



iPMine

Communications and Mine-Safety Solution

iPMine-M8

Two-Way Communication and Tracking Device
Model 810T

The iPMine-M8 Model 810T is a portable wireless two-way text communication and tracking device carried by miners, or attached to equipment. Text messages or menu options are displayed on a 2-line x 18 character LCD for Latin-based languages or 2-line x 9 character for double byte languages (Chinese, Japanese, etc.).

The iPMine-M8 Model 810T receives and transmits signals, and text messages to and from iPMine-ZAPs (Zone Access Points).

This information is transmitted to iPMine's tracking and monitoring enterprise software, iPMine-VU.

The iPMine-M8 Model 810T is powered by its own stand-alone internal battery source. If a normal message is sent to the Model 810T, a cluster of high intensity LED lights slowly flash on the unit itself. For alert and SOS messages, the Model 810T LED lights will flash rapidly.

GENERAL FEATURES

Packaging

Approximately 3.70" (H) x 5.08" (W) x 1.52" (D), or 94.0mm (H) x 129.0mm (W) x 38.5mm (D). The model 810T is small enough for portability and convenience, yet large enough to be manageable in industrial environments.

Power

Efficiently powered by a stand-alone 3.7 Volt DC polymer lithium-ion battery. iPMine-M8 Model 810T devices consumes maximum 400 milliamps at 3.3volts. Operational battery uptime is approximately 12 hours (with an option to upgrade battery to double the capacity). During an emergency, the battery uptime can be extended through iPMine-M8 Model 810T's smart software management features, whereby the device switches to low power mode to conserve energy. Full battery charge time is approximately 4.7 hours.

LCD Screen with Soft Keys

iPMine-M8 Model 810T device has a 2-lone LCD screen for easy viewing, three soft keys for controlling menu commands, on/off switch, and an SOS (panic) button.

Interaction

Transmit and receive messages to iPMine's tracking and monitoring enterprise software, iPMine-VU, over iPMine-ZAPs (Zone Access Points). Allows over-the-air registration and configuration to download settings and built-in messages.

COMMUNICATIONS FEATURES

Wireless

Model 810T supports 802.11b standards for wireless communications at 2.4GHz.



Adjustable

iPMine-M8 Model 810T devices are capable of scanning all available iPMine-ZAPs and connecting to the one with the most powerful signal at each instance of time. The period of such scanning is an adjustable parameter.

Flexible

Communicate in different ways for different situations, and confirm that messages have been sent and received. Operation managers have the ability to broadcast over the air. Upgrades or additional messages to be added to the device.

USER INTERFACE FEATURES

Notification

Multiple LED indicators for power, battery alerts, connection status link, or messages.

Automated

iPMine-M8 Model 810T devices can be set to automatically register themselves with the server and download multiple user-defined parameters.

Pre-Programmed Messages

Storage space for pre-programmed messages.

Multiple Language Support

Uses a unicode character set that supports Latin and non-Latin based languages.



FEATURES & BENEFITS

24/7 Monitoring and Communication

Maintain constant vigilance and increase overall safety with 2-way communication, tracking, and monitoring.

Communicate in a Variety of Modes

Send detailed text messages or flashing alerts according to priority and importance for diversified message capability.

Intuitive and Powerful Communication Interface

Quickly and easily send and receive messages and convenient soft keys and panic button.

Reliable Communication

Intact wireless messaging for trustworthy communication in emergency situations.

Non-Volatile Memory System

Retains downloaded parameters and settings in case of power failure.

Device-to-Device (Miner-to-Miner) Communication

Maintain limited device-to-device communication in the event of system and/or wireless network outage. Direct communication can be established, without support from server, between same crew members or members registered in same Zone Access Point.

PHYSICAL SPECIFICATIONS

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|-----------------------|--|
| Size/Dimensions | 3.70" (H) x 5.08" (W) x 1.52" (D) 94.0 mm (H) x 129.0 mm (W) x 38.5mm (D) |
| Operating Environment | 32 to 122 °F / 0 to 50 °C |
| Storage Environment | -4 to 176 °F / -20 to 80 °C |
| Enclosure Materials | PC / ABS (C2800) |
| Safety Features | IP54 enclosure, intrinsically safe |
| Battery | 3.7 V, polymer lithium-ion, 4300 mAh |

BOARD

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|------------------------------------|--|
| Wi-Fi Specification | V1.1 |
| Spread-Spectrum Radio Transmission | Direct-sequence spread spectrum (DSSS) |
| Wireless Standard | 802.11b |
| Network Protocols | IP/TCP/UDP |
| RCV Sensitivity | @PER<8% 11 Mbps: -89dBm 5.5 Mbps: -91dBm 2 Mbps: -94dBm 1 Mbps: -94dBm |
| Frequency Range | 2.4 GHz |
| Modem Speed | Up to 11 Mbps |
| DC Power | Internal, Rechargeable |
| Configuration | Over-the-Air |
| Charger | Output: DC5.1-5.4V Input: AC90-264V 50-60Hz |

FEATURE

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| Primary Display | 2-line LCD |
| Alert Display | High-Intensity LED Clusters |
| Interface Buttons | Keypad membrane with soft keys; 3 directional keys, panic button, on/off button |
| LCD Specification | 144 x 32 pixels, 3.3V operating voltage, white backlighting 60-75 mA forward current |
| Send/Receive Messages | Yes (receive full text; send programmable predefined messages) |
| Language | Unicode with GB 18030-2000 |
| Multiple LED Indicators for Power, Battery Alerts, or Messages | Yes |
| LED Specification | Peak wavelength 660nm, axial intensity 1200 to 4000 mcd |
| Antenna | Internal microstrip 2dBi omni-directional |
| Carrying Case | Nylon-based carrying case |

About iTerra Technologies, Inc.

iTerra develops and markets a real-time, 2-way wireless/wireline communications and mine-safety solution for the global mining industry. iPMine, iTerra's flagship product, tracks, monitors and communicates with miners and equipment underground and above ground.

