

C-VIGIL Ltd : marine (CVM)

Marine Safety & Security Systems

GUARDIAN SYSTEMS

Portable Wireless Worker Protection

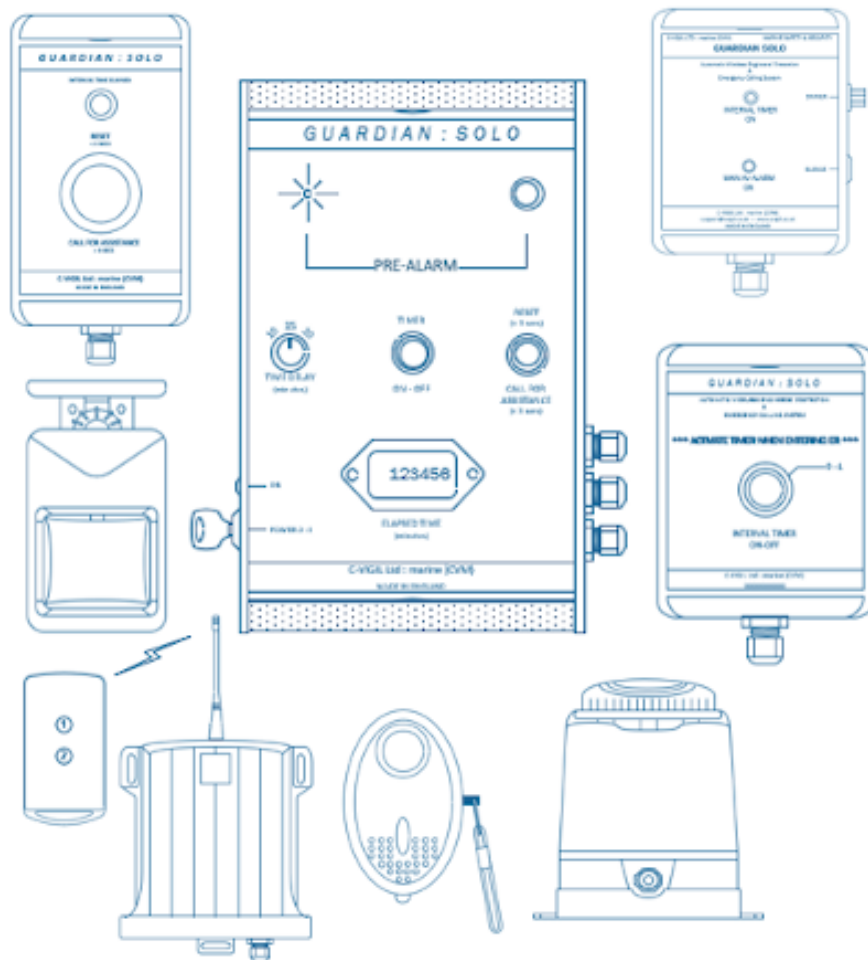
guardianSOLO

Catering Version



GUARDIAN SOLO

Operations Guide



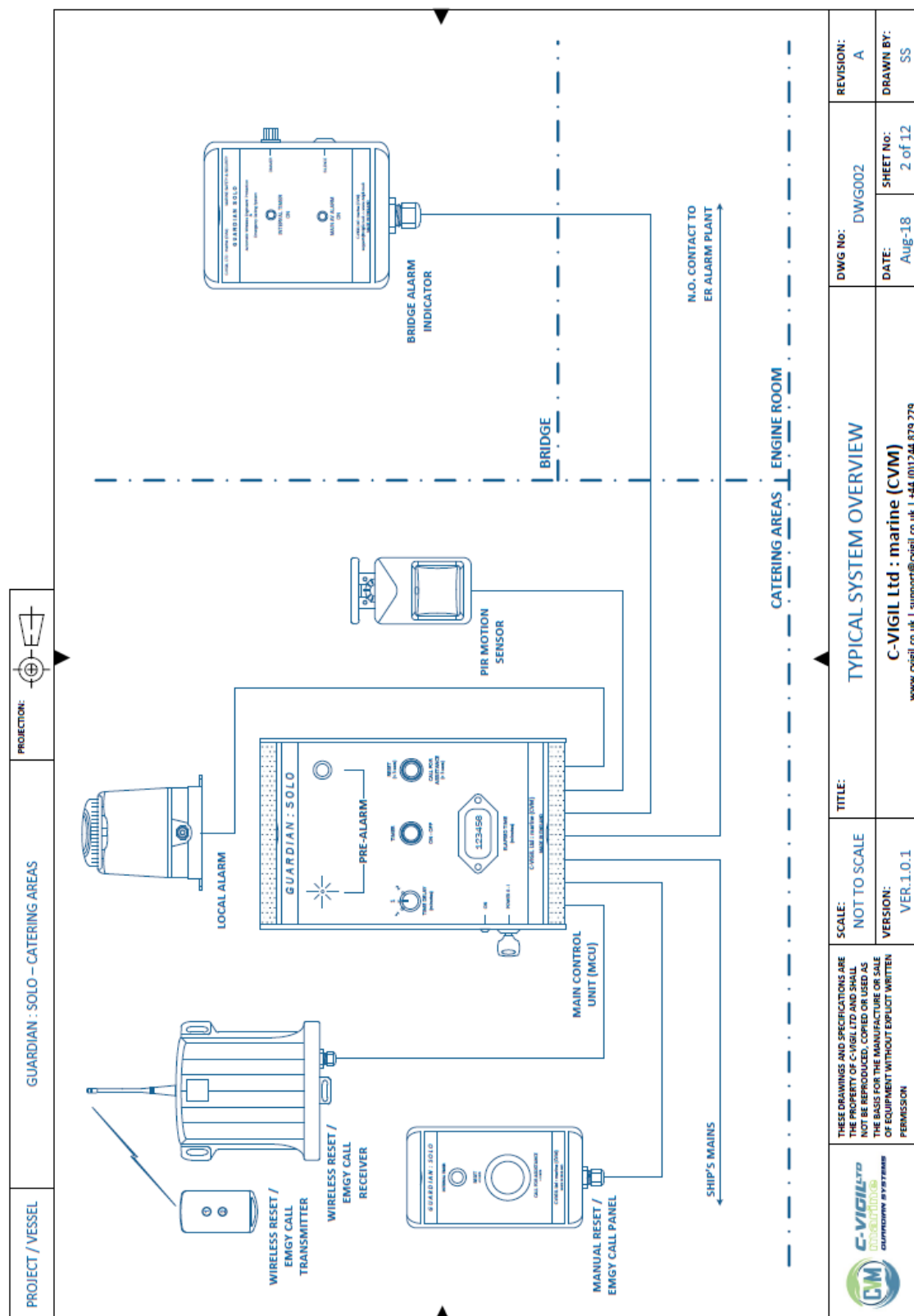
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System Overview





1. General Description

1.1 Introduction

It is often the case that catering personnel will find themselves alone in the catering areas for prolonged periods i.e., during meal preparation, cooking, cleaning or undertaking general duties.

SOLO protects the ship's staff - whilst in the catering areas - by detecting their movements using PIR motion sensors. Should he/she remain motionless, through incapacity or otherwise, beyond the set time period a pre-alarm is activated. Failure to respond to this warning will result in the main alarms being activated. If still unacknowledged the ship's alarm will be triggered leading, eventually, to the engineer's call system alerting off duty engineers to a possible problem in the catering areas.

When outside the catering areas personnel have access to portable wireless reset / call key fob transmitters and / or fixed manual reset buttons situated around the catering areas.

These manual reset buttons and / or wireless reset / call transmitters are also programmed to be used as emergency "Call for Assistance".

Incapacitated Personnel Location

It's one thing knowing there's a man down, it's another finding them quickly. The sooner the injured person receives attention the better, to this end a portable 140db personnel location alarm can be provided.

Staged Alarms

Interval Timer (Tint)

Tint = 0 minutes

1st STAGE

- MCU - panel sounder + reset led on
- Main alarm - beacon on

Tint = 0 + 2 minutes

2nd Stage

- MCU - panel sounder on + reset led on
- Main alarm – beacon on + sounder on
- Bridge alarm panel sounder on + led on



Tint = 0 + 4 minutes

3rd Stage

- MCU - panel sounder on + reset led on
- Main alarm – beacon on + sounder on
- Bridge alarm panel - sounder on + led on
- Engine room – SOLO alarm channel on

Tint = 0 + 10 minutes (approx.)

