

SAILOR AP5065 Alarm Panel



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Introduction

General Description

The GMDSS Distress Alarm Panel is used for remote initiation of distress alert transmissions and visible and audible indication of incoming distress and urgency calls on VHF, MF/HF, and Inmarsat-C. Normally it is installed on the bridge at the conning position.

The Alarm Panel contains three main sections, intended for connection to System 5000 VHF, System 5000 MF/HF equipment, and Inmarsat-C SES equipment. All sections work independently and all control signals are galvanically isolated by opto-couplers.

For Inmarsat-C and VHF, the Alarm Panel has duplicated connections allowing two units of each system to be supported simultaneously. Each section includes a push button for distress alert initiation, and a distress annunciator for indication of distress alert transmission in progress or distress or urgency calls received. Additionally there is an annunciator for indication of equipment type. This is switched on when the appropriate transceiver has been sensed by the Alarm Panel.

If a distress alarm is initiated on a system with duplicated units, only one of the units will send the alarm. The selected unit is indicated on the display.

To protect against inadvertent activation the distress buttons are protected by spring loaded transparent covers. A button must be kept pressed for 5 seconds before the distress alert is initiated, during which time the audible alarm is beeping and the distress button is flashing.

The Alarm Panel is supplied from 24 V DC supply voltage (21 V to 32 V). The input is reverse polarity protected.

Technical Data

General

Illuminated red distress button with transparent cover for each section.

Indicator Alarm Panel with distress annunciator and status information for each connected unit.

Audible alarm for indication of distress alert transmission in progress, or distress or urgency calls received.

Dimmer push button for controlling light intensity in the indicator Alarm Panel.

Mute push button for resetting the audio alarm.

Test push button for verification of indicators, audible alarm and push buttons.

All distress functions work fully independent of each other.

All control signals are galvanically isolated by opto-couplers.

The indication line in the display goes off if the connection to the associated transceiver is broken. When the connection is re-established it may take up to 20 seconds before it is indicated in the display.

Supply Voltage: 24 V DC (21 V to 32 V)

Current consumption: max.100 mA

Operating temperature range: -20°C to +55°C

Compass safe distance: Standard: 0.9 m. Steering: 0.6 m.

Operation

Distress

Sending Distress Alert

Open the key cover and press the 'DISTRESS' push button for minimum 5 seconds. The alert button and the selection annunciator for the active unit flashes, and the buzzer sounds periodically.

When the distress alert transmission starts, the distress button and the selection annunciator change to a constant light. This indication is also given if a distress alert is initiated from the transceiver.

When a distress acknowledgement has been received the distress annunciator flashes and the buzzer sounds periodically - except Inmarsat-C equipment where distress button changes to a slow cycle and the buzzer remains silent. Furthermore the dimmer will be set to full light intensity.

When the distress acknowledgement has been read out or a distress/urgency alert has been cancelled at the appropriate transceiver, the call lamp and buzzer on the Alarm Panel are switched off.

Reception of Distress or Urgency Calls

Reception of Distress or Urgency calls, EGCs, and messages are indicated by a slowly flashing distress annunciator and a periodic sound from the buzzer. Furthermore the dimmer will be set to full light intensity.

General

Test the Alarm Panel

Pressing and holding the Test button will make all light indicators and alarm buttons flash. Pressing any other button while holding the Test button, will sound the buzzer enabling verification of the buttons and the audible indicator.

