FURUNO

BRIDGE NAVIGATIONAL WATCH ALARM SYSTEM

Model:
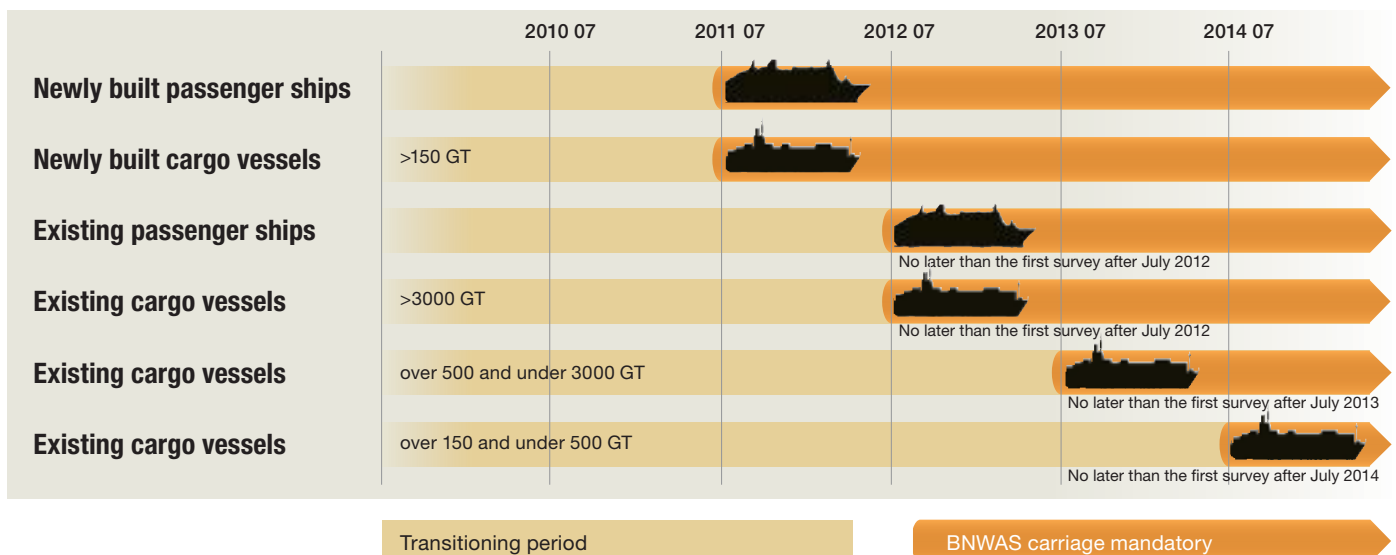
BR-500

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

Flash Beacon

Watertight Timer Reset Panel

Timer Reset Panel

Cabin Panel

Main Alarm Panel

Motion Detector

▶ Meets the IMO resolution MSC.128(75) for Bridge Navigational Watch Alarm System (BNWAS)

▶ 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 in those languages.

Implementation schedule of Bridge Navigational Watch Alarm System (BNWAS)

		2010 07	2011 07	2012 07	2013 07	2014 07
Newly built passenger ships						
Newly built cargo vessels	>150 GT					
Existing passenger ships				No later than the first survey after July 2012		
Existing cargo vessels	>3000 GT			No later than the first survey after July 2012		
Existing cargo vessels	over 500 and under 3000 GT				No later than the first survey after July 2013	
Existing cargo vessels	over 150 and under 500 GT					No later than the first survey after July 2014

Transitioning period

BNWAS carriage mandatory

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. (Please refer to the implementation schedule chart on the left page.)