- Engineers call system – cabin alarms on

The interval timer can be reset at any time using the portable wireless key-fob transmitter or using any of the manual reset panels (if fitted). The key-fob transmitters are paired with receivers fitted around the catering areas (number depends on the size of the vessel).

Manual reset buttons (MCU or Manual Reset Panels) and/or key-fob button #1: -

- One short press (< 2 secs) resets the interval timer.
- One long press (> 2 secs) activates a “Call-for-Assistance” this bypasses the interval timer and triggers the staged alarms immediately.

Key-fob button #2: -

- Sounds local alarm for as long as it's pressed.

A 140db portable personal alarm can be provided to help in the location of the injured person.

Optional Extras

Additional key-fob transmitters

Additional wireless reset/emgy call receivers

Additional manual reset/emgy call PB panels



2. System Components

2.1 Main Control Unit (MCU)



MCU

MCU – fitted within the catering area in a position allowing easy access.

The MCU contains: -

Pre-Alarm – flashing blue LED & pulsing 80dB sounder

Time Period Selector – rotary selector switch

Reset / Call for Assistance – short press (<3 secs) resets interval period timer. Long press (>3 secs) Call for Assistance

Timer On – Off – Set / Reset interval timer.

Elapsed Time Counter – displays how long period timer has been running.

Power On / Off – switches system on / off

2.2 Wireless Key-fob Reset / Emergency Call Transmitter



868MHz license fee frequency

150m range

2 button operations



Long battery life (+5 years)

2.3 Wireless Reset / Emergency Call Receiver



868MHz license free operation

RS232 serial data communication supported

1Km range

Many-to-one operation

Hard ABS IP68 Case

2.4 Main Local Alarm



High output industrial sounder

Multi-tone selection

100dB @ 1m

IP65



2.5 PIR Motion Detector



- 15m detection range
- Dual sensor for increased sensitivity
- Anti-tamper

2.6 Manual Reset/Emgy Call Panel



- Mushroom pushbutton head – for ease of use
- High intensity LED indicator
- IP65



2.7 Bridge Alarm & Timer Indicator



Alerts bridge staff to possible situation catering areas

Interval timer – on-off LED indication

Audible alarm sounder with silence button



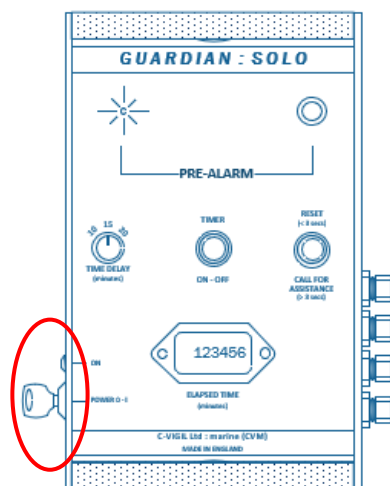
3. System Operations

3.1 Power On

A key switch is used to turn the MCU on and can then be removed for safety.

A yellow LED indicates power on.

The MCU's visual & audible indicators are pulsed for 0.5 secs to indicate the program has started correctly.



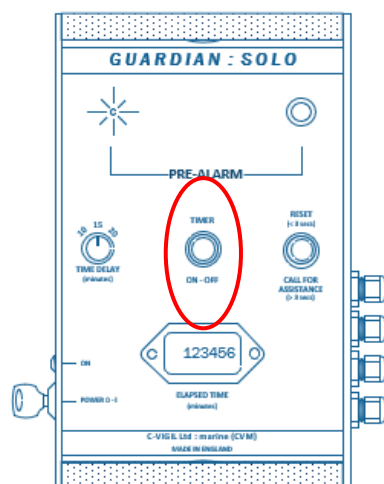
Key Switch & Power-on
Yellow LED

3.2 Interval Timer Control

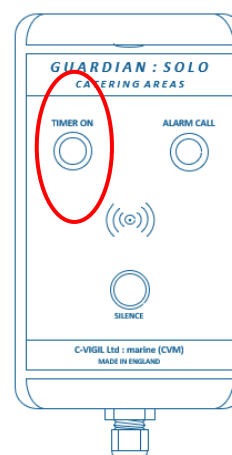
The interval timer is controlled from the illuminated push button on the MCU.

