

SAILOR 3771

Alarm Panel FleetBroadband



Thrane & Thrane

SAILOR 3771
Alarm Panel FleetBroadband
Installation manual

Document number: 98-133688-A

Release date: July 1, 2011

Disclaimer

Any responsibility or liability for loss or damage in connection with the use of this product and the accompanying documentation is disclaimed by Thrane & Thrane. The information in this manual is provided for information purposes only, is subject to change without notice and may contain errors or inaccuracies.

Manuals issued by Thrane & Thrane are periodically revised and updated. Anyone relying on this information should acquire the most current version e.g. from <http://www.thrane.com> or from the distributor.

Thrane & Thrane is not responsible for the content or accuracy of any translations or reproductions, in whole or in part, of this manual from any other source.

Copyright

© 2011 Thrane & Thrane A/S. All rights reserved.

Trademark Acknowledgements

- **Thrane & Thrane** is a registered trademark of Thrane & Thrane A/S in the European Union and the United States.
- **Inmarsat** is a registered trademark of the International Maritime Satellite Organisation (IMSO) and is licensed by IMSO to Inmarsat Limited and Inmarsat Ventures plc.
- **SAILOR** is a registered trademark of Thrane & Thrane A/S in the European Union, the United States and other countries.
- Other product and company names mentioned in this manual may be trademarks or trade names of their respective owners.

Safety summary

The following general safety precautions must be observed during all phases of operation, service and repair of this equipment. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture and intended use of the equipment. Thrane & Thrane assumes no liability for the customer's failure to comply with these requirements.

DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE

Do not operate the equipment in the presence of flammable gases or fumes. Operation of any electrical equipment in such an environment constitutes a definite safety hazard.

KEEP AWAY FROM LIVE CIRCUITS

Operating personnel must not remove equipment covers. Component replacement and internal adjustment must be made by qualified maintenance personnel. Do not service the unit with the power cable connected. Always disconnect and discharge circuits before touching them.

DO NOT SUBSTITUTE PARTS OR MODIFY EQUIPMENT

Because of the danger of introducing additional hazards, do not substitute parts or perform any unauthorized modification to the equipment.

COMPASS SAFE DISTANCE

Minimum compass safe distance: 55 cm.

About the manual

Intended readers

This manual is an installation manual for the SAILOR 3771 Alarm Panel. The manual is intended primarily for installers of the system and service personnel. Personnel installing or servicing the system must be properly trained and authorized by Thrane & Thrane. It is important that you observe all safety requirements listed in the beginning of this manual, and install the system according to the guidelines in this manual.

Manual overview

This manual has the following chapters:

- ***Introduction*** - a short description of the Alarm Panel.
- ***Installing the Alarm Panel*** - a description of how to unpack, store and install the Alarm Panel.
- ***Connecting cables*** - descriptions and pin-out for the connectors, guidelines for connecting the Alarm Panel and descriptions of the buttons.
- ***Service and repair*** - a short description of how to handle defective units.
- ***Technical specifications*** - technical specifications for the Alarm Panel.

Related documents

The below table shows documents related to this manual and to the SAILOR 3771 Alarm Panel FleetBroadband.

Title	Document number
Voice Distress (Non-SOLAS), User manual	98-133687
SAILOR 500/250 FleetBroadband Including 19" Rack Version, Installation manual	98-125646
SAILOR 150 FleetBroadband, Installation manual	98-129218
Thrane IP Handset, User manual	98-126059

Table of contents

	Safety summary	iii
	About the manual	iv
Chapter 1	Introduction	
1.1	The SAILOR 3771 Alarm Panel	1
Chapter 2	Installing the Alarm Panel	
2.1	Initial inspection	4
2.2	Storage	4
2.3	To install the Alarm Panel	5
Chapter 3	Connecting cables	
3.1	Connectors	12
3.2	Cable requirements	16
3.3	Connecting the Alarm Panel	17
3.4	Verifying the installation	18
3.5	Service activation	19
Chapter 4	Service and repair	
4.1	Introduction	21
4.2	Repacking for shipment	21

