

## BRIDGE NAVIGATIONAL WATCH ALARM SYSTEM



Model:  
BR-500



# BRIDGE NAVIGATIONAL WATCH ALARM SYSTEM

The IMO MSC.86 (May 2009) decided to make the BNWAS (Bridge Navigational Watch Alarm System) mandatory of all ships of 150 GT and larger. Passenger ships constructed on or after July 1st 2011, irrespective of size, shall be fitted with the BNWAS to be in operation when the ship is at sea. Ships constructed prior to July 1st, 2011 are also requested to install BNWAS.

The FURUNO BNWAS BR-500 monitors the watch officer's presence through watch safety system functions. A watch officer is required to press the button on a Timer Reset Panel or to operate navigation equipment (e.g. ECDIS, Radar, etc.) at certain intervals, which can be set between

3 and 12 minutes. When the officer fails to press the button within pre-set intervals, visual and audible alarms will be generated in the wheelhouse. If the officer doesn't respond to the alarm, the BR-500 transfers the alarm to the Cabin Panels installed in other sections of the vessel in order to inform backup officers of the watch officer's incapacity.

FURUNO offers the optional Motion Detector to watch the officer's capability. Also, the optional Flash Beacon enables the watch officer to recognize the visual alarm.

## SPECIFICATIONS

Product Name	BRIDGE NAVIGATIONAL WATCH ALARM SYSTEM	
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### MAIN ALARM PANEL (BR-510)

Screen Size	4.3" color LCD	
Pixel Number	480 x 272	

### PROCESSOR UNIT (BR-520)

Input	Operational Signal	4 ports
	Autopilot	1 port
	Backup Navigator	1 port
Output	System Fail	2 ports
	IEC 61162	1 port

### MOTION DETECTOR (BR-560)

Detecting Scheme	Pyroelectricdetection	
Detection Range	Up to 5m, 80 deg x 80 deg	
Detection Rate	0.8 thru 1.2m/s	
Detection Sensitivity	4°C (difference from surround in temperature)	

## POWER SUPPLY

	100-230 VAC	
	24 VDC	

## ENVIRONMENT

Tempreture	Watertight Timer Reset Panel	-25°C to +55°C
	Other units	-15°C to +55°C
Waterproofing (IEC 60945 Ed. 4)	Watertight Timer Reset Panel	IP56
	Other units	IP22
Vibration	IEC 60945 Ed. 4	

## EQUIPMENT LIST

### Standard

1 Main Alarm Panel	BR-510	1 unit
2 Processor Unit	BR-520	1 unit
3 Installation Material and Spare Parts		1 set

### Option

- Timer Reset Panel	BR-530	(on demand)
- Cabin Panel	BR-540	(on demand)
- Watertight Timer Reset Panel	BR-550	(on demand)
- Motion Detector	BR-560	(on demand)
- Flash Beacon	BR-570	
- Hanger (for Main Alarm Panel)		
- Light Shielding Film (for Main Alarm Panel)		
- Wall-mounted Bracket (for BR-530/540/560/570)		

### \*Maximum number of connectable units

- (Watertight) Timer Reset Panel: 6
- Cabin Panel: 12

# Monitor watch officer's presence and receive early warning detections in case of an emergency



Timer Reset Panel



Flash Beacon



Watertight Timer Reset Panel



Cabin Panel



Main Alarm Panel



Motion Detector

- Meets the IMO resolution MSC.128(75) for Bridge Navigational Watch Alarm System (BNWAS), and MSC.302(87) for Bridge Alert Management
  - IEC62616 Ed.1 Compliant
- Monitors the watch officer's presence for maritime casualty avoidance
- Transfers the watch alarm to the back-up officer, in the event that the watch officer fails to respond to watch pre-warning or watch alarm
- Quick access push keys for Navigation Officer's Call and Emergency Call
- Notifies Back-Up Navigators when TCS (Track Control

- System, option) has failed
  - Outputs ALR sentence for VDR
  - Optional Motion Detector and Flash Beacon available
  - Set-up menu is protected by password
    - Mode selection
    - Timer interval (3 to 12 min.)
    - System test
  - Easy to read alphanumeric and graphic presentations
  - Multilanguage available
    - English, Japanese, Russian, Chinese and Korean
- For use of languages other than English, please consult with the flag administration and/or class society concerned, before operating BNWAS



# BR-500 Watch Safety System sequence

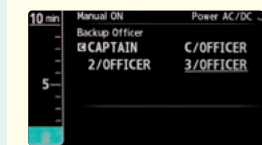
## Timer Reset Function



Processor Unit

### Dormant Period

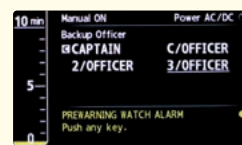
<<< 3-12 min >>>



Main Alarm Panel

### Prewarning

<<<< 15 sec >>>>



Main Alarm Panel



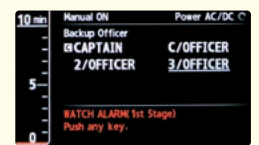
Timer Reset Panel (Optional)



Flash Beacon (Optional)

### 1st stage

<<<< 15 sec >>>>



Main Alarm Panel



## ECDIS

•FEA-2xx7



Operational Signal

## Radar

•FAR-2xx7



Operational Signal

## Autopilot

Auto/TCS Mode ON  
at closed signal

## VDR



Alarm

24 VDC 100-230 VAC

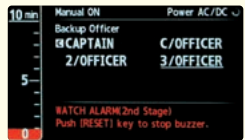
2nd stage

3rd stage

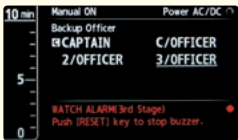
Dormant Period

<<<<<<<< 90-180 sec >>>>>>>>

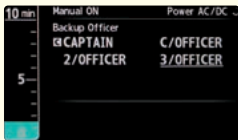
Buzzer stop | Timer starts  
ACK



Main Alarm Panel



Main Alarm Panel



Main Alarm Panel



Selected back-up navigator's and/or Captain's room

Cabin Panel  
(Optional)



