

Installation Manual

Navico BSM-1
Broadband Sounder Module

English

Preface

Industry Canada

Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

CE Declaration of conformity



Hereby, Navico Holding AS declares that this BSM-1 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.



Navico Holding AS vakuuttaa täten että BSM-1 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.



Hierbij verklaart Navico Holding AS dat het toestel BSM-1 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.



Par la présente, Navico Holding AS déclare que ce BSM-1 est conforme aux exigences essentielles et aux autres dispositions de la directive 1999/5/CE qui lui sont applicables.



Härmed intygar Navico Holding AS att denna BSM-1 står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.



Undertegnede Navico Holding AS erklærer herved, at følgende udstyr BSM-1 overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.



Hiermit erklährt Navico Holding AS dass sich dieses BSM-1 in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet. (BMW i)



Με την παρούσα Navico Holding AS δηλώνει ότι BSM-1 συμμορφώνεται προς τις ουσιαστικές απαιτήσεις και τις λοιπές σχετικές διατάξεις της οδηγίας 1999/5/EK.



Con la presente Navico Holding AS New Zealand dichiara che questo BSM-1 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.



Por medio de la presente Navico Holding AS declara que el BSM-1 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.



Navico Holding AS declara que este BSM-1 está conforme com os requisitos essenciais e outras provisões da Directiva 1999/5/CE.



The equipment named in this declaration, is intended for use in international waters as well as coastal sea areas administered by countries of the E.U. and E.E.A.

Disclaimer

As Navico is continuously improving this product, we retain the right to make changes to the product at any time which may not be reflected in this version of the manual. Please contact your nearest distributor if you require any further assistance.

It is the owner's sole responsibility to install and use the instrument and transducer(s) in a manner that will not cause accidents, personal injury or property damage. The user of this product is solely responsible for observing safe boating practices.

NAVICO HOLDING AS. AND ITS SUBSIDIARIES, BRANCHES AND AFFILIATES DISCLAIM ALL LIABILITY FOR ANY USE OF THIS PRODUCT IN A WAY THAT MAY CAUSE ACCIDENTS, DAMAGE OR THAT MAY VIOLATE THE LAW.

Governing Language: This statement, any instruction manuals, user guides and other information relating to the product (Documentation) may be translated to, or has been translated from, another language (Translation). In the event of any conflict between any Translation of the Documentation, the English language version of the Documentation will be the official version of the Documentation.

This manual represents the product as at the time of printing. Navico Holding AS. and its subsidiaries, branches and affiliates reserve the right to make changes to specifications without notice.

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Warranty

In case of any queries, refer to the brand web site of your display or system.

www.northstarnav.com

www.simrad-yachting.com

Feedback from you

Your feedback is important and helps Navico ensure that this manual is a valuable resource for all marine technicians. E-mail your comments or suggestions about this manual to the following address: tech.writing@navico.com

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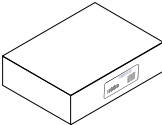
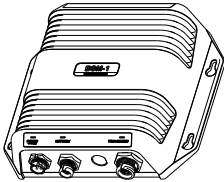
1 Introduction

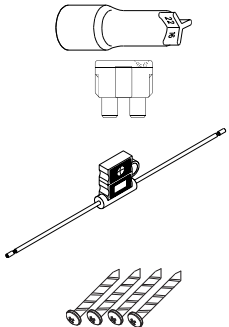
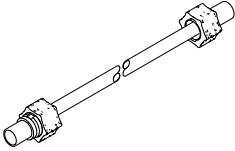
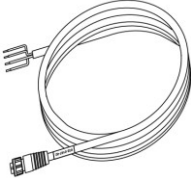

This document explains how to connect the Navico BSM-1 sonar module to a compatible navigation system or display unit. The BSM-1 connects directly between the transducer and display unit or with a network switch (Ethernet Linker). Read the following instructions carefully before attempting any installation.

The BSM-1 is compatible with the following displays and systems:

| | |
|--------------------|-------------------|
| SIMRAD | GB40 |
| SIMRAD | NSE8/NSE12 |
| NORTHSTAR ★ | 8000i |

Parts List

| Part Number | Description | Item |
|-------------|------------------------|---|
| 000-0132-05 | BSM-1 Complete Sounder |  |
| 003-8072-00 | BSM-1 sonar module |  |

| Part Number | Description | Item |
|---|---|--|
| 003-8256-00 019-0009-00 043-0037-00 089-0431-00 083-0011-21 | Installation kit including: Terminal plug Fuse BK/ATC-3 Fuse holder ATC BLD TYPE IN LINE Screw #10 X 3/4 PN HD SS selftap |  |
| 000-0127-51 | 1.5 m (5 ft) Ethernet extension cable |  |
| 032-0167-02 | Power cable 2 m (6.5 ft) |  |
| 988-0170-08 | This installation manual |  |

2 Installation

The BSM-1 sounder module connects between the transducer and display unit or via a network switch.