Press once for on – green LED ring on | Press again for off – green LED ring off.

With the interval timer running, the button's green LED ring and the bridge indicator panel LED will be lit.



Interval Timer On-Off



Timer On-Off LED



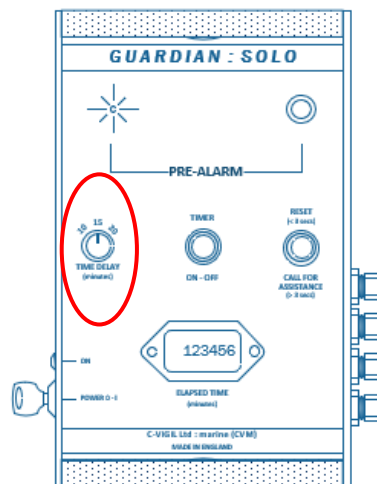
3.3 Interval Time Selection

The interval time can be selected according to personal requirements and prevailing weather conditions.

Selectable time periods: -

- 10 mins
- 15 mins
- 20 mins

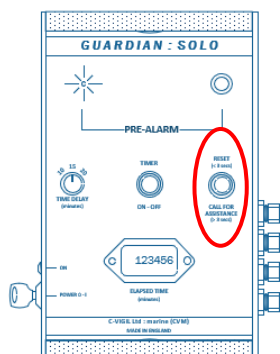
The elapsed interval time is displayed on the MCU.



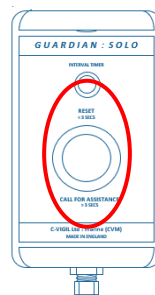
Interval Time Selection

3.4 Interval Timer Reset

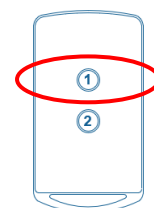
The interval timer can be reset at any time using the manual reset buttons or the portable wireless key-fob transmitters.



MCU PB - Reset



Man Panel PB - Reset



Wx Tx #1 - Reset

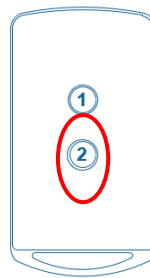


3.5 Call for Assistance

By pressing the reset buttons (described in previous section) for longer than > 3 secs bypasses the interval timer and immediately triggers the staged alarms.

3.6 Activate Local Sounder

The local sounder can be turned on for as long as the wireless key-fob's button #2 is pressed.
Useful for signalling other workers.

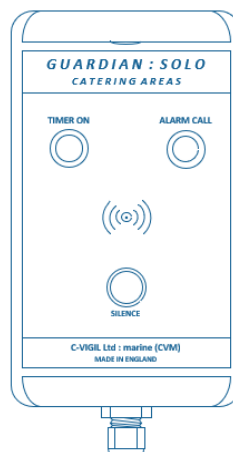


Wx Tx Button #2

3.7 Bridge Alarm & Indicator Panel

The bridge alarm panel shows the status of the interval timer (on or off) and will indicate an alarm during the second and third stages.

The sounder can be cancelled but the LED will only be extinguished once the alarm has been reset.

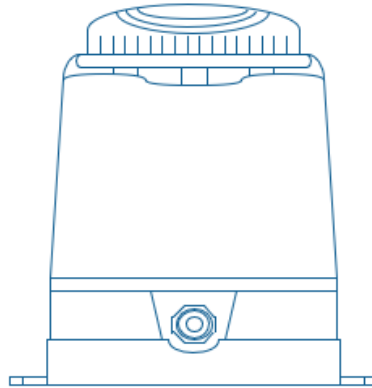


Wx Tx Button #2



3.8 Local Alarm

On the Second Stage alarm, the local sounder is activated, to alert other workers in the vicinity to a possible situation arising.



Wx Tx Button #2

3.9 Engine Room Alarm

The final alarm stage is to send a signal to the engine room alarm system using clean NO contacts.