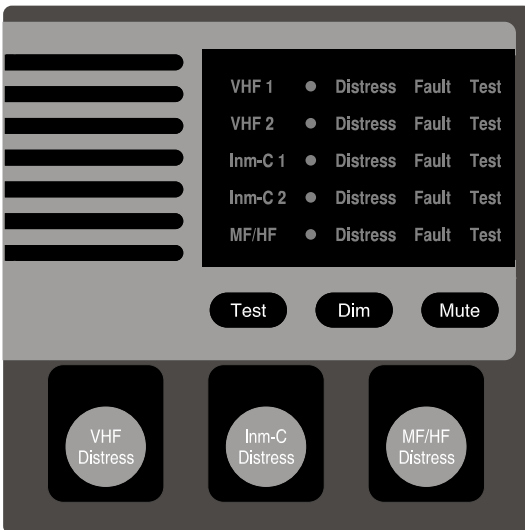
Note that this only tests the Alarm Panel itself and does not involve the connected transceiver unit. For description of system test procedures, please refer to the User's Manual of each of the system.

Mute the alarm sound

If the buzzer is on, pressing the Mute button will mute the buzzer until reactivated by a new event.

Adjust the light intensity

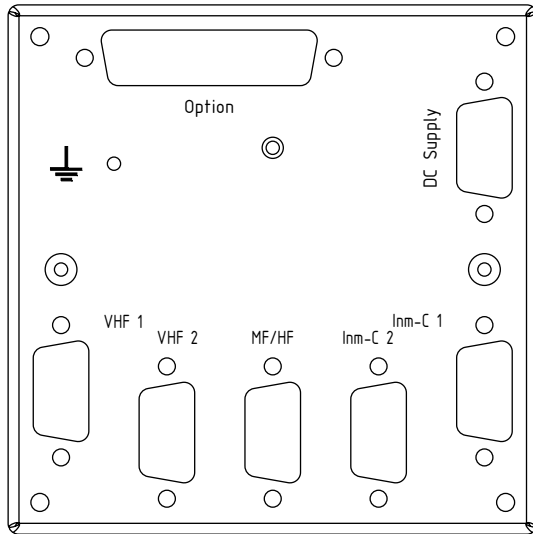
Pressing and holding the Dimmer button will increase or decrease the light intensity in the display. To change between increasing and decreasing, release the button and press it again. The light can be decreased to distinction, but it will always turn to full intensity if any distress indicators turn on, or if the Test button is pressed.



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Installation

Connector overview



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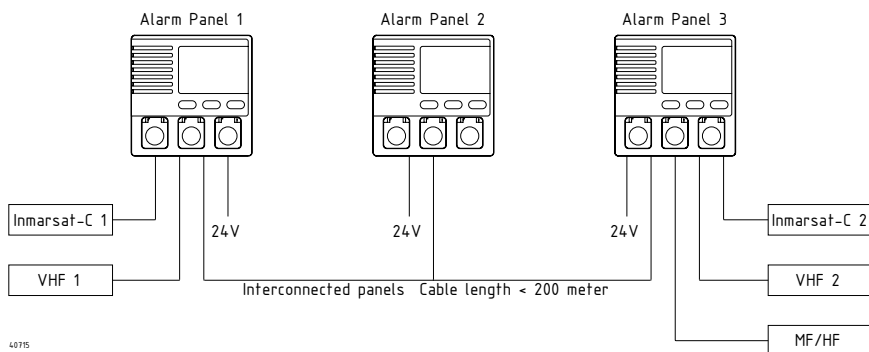
The Alarm Panel will connect to 5 transceiver units (2 × VHF, 2 × Inmarsat-C, and 1 × MF/HF) each of which is provided a dedicated connector on the rear side of the Alarm Panel.

Auxiliary interfaces

The AP5065 Alarm Panel provides, through the option connector an auxiliary RS-422 line with a separate Rx and Tx pair, that can be connected to external equipment for monitoring of the Alarm Panel state. Unless specific installation instructions describes otherwise, this interface should not be connected.

The power connector also provides a Service interface connection that may be used for future maintenance of the Alarm Panel. Leave this disconnected for normal use.

