Flare®
Personal Emergency Locating System

DESCRIPTION – To help keep personnel working in high-threat environments safe, the Flare® emergency alarm system instantly sends a call for help at the touch of a button. Flare informs security personnel of the precise location of the emergency. When a user raises an alarm by activating his / her Personal Protection Device (PPD) the PPD emits an RF signal that is picked up by Flare sensors installed in walls or ceilings. The Flare sensors signal the alarm condition to the central control computer running user-interface software which displays the alarm, its location and the PPD identification number. Flare is ideal for individuals who work in an environment where their safety could be threatened by physical assault, sudden illness or an accident.

APPLICATION – RF sensors are installed in wall or ceiling spaces of the area with Flare coverage. Indoor and outdoor areas can be covered. The PPD contains a radio frequency transmitter and is worn on the user's belt. When a user needs assistance, he / she simply presses a button on the PPD which transmits the alarm signal. Pull-pin and man-down (tilt activated) options can be added.

Features

- Locates to within 6 m (20 ft.) – indoors
- Coverage up to 90 m (300 ft.) - outdoors without the need for outdoor sensors
- Covers rooms, stairwells and corridors
- Signal is not blocked by building materials, smoke, human body or heavy clothing
- Modular system
- Supports more than 4,000 unique IDs
- Internal antenna - protected against damage
- Protective holster

Markets

- Correctional facilities
- Hospitals
- Industrial (high-risk environment)
- University / college campuses

Benefits

- High reliability
- Cost-effective
- Rugged
- Easy to install
- Receivers can be concealed in ceilings and walls
- Low maintenance
- No blind spots
- Locates to the floor in multi-level facilities
- Modularity means easy to expand coverage and add users

Flare
Personal Emergency Locating System

Technology

The Flare emergency locating system uses a patented radio frequency technology that accurately locates staff, indoors or outdoors, in a room or corridor and resolves locations floor-to-floor.

The transmitter is compact and powerful enough to send an instantaneous distress signal when the alarm button is pushed. Sensors in the facility identify the signal and a control room computer displays a detailed site map showing who needs assistance and where.

Flare operates within the Public Safety band (420 - 450 in Canada and 450 - 470 MHz in USA) so interference from other radio signals is not an issue.

In other countries, Flare's wide range of operating frequencies allows the selection of an appropriate frequency as determined by national and / or site requirements.
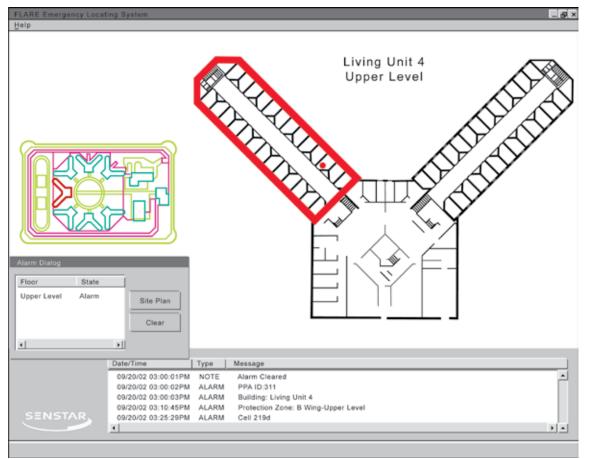
The digital circuitry is controlled by a microprocessor which processes signals and communications protocols to communicate alarm events to the control computer.

computer displays a detailed site map showing who needs assistance and where

How it works

Flare uses your facility floor plans so that department and area names and room numbers appear on the facility's main site map and floor plans when one or more alarms are sounded. For a zoomed view of the specific area, security personnel can click on a specific alarm.

Flare sounds an alarm in your control room when a Personal Protection Device (PPD) transmitter is activated, then displays your facility's floor plan on screen to pinpoint where help is needed. Your security personnel have the alarm and location information they need to direct quick, accurate responses.

There's safety in our numbers ...

Indoors, Flare sets the standard for locating accuracy with a record-setting 6 m (20 ft.). Outdoors, the system provides coverage up to 90 m (300 ft.) beyond the building - using this same indoor sensor system. Flare's outstanding reliability eliminates false alarms while ensuring that real emergencies will always be reported. Flare is designed for use in a concrete and metal environment, so building materials, smoke, heavy clothing or people never block its signal. And because it operates on a licensed frequency in the Public Safety band, it is protected from the interference of other radio signals - now and in the future.

