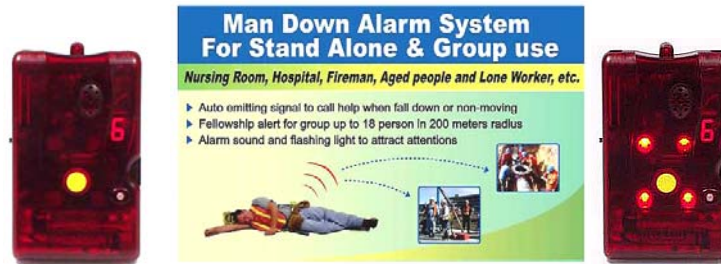# Securitex MD-18

Standalone Man Down Alarm System (can be use as individual or in Group)

The Securitex MD-18 system is designed and manufactured using high quality material and electronic component to ensure the system is reliable and user friendly. This system is use for worker safety and monitoring especially when they are working alone. MD-18 can be use as single system and can be use in groups which allows up to 18 workers to use the system. It can be configured as individual user or group use.

The type of protection / detection:
1. No-motion detection.
2. Tilt-detection.
3. Tilt & No motion detection.

How worker carry them.
Worker carrying the MD-18 usually secured them on their waist using the pouch provided on their waist belt; place them inside their breast pocket or on any upright convenient location on their body.

Detection Method
No motion Detection
If the user of the MD-18 keep in the same position without moving for a predetermines period of time example the person lose consciousness on the seat, bed or floor, the MD-18 unit alarm will beep for several seconds as pre alarm warning to the user that the main alarm is about to activated. If he / she is only dosing off then the alarm will wakes him up and a slight movement will reset the system to prevent full scale activation.

Tilt-Detection
If the user of the MD-18 lean over 45 degree for a predetermines period of time, example the person carrying the MD-18 inhales toxic fumes or overcome by laboratory viruses and lose consciousness on the seat or floor, the MD-18 unit alarm will beep for several seconds as pre alarm warning to the user that the main alarm is about to activate, if he / she do not react to this alarm and remain in the tilt position the system will then activate a full scale alarm.

Tilt & No-Motion Detection
If the user of the MD-18 lean over 45 degrees and no motion for a predetermines period of time, example the person carrying the MD-18 inhales toxic fumes or overcome by laboratory viruses and lose consciousness on the seat or floor, the MD-18 unit alarm will beep for several seconds as pre alarm warning to the user that the main alarm is about to activate, If he / she do not react to this alarm and remain in the tilt position the system will then activate a full scale alarm.

Pre-alarm Function
We have designed the MD-18 to have a pre-alarm is to ensure that false alarm is kept to minimum. Example if the worker bent over to pick a tool on the floor or tie his / her shoe lace, the alarm will not set off.

Securitex MD-18

Dip switch setting and AAA Battery

The above detection setting is very easy to program by just simply flipping the dip switch behind the MD-18. The MD-18 is designed to use the normal AAA rechargeable battery because this battery is easy to obtain and can use normal adapter to charge this battery

Normal AAA Rechargeable battery X 2   MD-18 Charge

Alarm activation

When the lone worker is incapacitated due to illness, injury or overcome by gases etc and he / she ignore the pre-alarm by up-righting the unit, a radio alarm transmission will be sent and the alarm will go off fully accompanied by flashing LED to attract attention.

Radio Alarm transmit

The radio alarm transmitted by the Distress User MD-18 can be detected and latched to another co-worker MD-18 unit located nearby or on site (such as a Control Room). There is an audible warning or vibration and the distress unit is identified by a numbered light. The audible alarm and the light will stay illuminated until the man down is reset.

Panic Alarm

If the worker is in an emergency condition his / her MD-18 also has a panic button on the unit which the worker can press to send an instant radio alarm signal to call for help. The alarm will go off fully accompanied by flashing LED to attract attention.