Interconnecting more Alarm Panels



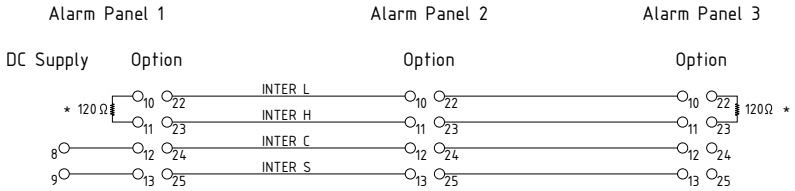
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Up to 3 Alarm Panels can be interconnected and placed in different locations on the vessel. Interconnected Alarm Panels maintain identical light and sound indications, so any operation and behaviour on either Alarm Panel will be reflected on the others (except using the Dimming button and the Test button – which only affects the single Alarm Panel being dimmed or tested).

If interconnection is used, the combined set of Alarm Panels still only accepts the same 5 transceiver units, but each transceiver may be connected to either of the interconnected Alarm Panels (e.g., the secondary VHF transceiver can be connected to the VHF 2 connector of any of the Alarm Panel).

The interconnection is physically established using a twisted pair cable. The interface is electrically isolated and it must be supplied with 15V power to one of the Alarm Panels. The 15V interface power is taken from a dedicated supply available in the 9-pin power connector. Note that only one of the interconnected Alarm Panels must supply the interface with power in order to maintain the electrical isolation in the installation.

Wiring interconnected Alarm Panels



* Note: The terminator resistor must match the cable used 120 Ω is a typical value.

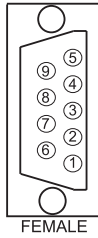
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DC supply D-sub 9	Designation	
1	ID-GND	
2	S-RX	SERVICE INTERFACE
3	S-TX	SERVICE INTERFACE
4	ID	
5	GND	SERVICE INTERFACE
6	DC-	SUPPLY INPUT
7	DC+	SUPPLY INPUT
8	INTER-COUT	INTERFACE SUPPLY OUT
9	INTER-SOUT	INTERFACE SUPPLY OUT

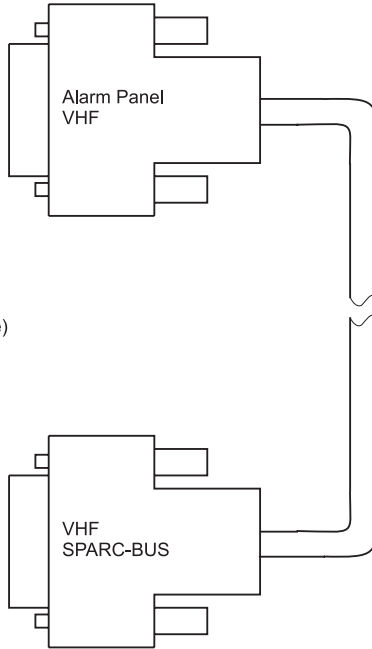
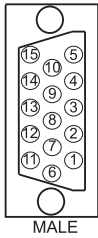
Option D-sub 25	
1 and 14	AUX-TALKER B
2 and 15	AUX-TALKER A
3 and 16	AUX-TALKER C
5 and 18	AUX-LISTENER B
6 and 19	AUX-LISTENER A
7 and 20	AUX-LISTENER C
10 and 22	INTER L
11 and 23	INTER H
12 and 24	INTER C
13 and 25	INTER S
4.8.9 and 17	NC

Note: The cable shield must be connected only to the Alarm Panel that powers the interface (Alarm Panel 1 in the wiring diagram). All segments of the interface cable must have connected shields”

Wiring to VHF 1 or VHF 2



Contact arrangement
(viewed from solder side)