Flare's unparalleled reliability and automated diagnostics reduce the need for costly maintenance. It's so trouble-free that you might forget it's there. But should trouble arise and you need help in a hurry, Flare's always on duty.

Flare speaks your language

Flare communicates your way...using your floor plan, department and area names, and room numbers. If more than one alarm is sounded, all alarms appear on your facility's main site map. To see a detailed view of an area, just click on the alarm you want to display. The overview map remains on-screen for your reference.

Personal Protection Device

The Personal Protection Device (PPD) is a belt-worn radio frequency transmitter used by persons who might need to signal for assistance in an emergency situation. Pressing a button on the device causes an alarm. Lanyard (pull-pin) and man-down (tilt activation) options can be added.

The optional lanyard is pulled to remove a pin and generate an alarm. It can be attached to the belt so that removing the PPD from the holster will result in an alarm. The man-down option generates an alarm when the PPD is tilted towards horizontal and kept in that position for several seconds. Both the angle of tilt and the duration in seconds are programmable for each

PPD. An audible alert warns the user that the device is tilted prior to an alarm transmission. A leather holster provides protection for the PPD and secures it to the user's belt. The belt loop on the holster contains special fasteners that cannot be opened by tugging on the holster, but can be released easily by the wearer to remove the holster from the belt. With its rugged package, completely internal antenna, protective holster, and no wires or line-of-sight requirement (as with IR or Ultrasonic sensor technologies), the PPD is part of the most reliable and most accurate emergency locating system available.

System description

Sensors, Hubs, Interface Units and the Control Computer are the main elements of a Flare system. The sensor receives alarm signals and measures signal levels. The processed alarm signal is passed to the digital portion of the sensor where alarm ID and other data are extracted. A spread-spectrum modem transmits the refined alarm information over the sensor's AC power line or on a separate twisted pair, to a Hub, and then through an Interface Unit to the Control Computer where further data processing determines the PPD's exact location.

The sensor is mounted in a secure enclosure and powered from 115/230 Volts AC, with internal battery backup. A low voltage power configuration is also available. Sensors can be located in areas that are not accessible to tampering, e.g. in pipe chases or above false ceilings. The Hub, Interface Unit and Control Computer are located in secure rooms.

RF sensor

The receiver portion of the sensor is optimized for operation with the body-worn wireless PPD. The sensor operates in the public safety band (450 to 470 MHz in the United States, and approximately 420 to 450 MHz in Canada). The sensor uses two orthogonal antennas mounted on the circuit board. Connectors are provided to enable the use of an alternative external antenna.

Digital signal processing

The digital circuitry is controlled by a microprocessor. In addition to processing the alarm data, this section of the circuitry handles the timing and communications protocols that allow the alarm signals from many sensors to be sent rapidly to the control computer. Diagnostics are also run by this microprocessor to verify sensor health and communications path integrity. Firmware upgrades can be passed to the sensor from the Control Computer.

Spread spectrum modem

An industry standard protocol named CEBus® is used. Copper twisted pair can also be used over distances up to 6.4 km (4 mi.). Wireless communication networks can be supported as well.

SENSORS AND HUBS

SENSOR INTERCONNECTION OPTIONS:
• CEBus® on AC power line or dedicated twisted pair
• Fiber backbone between buildings
• Wireless backbone between buildings

INPUT POWER
• Low voltage (standard): 12 to 19 VDC
• AC option: 115 VAC, 50 / 60Hz configurable for 230 VAC
• 250 mA Sensor, 500 mA hub with 115 VAC input

SENSOR SPACING: One per 5000 square feet indoors (typical for 20' locating accuracy)

OPTIONAL INTERNAL BATTERY:
• 12 volt lead-acid gel cell
• User replaceable
• Battery backup time: 4 hours minimum
• Load tested daily
• Report upon failure

RECEIVER SENSITIVITY: 0 dBm to -110 dBm

ANTENNA:
• Inside enclosure
• PCB mounted
• Connectors included on sensor board for optional external antennas

SENSOR AND HUB ENVIRONMENTAL AND PHYSICAL

SENSOR ENCLOSURE SIZE (L X W X H): 27 x 22 x 17 cm (10.5 x 8.5 x 6.5 in.)

SENSOR MOUNTED WEIGHT INCLUDING ENCLOSURE AND OPTIONAL BATTERY: 3.9 kg (8.5 lbs.)

SENSOR SHIPPING WEIGHT WITH BATTERY AND EXCLUDING ENCLOSURE: 2.0 kg (4.5 lbs.)