Group MD-18 receive the emergency signal

The MD-18 also have a unique feature that can allow the emergency signal from the emergency activated MD-18 to be display on another member MD-18 to alert the members nearby that their colleague are in trouble.
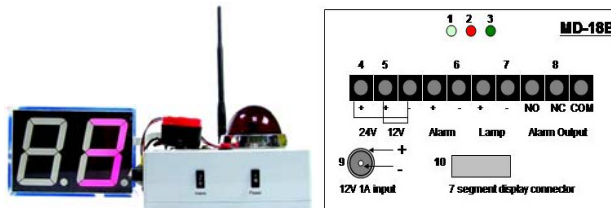
More than 3 members in trouble

If there are 3 members having trouble at the same time the other members of the same group will receive the 3 alarm signals and display the corresponding numbers from 1st to 3rd in order.

Master Base unit MD-18B

The master base unit can be installed on the security control room, vehicle, maintenance office, Open field command centre or the process plant control room. The base unit has a 120db loud alarm, warning light and 7 Segment LED display to indicate the code of the Emergency MD-18 and also to announce the emergency condition. The MD-18B has also inbuilt NO/NC relay output which can be use to integrate to other call device like the GSM-SMS controller.

Securitex MD-18

Base Unit MD-18B Terminal Block Layout

No	Description
1	Power indicator
2	Battery Low Warning Indicator
3	Green-Battery Full Charge
4	24 VDC input
5	12 VDC input
6	Power output for Alarm
7	Power output for Warning Light
8	Relay output NO / NC / COM
9	Jack for Switching Power Supply Input
10	Connector for 7 Segment LED display

Specification

Man Down Unit (MD-18)

Power	AAA/UM-4 Rechargeable Battery X 2
Battery Duration	3 days for continuous use after full charged
Battery Charging Time	approximately 6 hours
Weight	80g (including battery)
Size	93mm (L) X 56mm (W) X 17mm (T)
Effective range	200meters radius (outdoor) 40meters trough wall (indoor)
Alarm sound	95dB
Receiving sensitivity	-80dBm
Output power	< 10mW (10dBm)
Frequency band	868Mhz or 916MHz

Man Down Unit Base Station (MD-18B)

Power	12VDC Rechargeable Battery or 12VDC switching Power supply
Battery Duration	1 day for continuous use after full charged
Battery Charging Time	approximately 5 hours
Weight	2200g (including battery and the 7 segment LED display)
Size Base	215mm (L) X 150mm (W) X 135mm (H)
Size 7 Segment Display	120mm (H)
Effective range	200meters radius (outdoor) 40meters trough wall (indoor)
Alarm sound	120dB
Receiving sensitivity	-80dBm
Alarm output	Relay NO / NC
Frequency band	868Mhz or 916MHz

Where can the MD-18 be used.

Industries
a. Plant and refinery location (non-hazardous environment only)
b. Pharmaceutical Plant
c. Laboratory
d. Offsite guardhouse
e. Maintenance workshop etc.

Marine Application
a. Marine Vessel boiler room
b. Bridge watch.
c. Deck watch.
d. On board vessel patrolling.
e. Service and maintenance onboard vessel etc.

Correctional Facilities
a.   Prison guard on patrol around the Cell and Compound
b.   Police officer on duty alone in the police post.
c.   Police officer on duty in pairs on foot or vehicle.
d.   Security Guard on duty in security post and patrolling etc.

Hospital and nursing home
a.   Nurse and doctor that work alone on night shift.
b.   Mortuary worker in hospital.
c.   Patient monitoring

Hotel and Hostel
a.   Hotel staff example housekeeping staff who work alone on the hotel premises.
b.   Budget hotel front desk staff who work the night shift alone.
c.   Hotel Maintenance crew that need to attend to emergency respond on guest request.

And the list goes on…….

The above system complies with IDA Standards DB104854   iDA SINGAPORE