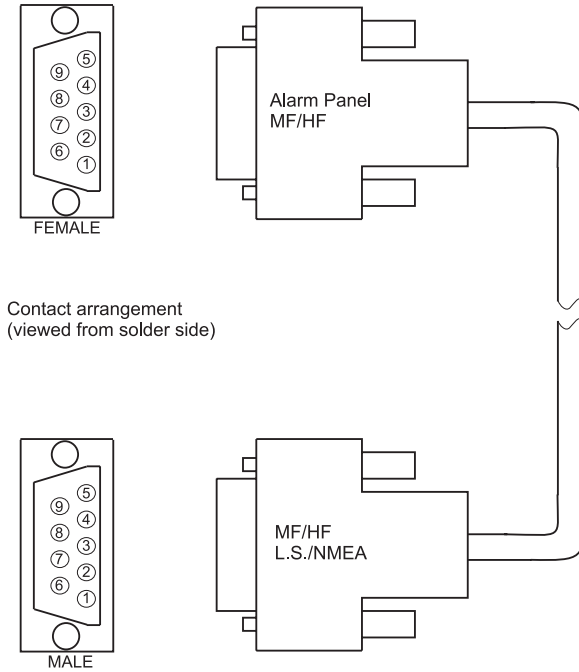


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Alarm Panel 'VHF' X3 D-Sub 9 way	Designation	VHF SPARC-BUS D-Sub 15 way	Comment
3	SPARC-BUS +	2	Twisted pair
5	SPARC-BUS -	3	
2	GND	6	
9	+ 12 V	7	
Cable type: 2 x 2 x 0.5 mm ² screened, Length: Max. 100m			

Note: The cable shield must be connected to chassis on the VHF equipment and must be left unconnected at the Alarm Panel."

Wiring to MF/HF

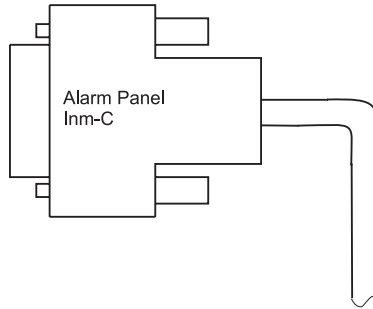
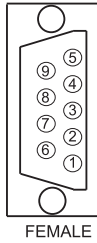


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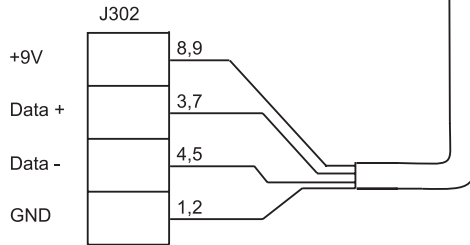
Alarm Panel 'MF/HF' X4 D-Sub 9 way	Designation	MF/HF AUX D-Sub 9 way	Comment
3	SPARC-BUS +	1	Twisted pair
5	SPARC-BUS -	6	
2	GND	5	
9	+ 24 V	7	
Cable type: 2 x 2 x 0.5 mm ² screened, Length: Max. 100m			

Note: The cable shield must be connected to chassis on the MF/HF equipment and must be left unconnected at the Alarm Panel.”

Wiring to Inmarsat-C 1 or Inmarsat-C 2 (mini-C)



Contact arrangement
(viewed from solder side)