Table of contents

App. A	Technical specifications	
App. B	Conformity	
Glossary		27
Index		29

Introduction

1.1 The SAILOR 3771 Alarm Panel

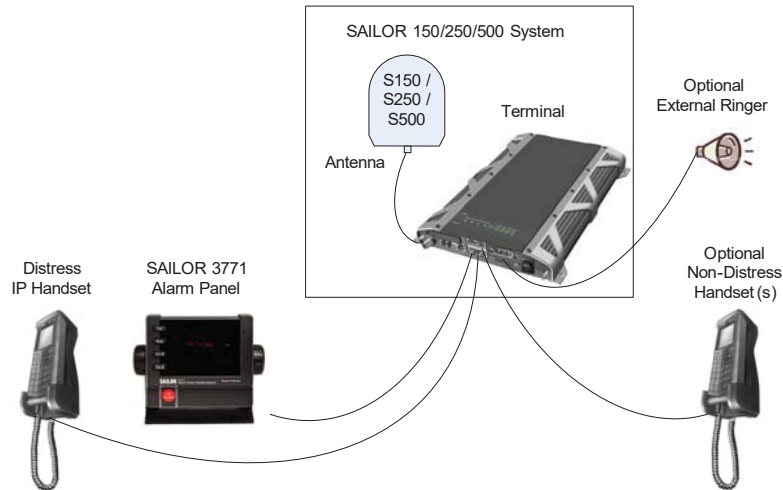
The SAILOR 3771 Alarm Panel is primarily used for initiating Distress and Urgency calls using the FleetBroadband service.



The Alarm Panel is supplied with power through the Ethernet interface using PoE (Power over Ethernet), which is available in all the FleetBroadband systems, or alternatively from a DC supply (10.8 - 32 V DC). The DC input is protected against reverse polarity.

The Alarm Panel is used together with a SAILOR 150, 250 or 500 FleetBroadband system and an IP handset designated for Distress use. A push on the red **FB Distress** button on the Alarm Panel initiates a Distress call from the Distress IP Handset. For further information on the use of the Alarm Panel

and the Voice Distress (Non-SOLAS) system, see the user manual for the Voice Distress (Non-SOLAS) System.



For information on the FleetBroadband systems and the IP Handset see the manuals for these products. The manuals are listed in the section *Related documents* on page v.

Installing the Alarm Panel

This chapter provides a description of how to unpack, store and install the Alarm Panel. It contains the following sections:

- *Initial inspection*
- *Storage*
- *To install the Alarm Panel*

For information on cable connections, see *Connecting cables* on page 11.

2.1 Initial inspection



Warning! To avoid electrical shock, do not apply power to the Alarm Panel if there is any sign of shipping damage to any part of the front or rear panel or the outer cover. Read the safety summary at the front of this manual before installing or operating the Alarm Panel.

Inspect the shipping carton immediately upon receipt for evidence of mishandling during transport. If the shipping carton is severely damaged or water stained, request that the carrier's agent be present when opening the carton. Save the carton packing material for future use.

Check that the contents of the shipment are according to the enclosed packing list. If the contents are incomplete, if there is mechanical damage or defect, or if the Alarm Panel does not work properly, notify your dealer.

After unpacking the Alarm Panel, inspect it thoroughly for damage and loose components or fittings.

2.2 Storage

The Alarm Panel may be stored or shipped in temperatures between -40° C and +80° C. Protect the Alarm Panel from extreme temperature variation which can cause condensation.

2.3 To install the Alarm Panel

2.3.1 General installation requirements

The Alarm Panel must be placed close to the IP Handset designated for Distress calls. You can mount the Alarm Panel as a flush-mounted unit integrated in a console, on a desktop or in an overhead position.