TEMPERATURE RANGE: 0°C to +50°C (32°F to +122°F)

HUMIDITY: 0% to 90% non-condensing

HUB ENCLOSURE SIZE (L X W X H): 46 x 46 x 23 cm (18 x 18 x 9 in.)

HUB MOUNTED WEIGHT INCLUDING ENCLOSURE AND OPTIONAL BATTERY: 27 kg (60 lbs.)

SYSTEM PERFORMANCE
LOCATING ACCURACY: 6 m (20 ft.) standard, 3.8 m (12.5 ft.) enhanced

ALARM CAPACITY: 10 alarms / 10 seconds, continuous

DURESS ALARM TRANSMITTER CAPACITY: 4000+ IDs

MONITOR COMPUTER
CPU: Pentium class PC 2GHz , 1 GB RAM, 30 Gbyte hard drive, Windows® XP, Microsoft® Mouse, Keyboard, CDRW

DISPLAY: Facility map, simultaneous with detailed map of alarm zone and alarm point in zone

OTHER OUTPUTS:
• Starcom serial data interface to alternate security management system
• Printer port

FACILITY MAP INPUT: AutoCAD (.dwg)

ACCESS CONTROL:
• Password access to setup screens
• Keyboard lockout

AUTOMATED DIAGNOSTICS:
• Data communications reliability
• Manual and automatic system self test (100%)
• Automatic closed loop RF receiver test
• Data traffic tests
• Battery status

ALARM / WARNING REPORTING:
• Self-test failure
• Communications error with sensor or hub
• Loss of AC power to sensor (optional)
• Out-of-calibration error
• Low battery in transmitter

DATA ARCHIVE: Alarm and maintenance logs

PERSONAL PROTECTION DEVICE (PPD)
SIZE, EXCLUDING HOLSTER: 120 x 50 x 25 mm (4.7 x 2 x 1 in.)

WEIGHT INCLUDING HOLSTER AND BATTERY: 200 g (7 oz.)

TEMPERATURE RANGE: -40°C to +50°C (-40°F to + 122°F)

HUMIDITY: 0% to 90% non-condensing

ENCLOSURE:
• Black ABS plastic
• Tamper resistant screws

BATTERY COVER: Four tamper resistant screws

HOLSTER: Black leather with belt loop and snaps

BATTERY: 9 Volt alkaline, user replaceable

BATTERY LIFE: One to two years

LOW BATTERY WARNING: Alarm to head end computer

BATTERY LIFE AFTER LOW BATTERY WARNING: At least 15 days

ANTENNA: Internal (optional external)

FREQUENCY RANGE:
• Operates in the International public safety band: 420 to 470 MHz

• Two sub-band model types:
    Low-band (Canada): 420 to 450 MHz
    High-band (USA): 450 to 470 MHz
    Other Countries: Contact factory

FREQUENCY WITHIN SUB-BAND:
• Reprogrammable to meet local frequency allocation guidelines

DATA ENCODING: FSK

TRANSMISSION RANGE: 1 km (0.6 mile) line of sight, 100% coverage in prescribed areas

DATA ENCODING: FSK

TRANSMISSION RANGE:
• Up to 1 km (0.6 mi.) line of site with extended antenna
• 100% coverage in prescribed areas

ID CODE: Field programmable for each PPD with programmer (ordered separately)

LANYARD (PULL-PIN) OPTION:
• Alarm repeat period: 5 to 60 seconds

MAN-DOWN (TILT) OPTION SETTINGS:
• Alarm repeat mode: single, retransmit until PPD is righted, retransmit until manual reset
• Alarm repeat period: 5 to 60 seconds
• Tilt angle for alarm: 20 to 90 degrees from vertical
• Time before warning: 0 to 10 seconds
• Alarm time after warning: 5 to 30 seconds
• Warning and alarm tones enable

TRANSMITTER PROGRAMMER
CONNECTION TO TRANSMITTER: 457 mm (18 in.) cable connects to header beneath battery cover

CONNECTION TO COMPUTER: 1.82 m (6 ft.) RS-232C cable

SOFTWARE: CD ROM with manual

SOFTWARE PLATFORM: Windows® 98, 2000 or XP

PROGRAMMABLE FUNCTIONS:
• ID code
• Man-down time and angle
• Man-down alarm retransmit option
• Man-down alarm repeat period
• Warning tone options

Specifications are subject to change without prior notice.

Printed in Canada

Senstar is represented by dealers in over 80 countries.

www.senstar.com