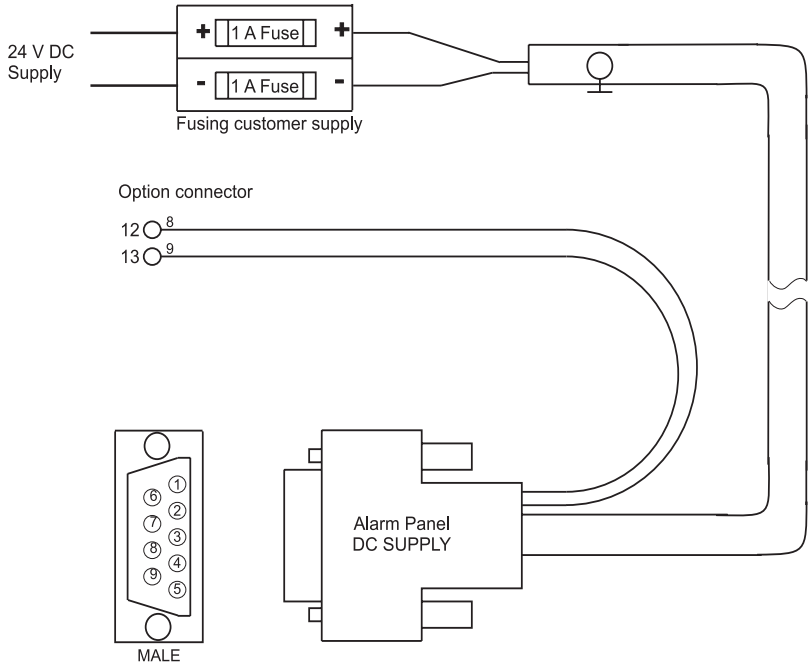


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Alarm Panel Inm-C D-sub 9 way	Designation	mini-C J302	Comment
1,2	GND	GND	
3,7	Data +	Data +	Twisted pair
4,5	Data -	Data -	
8,9	VCC IN	+9V	
Cable type: min. 2 x 2 x 0.2mm ² screened.			
Length: Max 250m			

- Note 1:** The cable shield must be connected to chassis on the Inmarsat-C equipment and must be left disconnected at the Alarm Panel.”
- Note 2:** If the cable ends at the Alarm Panel, then connect a strap between pin 6 and 7 in order to activate an internal termination resistor.
- Note 3:** For further details refer to TT-3000E mini-C GMDSS system Installation manual (Doc. TT98-122414)
- Note 4:** Connection of a classic Inmarsat-C transceiver (TT-3020C) to the Alarm Panel requires interface TT-3687A installed. For details refer to TT-3687A Alarm Panel adapter Installation & User manual (Doc. TT98-125903)

Wiring to 24V DC Supply

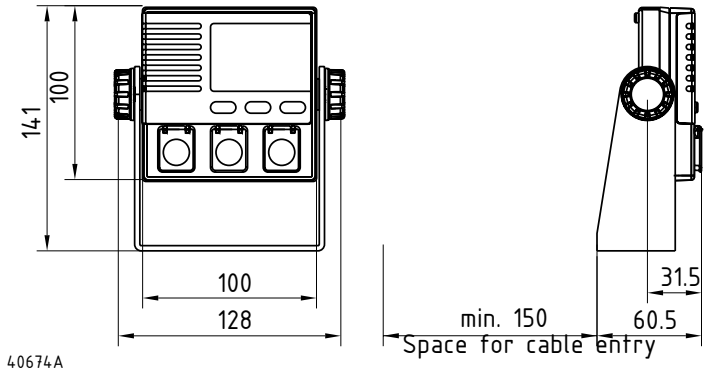


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Alarm Panel DC Supply D-sub 9 way	Designation	Alarm Panel Option Connector
6	DC -	
7	DC +	
Cable type: 2 x 0.5mm ² screened. Length: Max. 100m		
8	INTER-COUT	12 (Note)
9	INTER-SOUT	13 (Note)
Wiring: 2 x 0.2mm ² . Length: 0.15 - 0.2m		

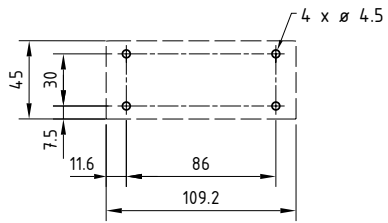
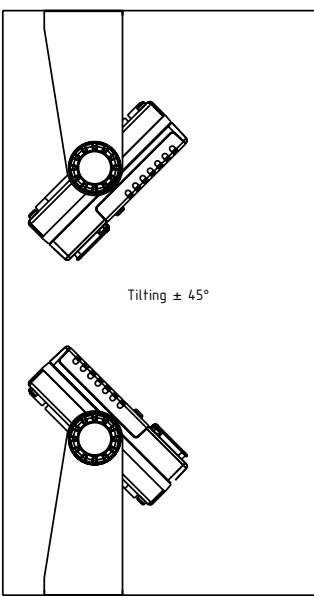
Note: Interface supply used only if interconnecting 2 or 3 alarm panels - refer to page 8.