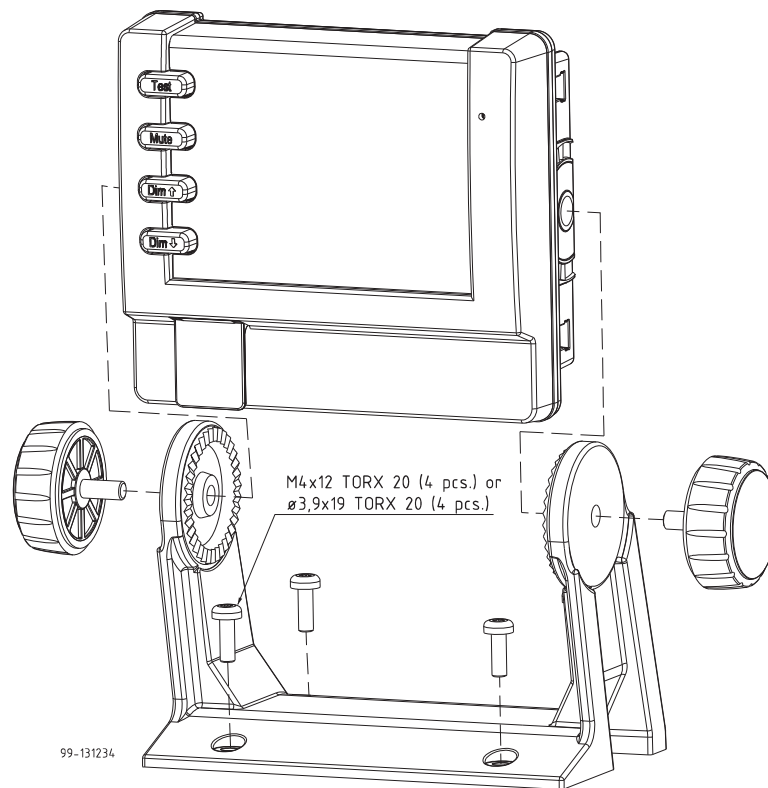
Make sure the Compass Safe Distance is maintained. See *Technical specifications* on page 23.

2.3.2 Mounting the Alarm Panel

The next pages describe how to mount the Alarm Panel on a desktop, in an overhead position and flush mounted in a console.

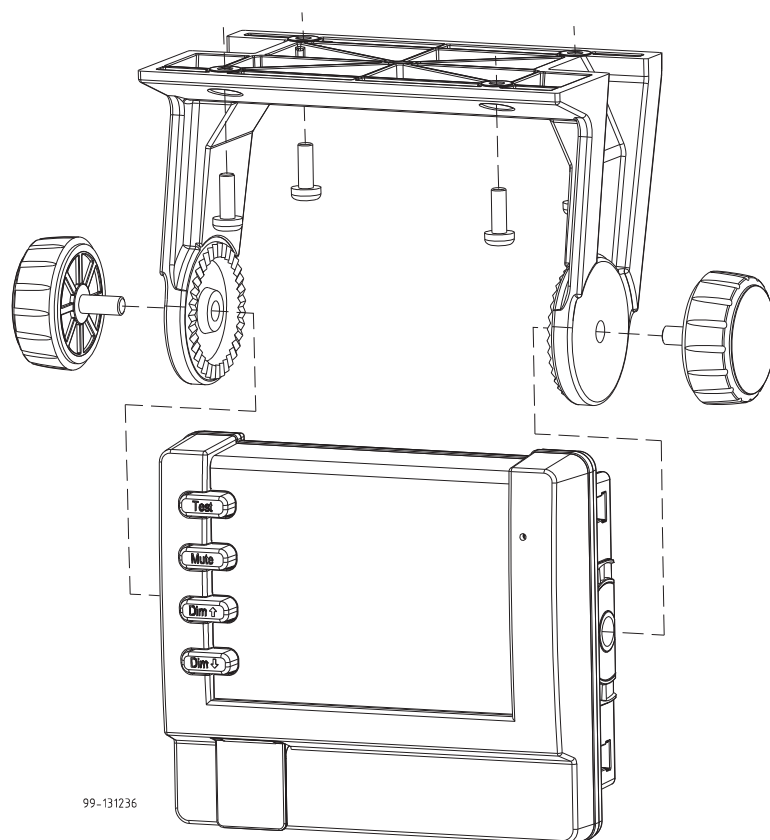
Desktop mounting

You can mount the Alarm Panel on a desktop using the mounting bracket. For details on how to mount the Alarm Panel, see *Mounting the Alarm Panel with the mounting bracket* on page 8.