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	

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

BR-500 Watch Safety System sequence
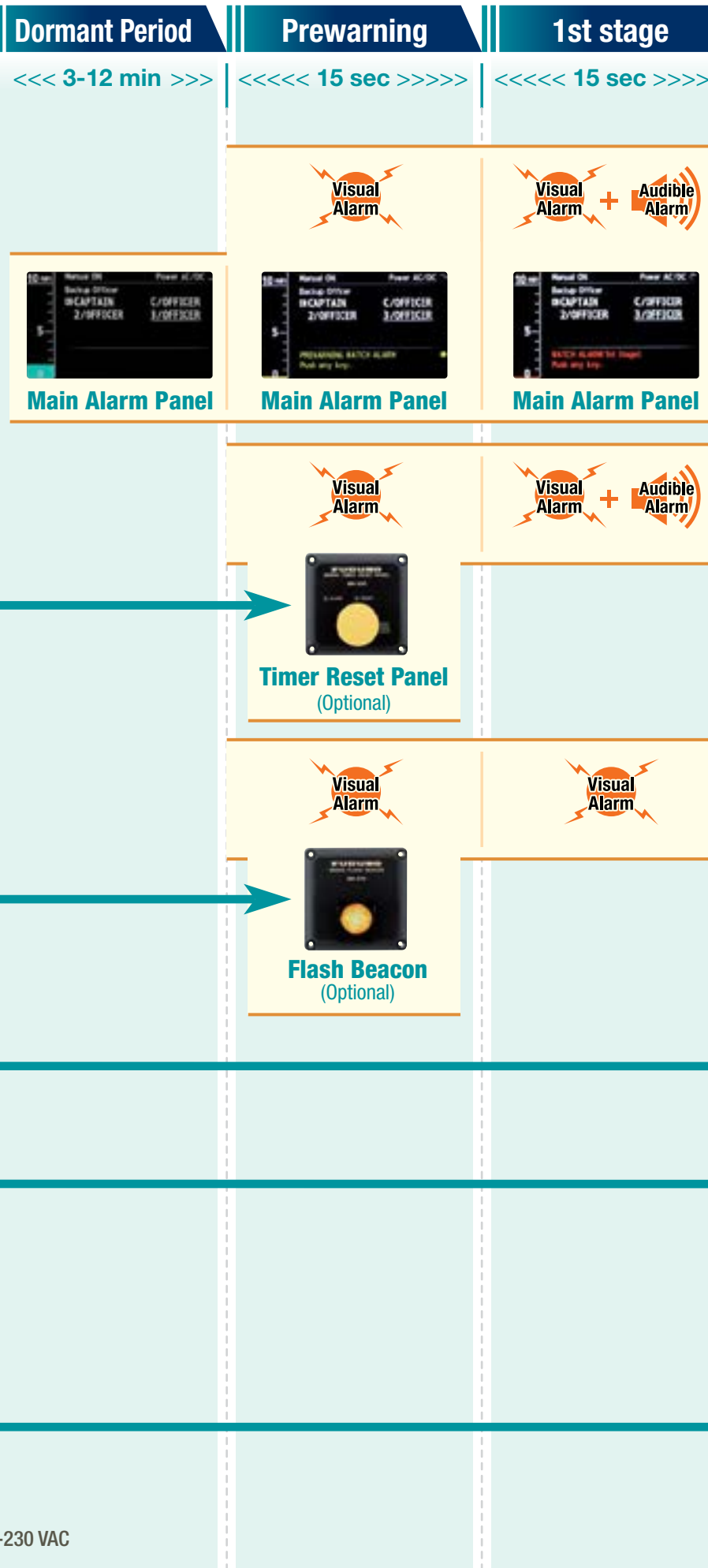
Timer Reset Function

Main Alarm Panel

Timer Reset Panel
(Optional)

**Watertight
Timer Reset Panel**
(Optional)

Motion Detector
(Optional)

ECDIS
•FEA-2xx7

Radar
•FAR-2xx7

Operational Signal

Operational Signal

Autopilot

Auto/TCS Mode ON
at closed signal

VDR

Alarm

24 VDC   100-230 VAC

Processor Unit

Dormant Period	Prewarning	1st stage
<<< 3-12 min >>>	<<<<< 15 sec >>>>>	<<<<< 15 sec >>>>