Before installing the BSM-1, consider location and cable runs necessary to connect the module to the display unit and power source.

You will need to attach the power cable, Ethernet cable and a transducer to the BSM-1.



The transducer and Ethernet cables are not included.



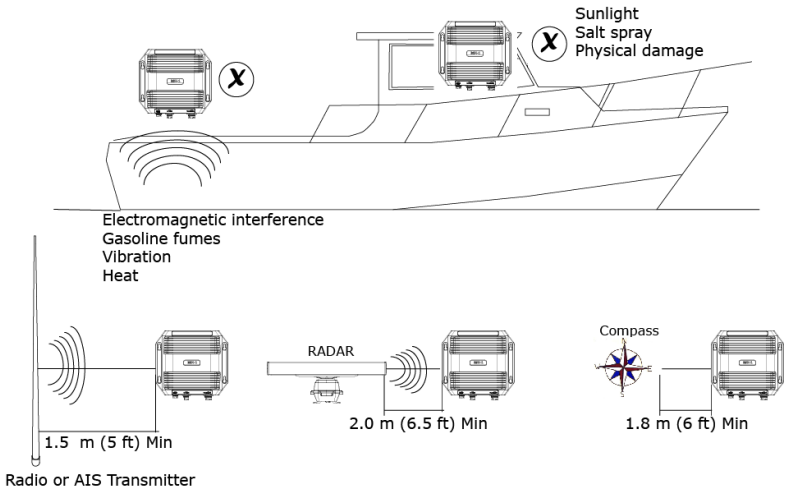
Do not run the transducer cabling near the BSM-1 DC power cables or any VHF antenna coax cables or any VHF DC power cables.

The BSM-1 conforms to the appropriate Electromagnetic Compatibility (EMC) standards; but proper installation is required to get the best use and performance from this product.

Mounting location

When installing the module certain factors that could affect its operation should be considered. Ensure you have as much separation as possible between different electrical equipment, (see diagram below).

The BSM-1 conforms to the appropriate Electromagnetic Compatibility (EMC) standards but proper installation is required to get the best use and performance from this product.



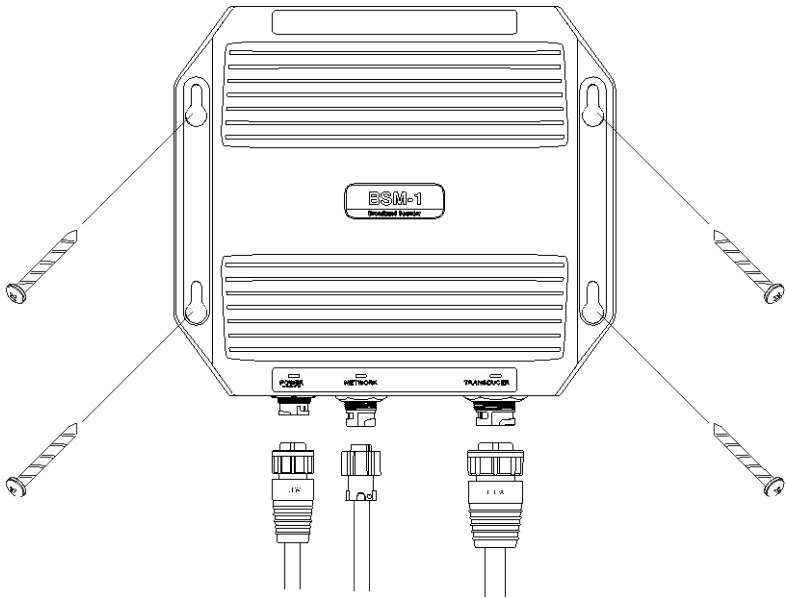
Mounting the BSM-1 module

Preferably mount the BSM-1 module on a vertical surface so that cables exit downwards.

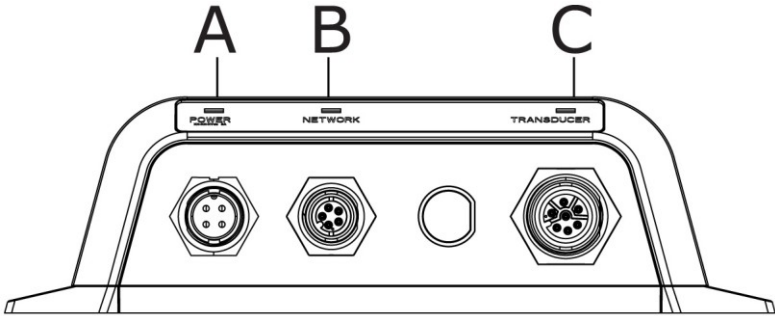
Secure using suitable fasteners for the surface.