Overhead mounting

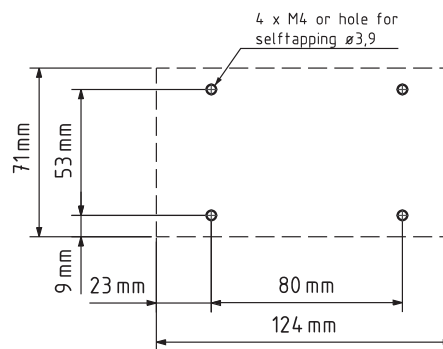
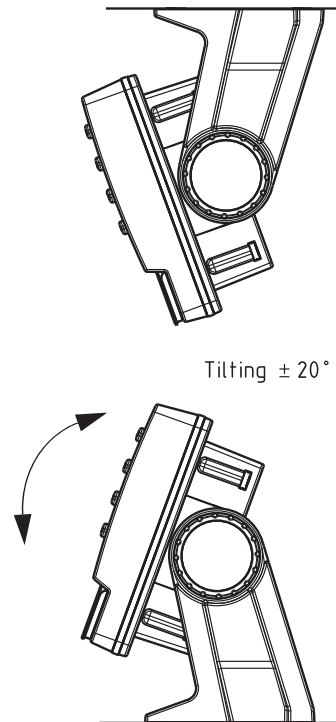
You can mount the Alarm Panel in an overhead position using the mounting bracket. For details on how to mount the Alarm Panel, see *Mounting the Alarm Panel with the mounting bracket* on page 8.



Mounting the Alarm Panel with the mounting bracket

To mount the Alarm Panel using the mounting bracket, do as follows:

1. Find a suitable location to mount the Alarm Panel. Make sure there is minimum 80 mm of free space for cable access behind the Alarm Panel.
2. Use the four holes to fasten the mounting bracket to the mounting surface. Screws are included with the mounting bracket.
3. Place the Alarm Panel in the mounting bracket.
4. Mount the two knobs on the sides of the bracket, but do not tighten them yet.
5. Connect the cables as described in *Connecting cables* on page 11.
6. Adjust the angle of the Alarm Panel to the wanted position. The bracket can be adjusted $\pm 20^\circ$.
7. Tighten the two knobs on the sides of the bracket when the Alarm Panel is in the correct position.

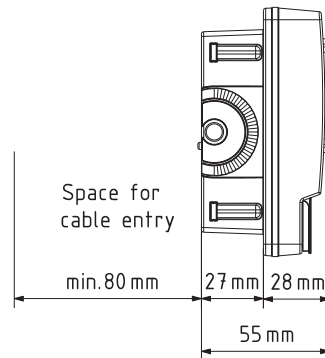


Flush mount

You can mount the Alarm Panel in a flat surface, e.g. in a console, using the Flush mount bracket and screws included with the Alarm Panel.

To mount the Alarm Panel in a console, do as follows:

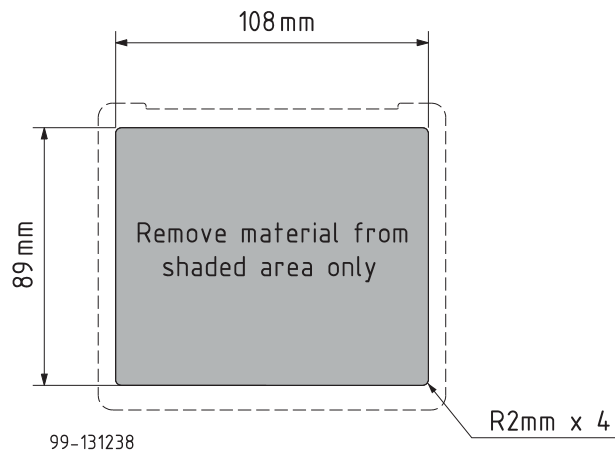
1. Find a suitable location in the console. Check that there is enough space for the Alarm Panel and an additional 80 mm space for cable entry.



