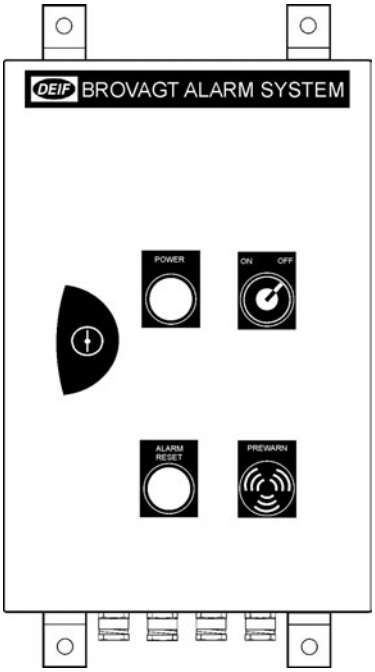
DEIF A/S

Installation instructions & user's manual

-power in control

Bridge-watch Alarm System 1

4189350014D (UK)



- *Installation instructions*
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About this document

The purpose of this chapter is to provide general user information about this document concerning the general purpose, the intended users and the overall structure and contents.

General purpose

This document is a combination of installation instructions and user's manual. The general purpose of this document is mainly to guide the user concerning the correct installation and operation of the DEIF bridge-watch alarm system, BAS-1.

Intended users

This document is mainly intended for the marine electrician, who is to install BAS-1 on the ship's bridge and also the crew of the ship in question.

Contents/overall structure

This document is divided into three chapters, and in order to make the structure simple and easy to use, each chapter will begin from the top of a new page. The following will outline the contents of each of the three chapters.

About this document

Chapter 1 includes general information about this document. It deals with the general purpose and the intended users. Furthermore, it outlines the overall contents and structure of the document.

Installation, commissioning and operation

This chapter includes guidance concerning the installation, commissioning and operation of BAS-1.

Options

This chapter includes information about the options, which can be ordered for BAS-1.

Installation, commissioning and operation

This chapter includes guidance concerning the installation, commissioning and operation of BAS-1.

Installation

Positioning of cabinet

BAS-1 is to be positioned in the natural working range of the officer on duty. A characteristic feature of this working range is that the officer on duty must have a good survey from here. The positioning of BAS-1 must also consider that the alarm and acknowledge button and various indicators, which are mounted on the front of BAS-1, are to be visible and within easy reach of the officer on duty, when he is within this working range. If the external control panel is used, this must be positioned in the natural working range instead, for which reason the positioning of the BAS-1 cabinet is not the primary.

Positioning of the movement detector

The enclosed movement detector (UP 370) is mounted, so its coverage area includes the entire natural working range of the officer on duty. With the factory setting the movement detector covers a working range with a radius of 10m and an angle of approx. ±80°. Moreover we refer to the enclosed installation instructions of the movement detector.

Mounting

BAS-1 is mounted by means of the 4 mounted corner pieces.

