Gain:</b>	1.6 dBi
<b>Power Output:</b>	+ 18 dBm
<b>Operating Voltage:</b>	3.7 VDC
<b>Battery Type:</b>	Lithium-Ion, 1500 mAh
<b>Battery Life:</b>	16 Hours (Rechargeable)
<b>Operating Temperature:</b>	0° to 70° C
<b>Inputs:</b>	Battery Charger Port
<b>Outputs:</b>	3.5mm Headphone Port
<b>Display:</b>	LCD Color Display
<b>Communication Protocol:</b>	IEEE 802.11
<b>Address Range:</b>	All TCP / IPv4 Addresses

# MN-6400 Wireless Access Point



- Configurable as Tracking only, Texting with Tracking, or combined with Voice and 802.11 Wi-Fi Data
- Central Monitoring Station utilizes Windows-based software for tracking, reporting and mine map options
- System uses Voice over Internet Protocol (VoIP) for voice communication, and provides a high speed data network that can be accessed with virtually an Wi-Fi enabled device such as laptops, tablets, and Smart Phones
- Applications for Wi-Fi data also include wireless video cameras, environmental and process control device monitoring, or data collection from mine power centers and mining equipment
- Network security options include Wired Equivalent Privacy (WEP), Wi-Fi Protected Access (WPA), and 802.11 encryption types
- MSHA and International Intrinsically Safe Approvals are pending



# MN-6400 Wireless Access Point Specifications



<b>Enclosure Dimensions:</b>	14"L x 14"W x 7"D 355.6mmx 355.6 x 177.8
<b>Enclosure Type:</b>	NEMA 4X, Powder Coated Aluminum
<b>Unit Weight:</b>	Node – 12 lbs (5.4 kg) Battery Pack – 56 lbs (25.4 kg)
<b>Frequency:</b>	2.4 GHz
<b>Gain:</b>	9-15 dB typical
<b>Power Output:</b>	Up to 30 dBm (1 Watt)
<b>Operating Voltage:</b>	3.6 VDC
<b>Backup Battery:</b>	Yes
<b>Battery Type:</b>	Lithium Iron Phosphate (LiFePO4) 720 Ah
<b>Battery Life (Hours):</b>	240+ (Rechargeable)
<b>Current Consumption:</b>	1.75 A typical, 2.7A max
<b>Operating Temperature:</b>	0° to 70° C
<b>Inputs (configurable):</b>	(2) Ethernet or Fiber Optic
<b>Outputs:</b>	(2) Antenna
<b>Display:</b>	LED Indicators
<b>Communication Protocol:</b>	IEEE 802.11
<b>Address Range:</b>	All TCP / IPv4 Addresses

# Personnel Tag



The MN-6425 Wi-Fi Ranging Tag is the latest in precision wireless tracking for underground environments such as mines and tunnels. Available with multiple communication options, the tag is compatible with the AMR PEMCO Mine Net Mesh platform, the Collision Avoidance Protection System (CAPS), or a combination of the two systems. The unit is lightweight, rechargeable, and includes an integrated clip allowing personnel to place it prominently on their mid to upper body.





# Personnel Tag Specifications



## Dimensions:

2.25" H x 2.17" W x 1.13" T  
55.15mm H x 55.12mm W x 28.7mm T

## Weight:

Less than 1 lb (0.45kg)

## Operating Temperature:

-20° C ~ 60° C  
-4° F ~ 140° F

## Features and Benefits

- Rechargeable battery
- Provides tracking updates with the MineNet™ Mesh System
- Maintains tracking backwards compatibility with the original MineNet™ System
- No buttons
- LED indicator
- Pending MSHA Approval

## Features and Benefits

- Web-based application for personnel and equipment tracking in underground mining
- Complements MineNet™ Mesh, Wi-Fi based communication and tracking system
- Replaces MineNet™ top end
- Connect to multiple MineNet™ systems
- Personnel/equipment located on mine map with pan and zoom features
- Multiple remote clients can access the server database
- Standard SQL database
- Windows Server or Linux based operating systems compatible





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