2. Cut a hole of 89 mm x 108 mm for the Alarm Panel.

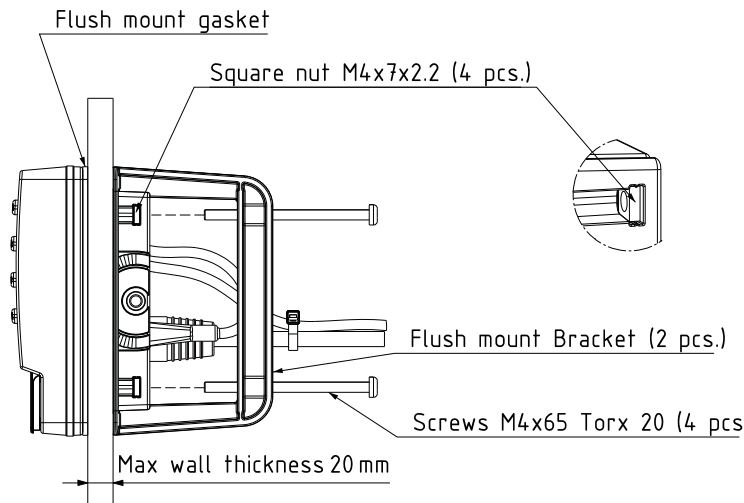
Important

The scale in the below drawing is not 1:1! Do not use it as a template without checking the dimensions.



Chapter 2: Installing the Alarm Panel

3. Place the 4 square nuts in the cut-outs on the sides of the Alarm Panel, two on each side.
4. Ensure that the flush mount gasket is placed correctly on the Alarm Panel.
5. Fit the Alarm Panel into the cut-out in the console.
6. Mount the flush mount bracket on the back of the Alarm Panel by mounting the 4 Torx screws through the bracket and into the square nuts placed in the Alarm Panel.



99-131239

7. Fasten the 4 Torx screws.
8. Connect the cables as described in *Connecting cables* on page 11.

Connecting cables

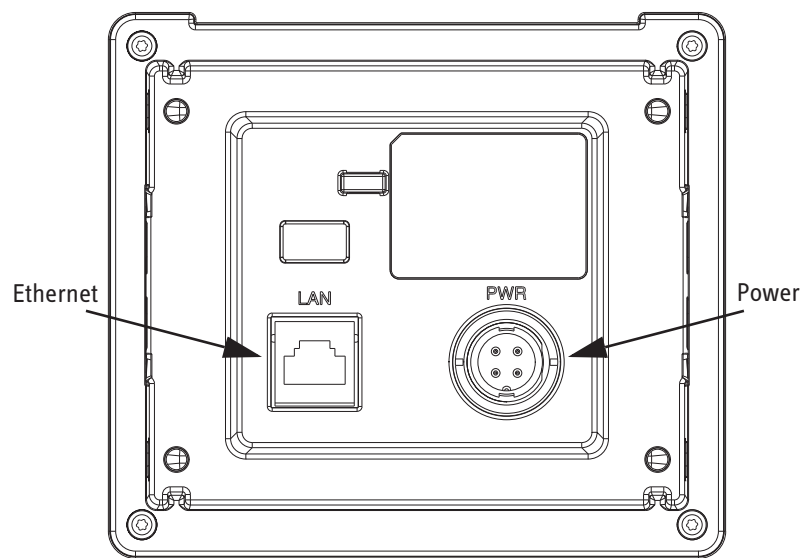
This chapter provides a description of all connectors on the Alarm Panel and gives guidelines to cabling. It also shows how to test the completed installation. It has the following sections:

- *Connectors*
- *Cable requirements*
- *Connecting the Alarm Panel*
- *Verifying the installation*

3.1 Connectors

3.1.1 Overview

The drawing below shows the connectors on the Alarm Panel.



3.1.2 LAN (PoE) interface

Overview

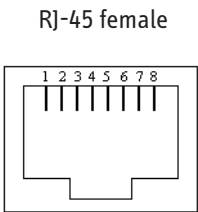
There is one Ethernet (10/100 MB) connector on the rear panel of the Alarm Panel, used for communicating with the FleetBroadband terminal.

The interface supports PoE (Power over Ethernet), which means the Alarm Panel can be powered from the FleetBroadband terminal through the Ethernet. When you are using PoE to power the Alarm Panel, the DC input is disabled and the DC power cable is optional. (may be used for backup).

Pin-out

The figure and table below show the connector outline and pin assignments.