All officers' rooms



Public rooms\*

Cabin Panel  
(Optional)

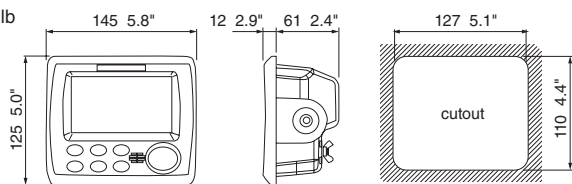
\*e.g.,  
Officer's lounge,  
Officer's mess room,  
Ship's office

## Standard

### Main Alarm Panel (Flush Mount Type)

BR-510

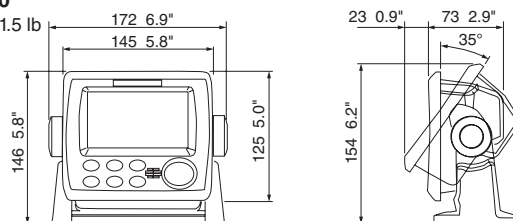
0.6 kg 1.3 lb



### Main Alarm Panel (Hanger Type)

BR-510

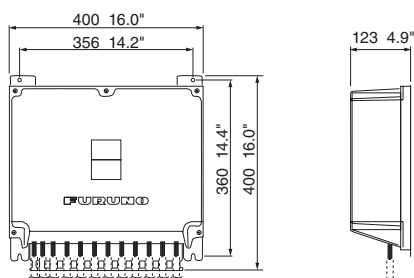
0.7 kg 1.5 lb



### Processor Unit

BR-520

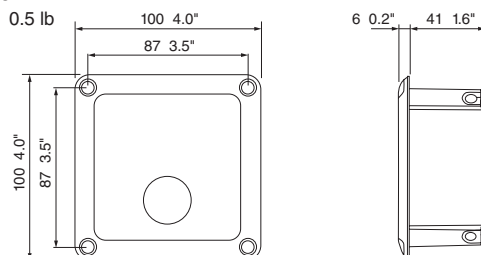
5.3 kg 11.7 lb



### Motion Detector

BR-560

0.22 kg 0.5 lb

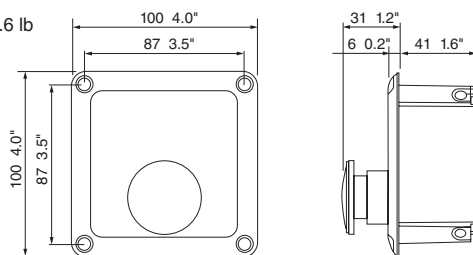


## Option

### Timer Reset Panel

BR-530

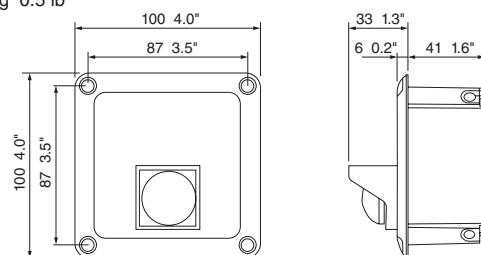
0.26 kg 0.6 lb



### Flash Beacon

BR-570

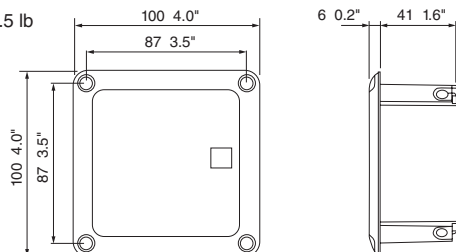
0.24 kg 0.5 lb



### Cabin Panel

BR-540

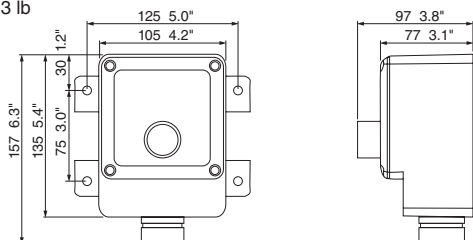
0.23 kg 0.5 lb



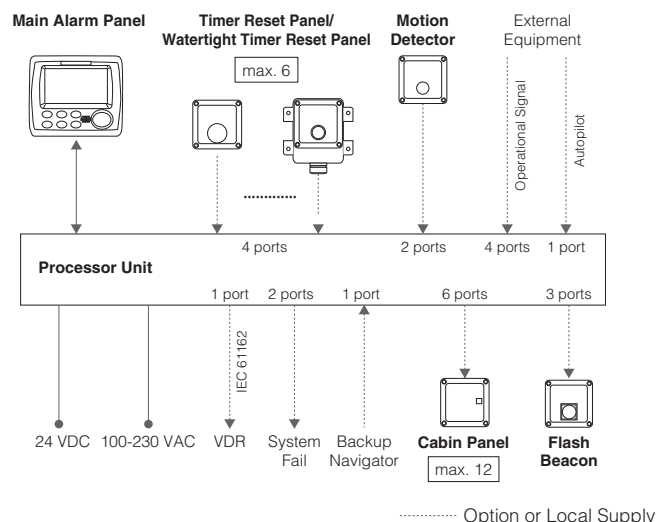
### Watertight Timer Reset Panel

BR-550

0.57 kg 1.3 lb



## INTERCONNECTION DIAGRAM



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