

Pak-Tracker™ Locator

General Specifications

The Pak-Tracker Locator shall consist of two components; one that is a personal transmitter and the other that is a hand held receiver.

Personal Transmitter

Operation of the personal transmitter of the Pak-Tracker Locator shall be initiated by the removal of a magnetic key. A visual indication of activation shall consist of a green LED.

The personal transmitter shall weigh approximately 225 grams.

The personal transmitter shall incorporate visual and audible indicators, which shall be activated in full transmit mode when the personal transmitter remains motionless for approximately 30 seconds. Visual signals shall consist of a green LED when the system is in normal operation and red LEDs to indicate full transmit mode and a green flashing LED when in low battery condition.

Two push buttons shall permit system reset. Both push buttons shall be flush to minimise accidental activation. The personal transmitter shall contain a secondary function that will transmit a signal when the unit is in "man-down" alarm. To permit manual activation of the "man-down" alarm, both buttons must be simultaneously pressed and this signal shall be capable of being received by the hand held receiver.

The personal transmitter shall include a motion sensor. The unit shall be powered by three "AAA" alkaline batteries with a battery life of approximately 400 hours of normal operational use.

The batteries shall be housed in a battery compartment separated from sensor and control circuits and shall be sealed with a gasketed cover. The personal transmitter shall contain a single sound emitter for the audible indicator.

The "man-down" audible signal shall be in a frequency range of 1 kHz to 4 kHz and consist of two primary frequencies. Sound pressure level shall be 80-85 dBA.

Hand held Receiver

The hand held device shall contain a receiver and be designed for firefighting applications such as search and rescue of a downed or trapped firefighter.

The housing shall be red in color and constructed of a polymer material, suitable for use in high heat environments and fire ground applications. The housing shall consist of a compartment enclosing the receiver.

The head of the housing shall be integrated into an approximately 15cm long ergonomically designed handle, designed to house a battery pack. The handle shall be designed for gloved-hand operation with an anti-slip grip. The base of the handle shall consist of a threaded and gasketed cover to permit user access to the battery compartment for the purpose of inserting or removing the battery pack. The base of the cover shall include a molded connection point for attachment of a neck/shoulder strap or similar device. The device shall have means to recharge the battery (NiMH) while installed in the hand held receiver.

The complete weight of the hand held receiver, with battery pack installed, shall be circa 1kg. The overall dimensions of the hand held device shall be 12.7 x 12.7 x 28.6 cm.

Display

The hand held receiver shall include a large 6 cm, 2 line x 16 digit LCD and a 2 digit LED display. The display shall have an exterior protective cover that is hard coated and designed to reduce glare.

Controls and Icons

The hand held receiver shall contain two push-type control buttons to operate all functions and should be capable of being pressed by gloved-hands. These functions shall include on/off, scrolling, and searching. All buttons shall be designed to prevent accidental shut-off. The hand held receiver shall include an LCD to display transmitters that are transmitting and which specific transmitter is being tracked, and an LED indicating signal strength of the transmitter being tracked. High-intensity graphical bars incrementally illuminate when signal strength is greater than 50. An additional LED shall include a "Low Battery" alert, which shall alert the user to a low battery condition when approximately 20% of battery life remains.

Power Source and Battery Pack

The hand held receiver shall be powered by a single rechargeable nickel-metal hydride (NiMH) battery pack or six disposable AA batteries. Use of nickel-metal hydride batteries shall provide approximately six hours of continuous operation; use of AA batteries shall provide approximately two hours of continuous operation. AA batteries shall be secured in a cartridge battery pack fixture designed for quick and easy insertion into the battery compartment.

Desktop Charger

The hand held receiver shall be available with a desktop charger designed for recharging the nickel-metal hydride pack. The design of the charger is such that a battery can only be inserted one way. The charger shall be capable of recharging fully depleted batteries in approximately two hours. The charger shall be capable of being connected to a 220VAC, 110 VAC or 12 VDC power supply.

Carrying Case

The hand held receiver shall be made available for storage and transportation with a molded plastic carrying case. The case shall include a foam insert for protection and shall be also be capable of carrying accessories, such as a spare battery pack and desktop charger.

Truck Charging System

The hand held receiver shall be available with a truck charging system (TCS) suitable for mounting in a vertical position inside an apparatus or on a wall. The TCS shall be designed to securely retain the hand held receiver when not in use and to recharge the battery inside the hand held device handle.

The TCS shall be supplied with connections for either a 220 VAC, 110 VAC or 12 VDC power supply, and shall be capable of recharging a depleted battery pack in approximately two hours.

The TCS shall be designed in such a way that a user with gloved hands may mount or dismount a hand held receiver into the fixture.

The TCS shall be capable of withstanding forces of 9-Gs (longitudinally) and 3-Gs (from other directions), while securely retaining the hand held receiver.

Intrinsically Safe

The hand held device will be Atex Zone 2 approved (pending) (EN60079-0 & EN 60079-15).

The personal transmitting device will be Atex Zone 0 approved (EN 50014 & EN 50020).