Visual Alarm (Prewarning)

Visual Alarm + **Audible Alarm** (1st stage)

Main Alarm Panel (Dormant Period)

Main Alarm Panel (Prewarning)

Main Alarm Panel (1st stage)

Visual Alarm (Prewarning)

Visual Alarm + **Audible Alarm** (1st stage)

Timer Reset Panel
(Optional)

Visual Alarm (Prewarning)

Visual Alarm (1st stage)

Flash Beacon
(Optional)

2nd stage	3rd stage	Dormant Period

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

Buzzer stop | **Timer starts**

ACK

Visual Alarm + **Audible Alarm** (2nd stage)

Main Alarm Panel

Visual Alarm + **Audible Alarm** (3rd stage)

Main Alarm Panel

Main Alarm Panel

Visual Alarm + **Audible Alarm**

Visual Alarm + **Audible Alarm**

Visual Alarm

Visual Alarm

Visual Alarm + **Audible Alarm**

Visual Alarm + **Audible Alarm**

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

→ **Public rooms***

Cabin Panel
(Optional)

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

Visual Alarm + **Audible Alarm**

→ **All officers' rooms**

Cabin Panel
(Optional)

Main Alarm Panel (Flush Mount Type)
BR-510
0.6 kg 1.3 lb

145 5.8"   12 2.9"   61 2.4"   127 5.1"
125 5.0"   110 4.4"
cutout
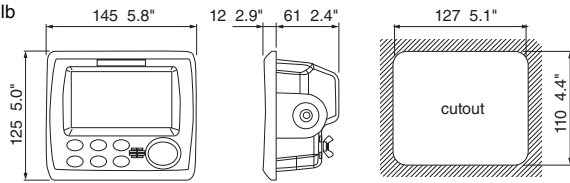
Main Alarm Panel (Hanger Type)
BR-510
0.7 kg 1.5 lb

172 6.9"
145 5.8"
146 5.8"   125 5.0"
23 0.9"   73 2.9"   35°   154 6.2"
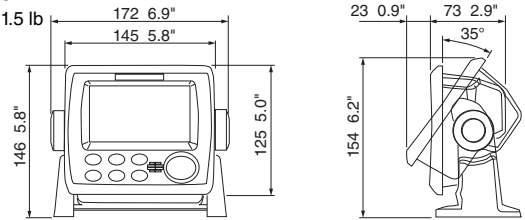
Processor Unit
BR-520
5.3 kg 11.7 lb

400 16.0"   356 14.2"   123 4.9"
360 14.4"   400 16.0"
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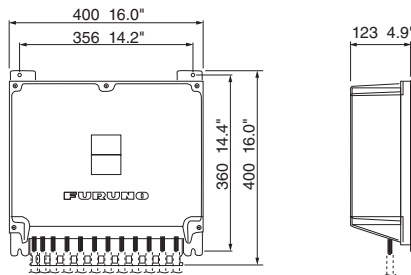
Motion Detector
BR-560
0.22 kg 0.5 lb

100 4.0"   87 3.5"   6 0.2"   41 1.6"
100 4.0"   87 3.5"
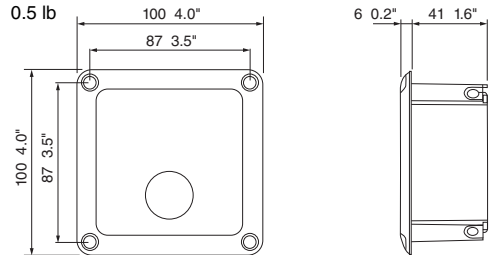
■ **Option**