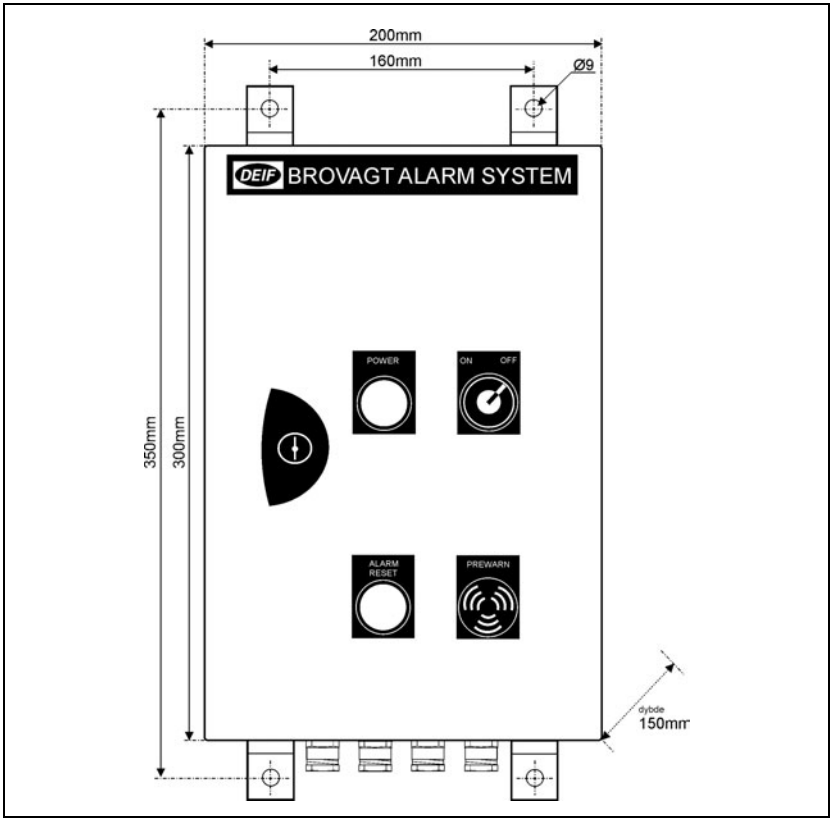


Figure 1 - BAS-1 dimensions and corner pieces

Connection of BAS-1

Before BAS-1 is connected, check that:

- The automatic fuse F1, which protects BAS-1 and its external components, are in position OFF.
- The key switch (S1) on the front cover is disabled (OFF).
- The interval range of timer T0 is correct, so the minimum setting is 3 min. and the maximum setting is 12 min.

See the component overview on page 8.

Subsequently BAS-1 is connected to the ship's 24V DC voltage supply. This must be able to supply 500mA/24V DC.

External components of BAS-1 are connected, i.e. the movement detector (UP 370), and also any options such as additional control panel and rotating beacon. (See page 10).

If the ship is equipped with an automatic helmsman or a route control system, these must be connected to BAS-1 (terminal C17 and C18). The automatic helmsman or route control system must be equipped with a potential free contact, which is activated (closed) when the system is activated, to enable immediate connection to the input terminal of BAS-1. If this is not the case, an interface must be made. This interface could consist of a supplementary relay, which is supplied from the same supply as the automatic helmsman or route control system. By this the supplementary relay is activated simultaneously with the route control system. Subsequently a contact from the supplementary relay is connected to the input terminal of BAS-1.

The main alarm (global alarm) of the ship is connected to BAS-1 terminal C7 and C8 – please notice that this output consists of a relay with a potential free relay contact. When BAS-1 is connected to voltage supply, this relay is activated and the relay contact opens, so the output becomes active (closes), if the voltage supply to BAS-1 is cut off. To make sure that the main alarm is activated correctly in case of voltage failure to BAS-1, the main alarm must be supplied from another source. Please notice that it is important to have the voltage supply constantly connected to BAS-1, also when the system is not in service (key switch in position OFF), and when the automatic helmsman or route control system is not activated to prevent unwanted activation of the output of the ship's main alarm.

After correct unit connection BAS-1 can be activated by activating the automatic fuse F1 to position ON. The system is now operational.

Mounting and connection of control panel

The control panel is mounted in an existing panel by means of the four corner holes. Four self-cutting screws are enclosed. Model for cutout and marking-out of control panel is enclosed with this.

The wiring of the control panel is carried out as shown in fig. 2, to BAS-1 terminal C. Max. 2.5 mm^2 soft cable, max. 4.0 mm^2 rigid cable, and max. 100 m cable between the control panel and BAS-1 can be used.

When using the external panel, the key switch S1 on the front panel of BAS-1 must be disabled to ensure full control from the control panel.

