



EkoTek is a battery operated mesh network based on the 802.15.4 standard which can be easily implemented within a building without routing wires. EkoTek provides two-way communication to user devices, allowing them to raise an alarm and receive messages from team members to know help is on the way.

Call Fob

The call fob allows an assistance call to be generated either by the user pressing a button, or automatically by the dead-man or man-down features. Accurate location information is regularly obtained from the repeater network and relayed to teams for immediate assistance.

EkoTek Pager

The pager is a multi-functional device, displaying received messages with acknowledgement, plus the ability to generate an alarm from the button, snatch cord (panic), dead-man or man-down features. Its display shows alarms from other pagers and call fobs, allowing the user to accept the alarm and signal back to confirm that assistance is on its way.

Two Levels of Alarm

For both the EkoTek pager and fob there are two levels of alarm.

Emergency Alarm:

- Red button: Single or double press raises an alarm with escalation
- Man-down: On suffering a fall, an alarm is raised with escalation
- Dead-man: Raises alarm if no response is received to a scheduled request (with escalation)
- Snatch Alarm (pager only): Raises alarm if pager is snatched from cord

Assist Alarm:

- Low priority alarm to call for assistance (no escalation)

Hub

The hub is the system's central control unit, displaying assistance call messages, the calling user and location. Device configuration can be changed using a PC running web browser software such as Internet Explorer. Network and device data can be collected. Pager messages, production of groups of pagers and location display allow call fob or pagers users to be located.

EkoTek systems can be extended using Synchronized Ethernet Repeaters (SERs). Up to 8 SERs can be used to extend a system.

Repeater

Battery operated with a battery life of up to 2 years which form the mesh radio network.



Technical specification

Radio Performance

- Radio frequency: 2405-2480MHz
- Radio channels: 16
- Channel operating mode: Fixed frequency, or frequency hopping
- Maximum no. of radio channels simultaneously used per system: 16
- Radio power: 10mW
- Radio coding: modulation format OQPSK DSSS IEEE 802.15.4

Electrical Specification

- Hub power: AC-DC power adaptor
- Hub back-up batteries: 3 x C cell NiMH rechargeable batteries
- Repeater power: 2 X D cell high capacity alkaline manganese batteries
- Pager power: 1 X NiMH rechargeable battery (not replaceable)
- Call fob power: 1 X NiMH rechargeable battery (not replaceable)
- Mains powered repeater power: 9.5-15V DC 15mA, with proprietary rechargeable battery pack as back-up
- Charging rack: AC-DC power adaptor
- Call point power: 2 X D cell high capacity alkaline manganese batteries
- Synchronized Ethernet Repeater: power over ethernet with a back-up of 2AA NiMH rechargeable batteries
- Mains powered call point: 11 – 15V 25mA. with proprietary rechargeable battery back-up
- Battery life:
 - EkoTek pager: up to 2 weeks*
 - EkoTek fob: up to 4 weeks*

System Maximums

- Max no. of pagers: 127
- Max no. of devices per system: 500 (inc. pagers, fobs, repeaters and hub)

External Connections (hub)

- 2 x serial port: 300 – 9600 baud
 - Port A: ESPA input/output
 - TAP input/output
- Port B: TAP input
- ESPA input

Note: TAP & ESPA protocols are not standardised and require tests for compatibility.

*dependent on usage