Timer Reset Panel
BR-530
0.26 kg 0.6 lb

100 4.0"   87 3.5"   31 1.2"   6 0.2"   41 1.6"
100 4.0"   87 3.5"
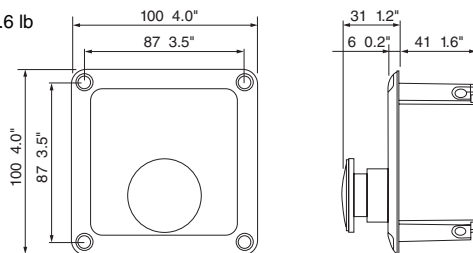
Flash Beacon
BR-570
0.24 kg 0.5 lb

100 4.0"   87 3.5"   33 1.3"   6 0.2"   41 1.6"
100 4.0"   87 3.5"
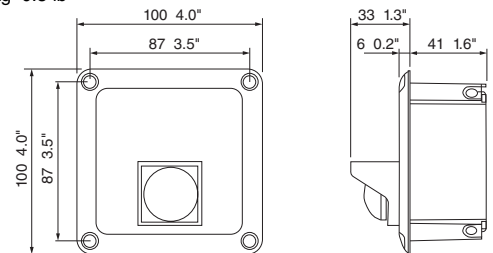
Cabin Panel
BR-540
0.23 kg 0.5 lb

100 4.0"   87 3.5"   6 0.2"   41 1.6"
100 4.0"   87 3.5"
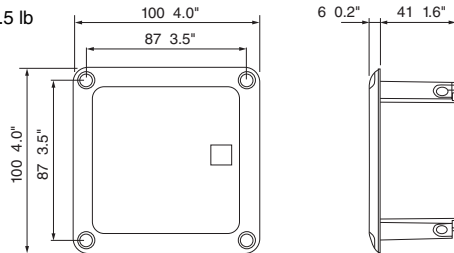
Watertight Timer Reset Panel
BR-550
0.57 kg 1.3 lb

125 5.0"   105 4.2"   97 3.8"   77 3.1"
1.2"   30   157 6.3"   135 5.4"   75 3.0"
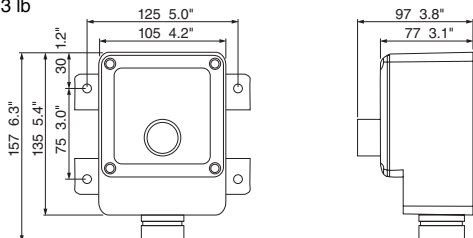
INTERCONNECTION DIAGRAM

Main Alarm Panel   Timer Reset Panel/   Motion   External
                     Watertight Timer Reset Panel   Detector   Equipment
                     max. 6
                                                    Operational Signal   Autopilot

Processor Unit
4 ports   2 ports   4 ports   1 port
1 port   2 ports   1 port   6 ports   3 ports

IEC 61162

24 VDC   100-230 VAC   VDR   System   Backup   Cabin Panel   Flash
                             Fail   Navigator   max. 12   Beacon

·········· Option or Local Supply
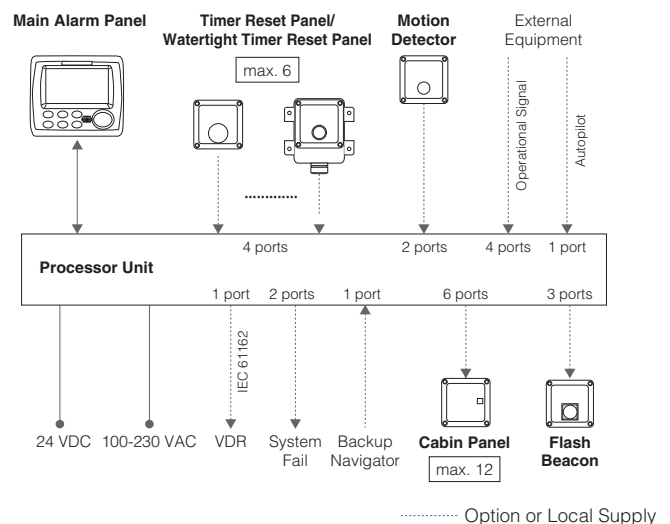
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