Pin number	Pin function	
	10/100 DC on spares	10/100 mixed DC & data
1	Rx+	Rx+ DC+ (PoE)
2	Rx-	Rx- DC+ (PoE)
3	Tx+	Tx+ DC- (PoE)
4	DC+ (PoE)	unused
5	DC+ (PoE)	unused
6	Tx-	Tx- DC- (PoE)
7	DC- (PoE)	unused
8	DC- (PoE)	unused



3.1.3 DC Power input (optional)

Overview

Note When you are using PoE, the DC input is disabled and the state of the input pins and the power cable is ignored.

The DC Power input connects to a DC supply with 24 V DC nominal (10.8 to 32 V DC). The interface also has a “remote on/off” function.

Important If you are not using PoE and you are **not** going to use the remote on/off function, you must connect pin 3 (ON_IN) to pin 2 (DC-) permanently.

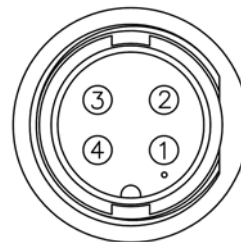
The Power connector is a custom connector; a matching cable with connector is included in the delivery.

Pin-out

The figure and table below show the connector outline on the Alarm Panel, pin assignments and wire color in the power cable delivered with the Alarm Panel.

Pin number	Pin function	Wire color in power cable
1	DC+ (10.8 - 32 V DC)	Red
2	DC- (0 V DC)	Black
3	ON_IN (see below)	White
4	Not connected	Blue

Front view on Alarm Panel
Panel lock, 4 pin male



Remote on/off (ON_IN)

Note | If you are using PoE, the Remote on/off function is disabled.

With the Remote on/off function you can switch the Alarm Panel on and off from a remote location, using a switch. Note that the Alarm Panel does not have a power button, so it is always on, unless you use the remote on/off function.

To use the Remote on/off function in the Alarm Panel, do as follows:

1. Connect a switch to the white wire in the power cable (pin 3, ON_IN, in the Power connector.)
2. Connect the other side of the switch to the black wire in the power cable (DC- (0 V DC) in the Power connector), so that pin 3 in the Power connector is connected to DC- (with a resistance less than 10 k Ω) when the switch is closed.
 - Switch closed: Alarm Panel is on
 - Switch open: Alarm Panel is off

3.2 Cable requirements

Before using the Alarm Panel for the first time, check that all cables are correctly wired and fastened.

3.2.1 Grounding

All cables attached to the Alarm Panel must be shielded.

- The shield of the Ethernet cable must be connected to ship ground via the FleetBroadband terminal or Ethernet switch to which the Alarm Panel is connected.
- If the DC power cable is used, the shield of the cable must be connected to ship ground at the power supply.

3.2.2 Cable requirements

The power cable supplied with your system is 2.5 m long with AWG 16 wires and a custom connector at one end. If you are going to use another cable or extend the supplied cable, make sure the cables are dimensioned correctly. When the cable is connected to the power supply, there must be minimum 10.8 V at the end of the cable.

The Ethernet cable must be shielded Cat. 5E or higher. Max. length is 100 m.

3.3 Connecting the Alarm Panel

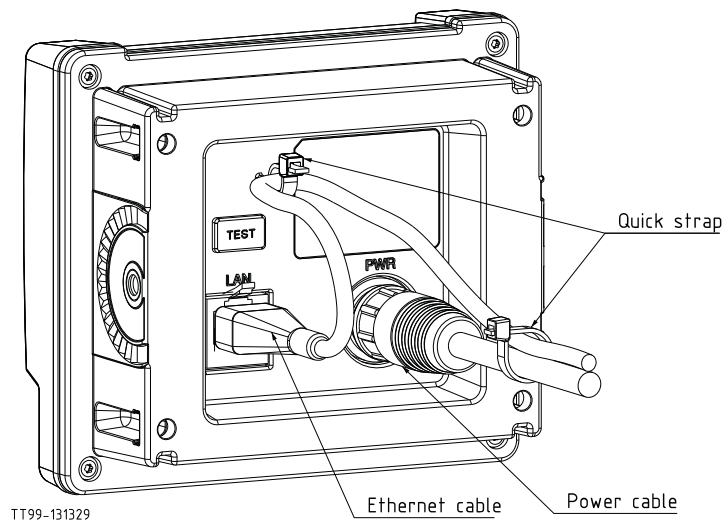
To connect the Alarm Panel, do as follows:

1. Connect an Ethernet cable to the LAN connector on the Alarm Panel.
2. If you are using the DC input, connect the power cable to the PWR connector according to the description in *DC Power input (optional)* on page 14.

