Loralert
IoT solution for man down and location tracking

MOBILCOM
SAFETY RADIO NETWORKS

IOT SECURITY SOLUTION

Mobilcom offers a narrowband radio security solution consisting of wearable devices that, when necessary, generate an emergency alert to an alarm concentrator equipped with a wireless interface. The signal can be generated manually by pressing a button or automatically according to configurable man down logics.

Each wearable device is associated with a predetermined identifier, which can be associated with a name or label. Communication use free band on a frequency particularly suitable for use in indoor civil and industrial environments, and is based on the LoRaWAN communication protocol.

The solution includes an authentication system that guarantees both certain identification of the device and protection of access from devices outside the system.

The wearable devices are equipped with a GPS/GNSS receiver and a Bluetooth receiver, so they can recognise the position of the person in distress both outdoors and indoors, where the satellite signal is absent.
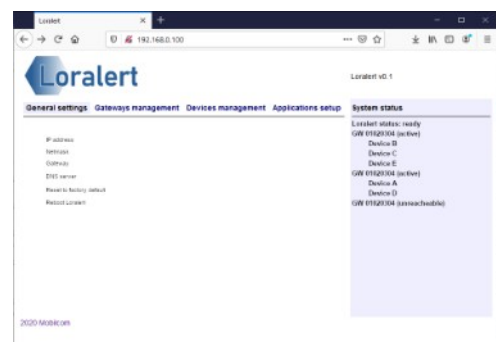
INDOOR TRACKING

By combining the Loralert solution with Bluetooth reference devices with iBeacon protocol, it is possible to identify the position of a person in difficulty in indoor environments. Mobilcom offers small-sized, industrial-grade devices, protected against water and dust, with various ways of installation. They are available in battery-operated versions with high autonomy or line powered.

Location tracking functionality can be extended over the entire area of several buildings, whether indoor or underground, but also outdoor between buildings to simplify the solution or to eliminate the GPS/GNSS signal fix time.

IOT + MAN DOWN + POSITION TRACKING = LORALERT !

The core of the Loralert solution is an appliance that manages the LoRaWAN wireless network and collects incoming man down and emergency alerts from wearable devices, integrating with external systems, applications and services. Integrations can be done via contacts or via LAN, generating external alerts such as sirens, alarm systems, location software, online messaging services.

Loralert appliance can manage additional LoRaWAN gateway devices in order to increase the wireless coverage area to ensure operation in buildings or large areas; these additional gateway devices connect to the Loralert appliance via LAN, and are offered in a full-outdoor version.

LONG DISTANCE AND FREE BAND

The operation of the Loralert solution is based on the LoRA protocol in the 868 MHz band, which is of free use and particularly suitable for communication in indoor and industrial environments.

APPLIANCE LORALERT

- Integrated device with intelligence and narrowband radio interface
- Web-based configuration and monitoring
- Management of additional radio gateways for extended coverage
- Can be interfaced with external sirens or alarm systems
- Generation of advanced alerts (messages, emails, etc.) via interface to IoT cloud platforms
- Integration with AVL positioning software

Technical specifications:
- Radio protocol: LoRaWAN 1.0.2 with OTAA
- Channels: 1 in downlink, 8 in uplink
- Frequency: 863 - 870 MHz
- Sensitivity: -139 dBm SF 12 BW 125 kHz
- Power supply: 220 VAC (DC optional)
- Power consumption: < 15W
- Operating temperature: 0° - 50° C
- Dimensions: 19" half-rack width, 1U height
- Interfaces: LAN, alarm relay NC+NO, status relay NC+NO
- Certification: CE, RoHS

WEARABLE MAN DOWN DEVICE

- Small device with motion-based man down function and emergency button equipped with Bluetooth receiver and GPS

Technical specifications:
- LoRaWAN narrowband communication
- Power button and emergency button
- Micro-USB connector
- Accelerometer with motion sensor
- Size 63.3 x 43 x 15.5 mm
- Weight 35 g

MAN DOWN BRACELET DEVICE

- Smart watch with motion-based man down function and emergency button equipped with Bluetooth receiver and GPS

Technical specifications:
- LoRaWAN narrowband communication
- Power button and emergency button
- Micro-USB connector
- Accelerometer with motion sensor

MOBILCOM SOLUTIONS

Mobilcom is a leading system integrator, capable of both designing and manufacturing the PCB board and the ATEX enclosure, and of dimensioning and creating complex mobile solutions. The consolidated relationship with the most important world manufacturers allows us to be always up to date and to offer innovative robust solutions and guarantee their reliability over time.

ENGINEERING AND LONG LASTING TELECOMMUNICATION SOLUTIONS

Since 1988 Mobilcom designs, manufactures and maintains systems and solutions for radio communication, telemetry, data transmission, and remote control.

Competence, flexibility, attention to detail, innovation, and quality allow us to offer customized and integrated solutions with the context, aimed at guaranteeing reliable and safe communications especially in emergency situations and in risky environments, becoming a reference for the Oil & Gas, industrial, automotive, and military sectors.

Organized in 4 national offices, Mobilcom includes a high-level engineering team, an internal research and development laboratory, and a staff of technicians dedicated to the construction and maintenance of technological systems.

Mobilcom operates internationally with several EPCs, providing the major players in the industrial and energy sectors with telecommunication projects and systems in Milan, Italy and abroad.

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