Outline and dimension



Mounting option

Drilling plan

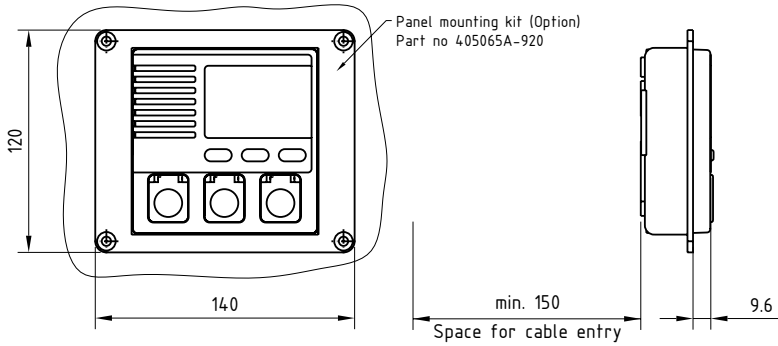


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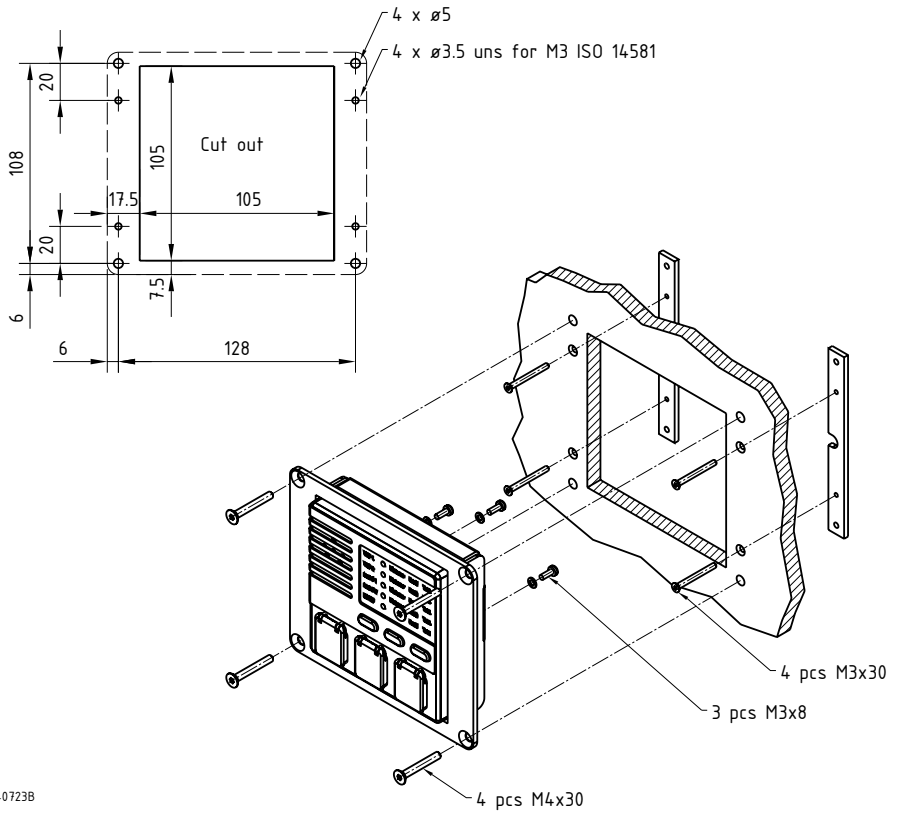
Dimensions are in mm.

Weight:
AP5065 0.8 Kg

Alarm panel with mounting bracket



Drilling plan



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TT-98-125065-THR-C

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