Note

If you are using PoE as your power source for the Alarm Panel, the DC cable is not required, but may optionally be connected for backup.

3. Attach the cable(s) with cable straps as shown below.



4. Connect the other end of the Ethernet cable to one of the LAN connectors on the FleetBroadband terminal or an Ethernet switch or PoE switch connected to the FleetBroadband terminal.

Note that the below example is a SAILOR 250/500 terminal; if you have a SAILOR 150 terminal, there are only two LAN interfaces.



5. Connect the Distress IP Handset to another Ethernet interface on the FleetBroadband terminal or a switch in the same network.

When connected and powered, all the units are automatically set up to communicate with each other in the Ethernet network.

You must configure the FleetBroadband terminal to enable the Voice Distress function and to designate an IP Handset for Distress. For information on how to configure the system, see the user manual for the Voice Distress (Non-SOLAS) system.

3.4 Verifying the installation

3.4.1 Testing the Alarm Panel

You can test the function of the Alarm Panel using the Test button.

Note This test only verifies the function of the Alarm Panel itself, not of any connected equipment nor the total system. For the total system, see the next section.

To test the light and sound indicators in the Alarm Panel, do as follows:

1. Press and hold the **Test** button.
Verify that all light indicators and alarm buttons are flashing.

2. While holding the **Test** button, press any other button, including the **Distress** button.
The buzzer sounds to indicate that the pressed button and the buzzer is working.

3.4.2 Checking the Voice Distress installation

When the installation is complete and the system is configured for Voice Distress, you can check the installation as follows:

1. Power up the FleetBroadband terminal.
2. Check that the Alarm Panel shows **FB** ● to indicate that it is connected to the FleetBroadband terminal.
3. Check that the Distress Handset shows  (designated for Distress) and  (ready for making calls).

To test the Distress function you can make a Distress test call as described in the user manual for the Voice Distress (Non-SOLAS) system.

3.5 Service activation

Before you can use your Voice Distress (Non-SOLAS) system, you must make an airtime subscription with your airtime provider including a SIM card for your FleetBroadband terminal. The airtime subscription must include the supplementary services Voice Distress (eMLPP) and Call Waiting.

Service and repair

This chapter describes what to do with defective units, including how to pack them for shipment if they are to be returned.

4.1 Introduction

The Alarm Panel is designed to operate without preventive routine maintenance.

Although the Alarm Panel is designed and built very service friendly, we strongly recommend that any acting service technician is trained specifically on the product. Repair or repair attempts performed by unqualified personnel may limit the warranty. The warranty on the system is defined and outlined by the distributor that supplied the system.

We do not recommend repairing the Alarm Panel on board the ship. Replace the defective unit and have it repaired at a qualified workshop on shore.

For further information on warranty and service, you may also use the Thrane & Thrane home page at <http://www.thrane.com>.

4.2 Repacking for shipment

The shipping carton has been carefully designed to protect the Alarm Panel and its accessories during shipment. This carton and its associated packing material should be used when repacking for shipment. Attach a tag indicating the type of service required, return address, model number and full serial number. Mark the carton FRAGILE to ensure careful handling.

Note

Correct shipment is the customer's own responsibility.

Technical specifications

Item	Specifications
Mounting method	Flush mount or bracket
Power	10.8 to 32 V DC, with “remote on/off” input
Power consumption	Typical 1 W, Maximum 3 W
Interfaces	Ethernet (10/100 Mbit), RJ45 connector DC input, custom panel lock connector
Compliance	• IEC 60945 • IEC 60950-1
IP protection	IP30
Ambient temperature	-25°C to 55°C
Storage temperature	-40°C to 80°C
Relative humidity	+40°C 93% 1 cycle

Appendix A: Technical specifications

Item	Specifications
Vibration	Vibration Sweep: 2 Hz - 13,2 Hz at ± 1 mm 13,2 Hz - 100 Hz at 7 m/s^2 2 h dwell at each resonance, otherwise 2 h at 30 Hz in all three axes
Compass safe distance	55 cm
Dimensions H x W x D	Without mounting bracket: 107 mm x 121 mm x 55 mm With mounting bracket: 124 mm x 153 mm x 90 mm
Weight	Without mounting bracket: 302 g With mounting bracket: 440 g

Appendix B

Conformity

The SAILOR 3771 Alarm Panel FleetBroadband is CE-certified as stated in the Declaration of Conformity, enclosed on the next page.