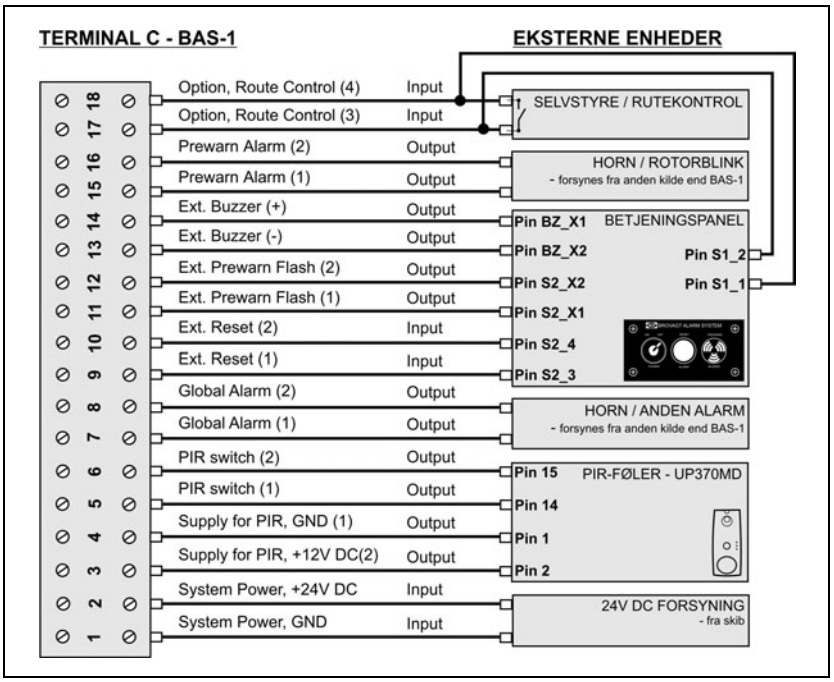


Figure 2 - Connection of BAS-1 and external units

Commissioning

BAS-1 is commissioned by activating the key switch on the front cover (S1). Subsequently it is ascertained that the green 'Power' indicator is now switched on. Then the timer T0 is set at the lowest possible value (3 min.).

Immediately after the activation of BAS-1 the movement detector carries out an initialisation sequence, which takes approx. 60 sec. While this initialisation takes place, all the LEDs of the detector are flashing. After approx. 60 sec. the detector is ready, and a 'walk test' can be carried out to ensure that the detector covers the natural working range of the officer on duty. Please refer to the installation instructions of the movement detector for further information. Within the range defined as the natural working range of the officer on duty, a good survey must be ensured for the officer on duty, otherwise BAS-1 does not provide the requisite protection. Make sure that the detector does not emit reset signals in consequence of movements outside the defined working range. Each time the detector emits a reset signal, this is indicated by a flash from the red LED on the detector.

Testing of the manual and the external acknowledge button (if mounted) cannot be carried out, as long as the movement detector emits reset signals.

For that reason the detector's connection to terminal C5 and C6 must be removed, and instead a short-circuiting is imposed across these terminals. On expiry of T0 (3 min.) it is checked that the button (S2) marked 'Alarm Reset' starts flashing. Wait a further 15 sec. and check that the acoustic alarm is activated. After that it will be 90 sec. before the output of the ship's main alarm is to be activated. Reset can be carried out during the entire process, but it is recommended to check all alarm stages, before reset is carried out. Remember subsequently to remount the movement detector.

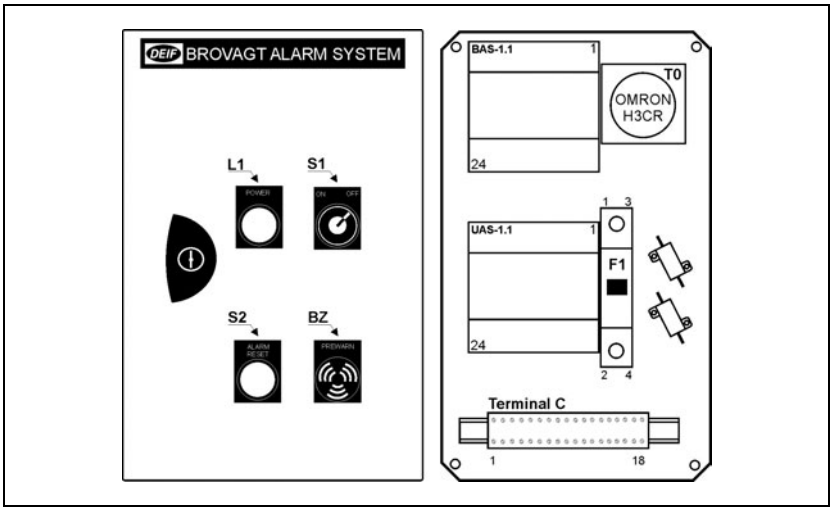


Figure 3 - BAS-1 component overview

Operation (daily use)

BAS-1 is activated by turning the key switch on the front cover to position ON. Alternatively BAS-1 is automatically activated by the automatic helmsman or route control system, if this is connected, or by means of the external control panel. It is ascertained that the green 'Power' indicator is now switched on. Then the internal timer T0 is set at a value, which ensures alarm so early that the absence of the officer on duty will not have consequences for the safety of the navigation. The actual timer duration must be determined by the captain or another authorized person, dependent on the circumstances of the contemplated navigation. In waters with a great deal of traffic a timer duration (T0) of 3 minutes with the addition of the 15 sec. (for acoustic alarm) +90 sec. (for global alarm) will probably be the ideal setting in order to obtain maximum safety. Vice versa, a timer duration (T0) of 12 minutes at navigation on open water may be sufficient.

Troubleshooting

If the green 'Power' indicator is not switched on when the key switch is activated, it must be checked that correct voltage supply is connected, and that the automatic fuse marked F1 is in order. If the movement detector does not emit reset signals, this is checked with reference to the enclosed installation instructions of the detector (UP 370).