Conformity

Thrane & Thrane A/S

Declaration of Conformity with LVD and EMC Directives

The undersigned of this letter declares that the following equipment complies with the specifications of EC directive 73/23/EC concerning Low Voltage Safety and EC directive 89/336/EC concerning EMC.

Equipment included in this declaration

TT-3771A SAILOR 3771 Alarm Panel FleetBroadband PN = 403771A

Equipment Applicability

The SAILOR 3771 Alarm Panel FleetBroadband is used for initiating Distress and Urgency calls using the Inmarsat FleetBroadband world wide maritime service. The Alarm Panel is used together with a SAILOR 150/250/500 FleetBroadband system and an IP handset designated for Distress use.

Declaration

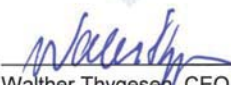
The safety requirement with respect to the LVD directive 73/23/EC is met by conforming to the harmonized EU standards EN 60950-1. The protection requirement with respect to the EMC directive 89/336/EC is met by conforming to the harmonized EU standards EN 60945.

Manufacturer

Thrane & Thrane A/S, Lundtoftegårdsvej 93D, DK-2800 Kgs. Lyngby, Denmark
Porsvej 2, DK-9200 Aalborg SV, Denmark

Place and Date

Kgs. Lyngby, 24. June 2011


Walther Thygesen, CEO
Thrane & Thrane A/S



Doc. no. 99-133958-A

Thrane & Thrane A/S • Lundtoftegårdsvej 93 D • DK-2800 Kgs. Lyngby • Denmark
T +45 39 55 88 00 • F +45 39 55 88 88 • info@thrane.com • www.thrane.com
Bank: Danske Bank • Comp.reg.: 65 72 46 18 • VAT: DK/20 64 64 46



Page: 1 of 1

Glossary

A

AWG American Wire Gauge. A means of specifying wire diameters.

D

DC Direct Current

E

eMLPP Enhanced Multi-Level Precedence and Preemption. A supplementary service used to deliver Maritime Safety Priority Voice Calls as defined by Inmarsat.

I

IMSO International Maritime Satellite Organisation. An intergovernmental body established to ensure that Inmarsat continues to meet its public service obligations.

IP Ingress Protection. An international classification system for the sealing effectiveness of enclosures of electrical equipment against the intrusion into the equipment of foreign bodies (i.e. tools, dust, fingers) and moisture. This classification system uses the letters "IP" followed by two or three digits. An "x" is used for one of the digits if there is only one class of protection; e.g. IPX4 which addresses moisture resistance only.

P

PoE Power over Ethernet. A standard for combining power supply with transmission of data over the Ethernet. The source unit "injects" power into the Ethernet cable and the power is "picked up" at the connected device.

Glossary

R

Rx Receive

T

Tx Transmit

C

- cable requirements, 16
- cables
 - securing, 17
- CE Declaration of Conformity, 25
- compass safe distance, 24
- conformity, 25
- connectors
 - DC power input, 14
 - LAN (PoE), 13
 - overview, 12

D

- DC power input connector, 14
- Declaration of Conformity, 25
- desktop mounting, 6
- dimensions, 24
- Distress button, 1
- document number
 - this manual, i

E

- Ethernet (PoE) connector, 13

F

- flush mount, 9

G

- grounding, 16

I

- initial inspection, 4
- installation, 5

L

- LAN (PoE) connector, 13

M

- manual
 - document number, i
- mounting
 - flush mount, 9
 - on desktop, 6
 - overhead, 7

P

- PoE, 13
- power input connector, 14

R

- remote on-off, 15
- repacking for shipment, 21
- repair, 21
- returning units, 21

S

- safety summary, iii
- securing cables, 17
- service, 21
- specifications, 23

Index

storage, 4

U

unpacking, 4

98-133688-A

info@thrane.com • thrane.com

Thrane & Thrane