If auxiliary voltage to the movement detector is cut off by accident, this will result in emission of constant reset signal of the movement detector. If connection of the auxiliary voltage does not correct this problem, a short-circuiting is imposed across terminal 5 and 6. Subsequently BAS-1 can be reset manually on the button marked 'Alarm Reset'.

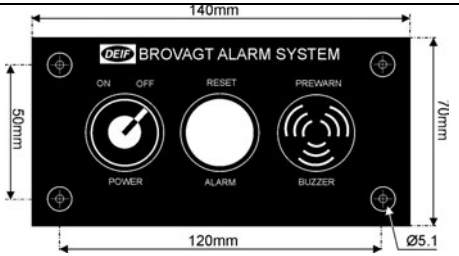
Options

This chapter contains information about the options, which can be ordered for BAS-1.

Additional control panel

An additional control panel for BAS-1 ensures full functionality at a minimum of space. This provides the following possibilities:

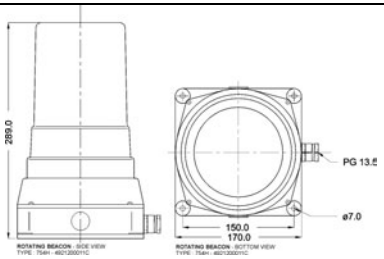
- Positioning of BAS-1 in a more suitable way in relation to the fitting of the ship.
- Mounting of control panel in existing control panels.
- All indications and operations are gathered in a more optimal way in relation to existing operations.



BAS-1 control panel
Type no. 2033450006

Rotating beacon

For further visualisation of the alarm indication, on the bridge as well as on deck, a rotating beacon can be mounted as optional equipment. Mounting is carried out as shown in the illustration on page 7, in series with an ancillary potential free relay in BAS-1.

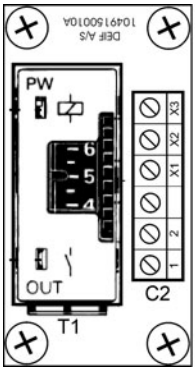


BAS-1 rotating beacon
Type no. 754H-4921200011C

Additional warning timer

An additional warning timer with relay output can be ordered as an option. The timer is put in as an additional alarm between the existing acoustic alarm and the global alarm. In this way the timer can be applied to call in a stand-by officer without simultaneously calling in the entire crew.

Dependent on ship type and size the option 'Additional warning timer' can be a statutory requirement.

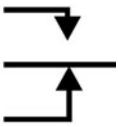


BAS-1.5 Extra Prewarn Timer

X3 ... Relay normal open (NO)

X2 ... Relay Common (COM)

X1 ... Relay normal close (NC)



2 ... GND - (UAS-1.1 pin 5)

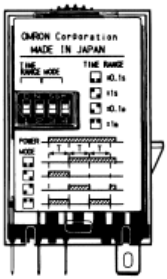
1 ... +24V DC - (UAS-1.1 pin 15)

BAS-1 Extra Prewarn Timer
Type no. 2033450007

Is mounted on the inside of BAS-1 (earth terminating screw)

Adjustable time interval for alarm:	0-60 sec. (factory setting)
Supply:	24V DC ±20%
Relay output:	Max.: 250V AC, 3A Max.: 30V DC, 3A

If another time interval is wanted, follow the instruction for DIP switch on the rear of Timer (T4).



Technical specifications

Supply voltage:		
BAS-1 (V_BAS):	24V DC ±20% Max.: 28.8V DC Min.: 19.2V DC	
Movement detector (V_PIR):	12V DC (generated)	
Power consumption (@24V DC):	Max.: 400mA Min.: 270mA	
Automatic fuse:	1A (V_BAS) 1A (GND)	
Temperature range:	-10...60°C	
Vibration immunity:	2...13.5Hz (±1 mm_p) 13.2...100Hz at 0.7 G	
Protection (BAS-1):	IP54	
Weight (BAS-1):	6.2 kg	
Approvals:	CE	
Alarm outputs:		
Warning alarm (C4):	Max.: 250V AC, 5A Max.: 30V DC, 5A	
Global alarm (C3):	Max.: 250V AC, 5A Max.: 30V DC, 5A	
Sound pressure on acoustic alarm:	@24V DC - 80dB at 1m	
Timer settings:		
T0:	3...12 min.	(scale 3 –12)
T1:	0...2 sec.	(scale 0)
T2:	15 sec.	(scale 2.5)
T3:	90 sec.	(scale 1.5)