4 SS self tapping screws are supplied with the equipment.



3 Connecting BSM-1



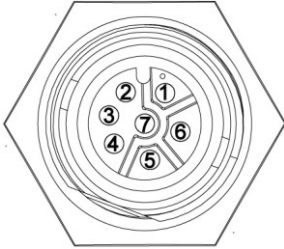
| Key | Port | Description |
|-----|------------|--|
| A | Power | Connect dedicated power cable (see "Connect power" page 15) |
| B | Network | Ethernet network: Connect to your display or Ethernet switch connector (see "Connect BSM-1 to your display" page 11) |
| C | Transducer | Connect your transducer (see "Parts List" page 18) for a list of compatible transducers |



Removing the transducer cable from the BSM-1 while the module is powered on can cause sparks. Remove the transducer cable only after the module has been disconnected from its power source.

Connect the transducer

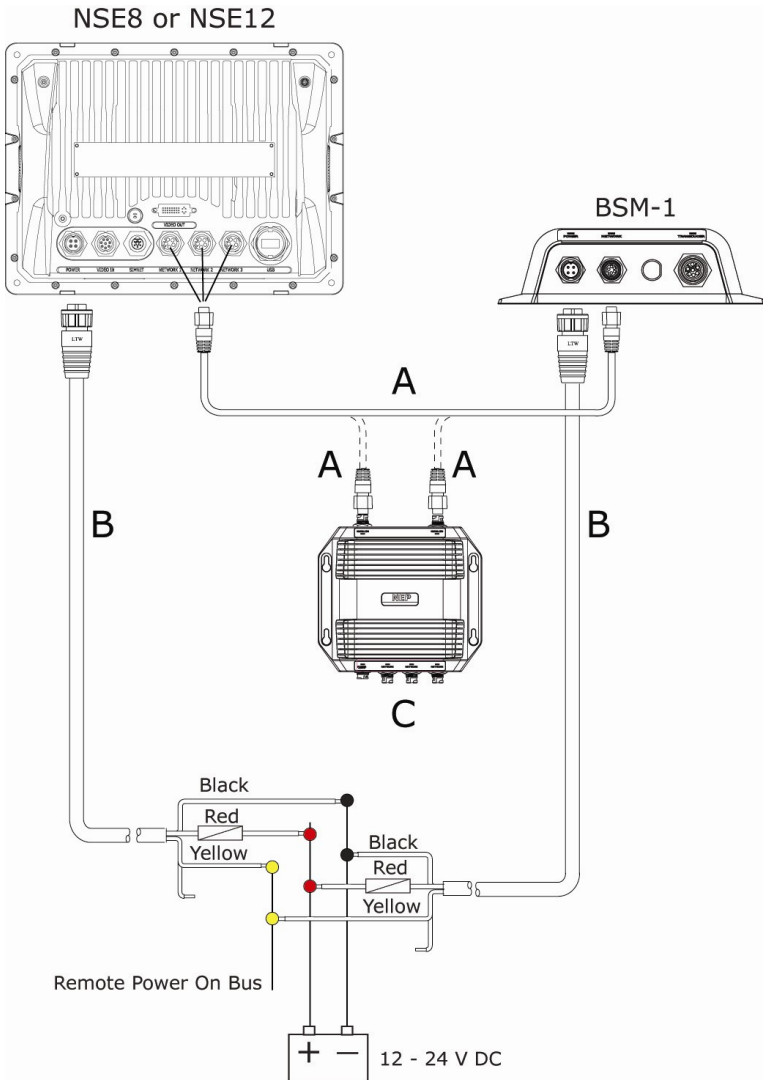
For a list of compatible transducers (see "Parts List" page 18), or contact your dealer.

| Transducer connector pin assignments | |
|---|---------------------|
|  | |
| Pin | Assignment |
| 1 | Depth + |
| 2 | Speed |
| 3 | Speed power |
| 4 | Temp. |
| 5 | Depth - |
| 6 | shield |
| 7 | Temp / speed ground |

Connect BSM-1 to your display

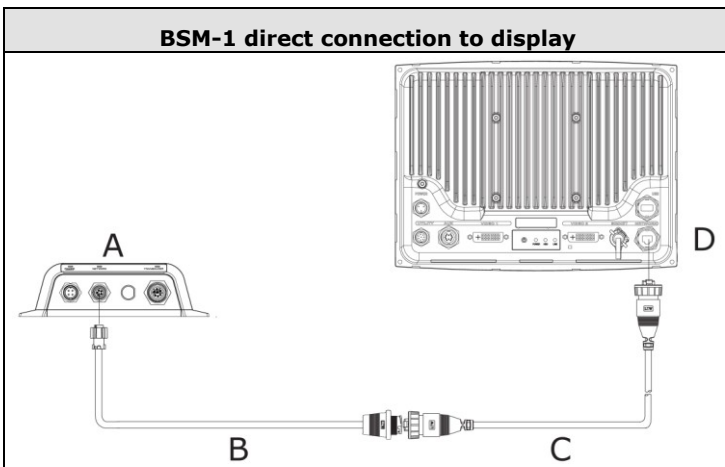
The BSM-1 connects to your display over an Ethernet network, either directly or via an Ethernet network switch.

Simrad NSE8/NSE12

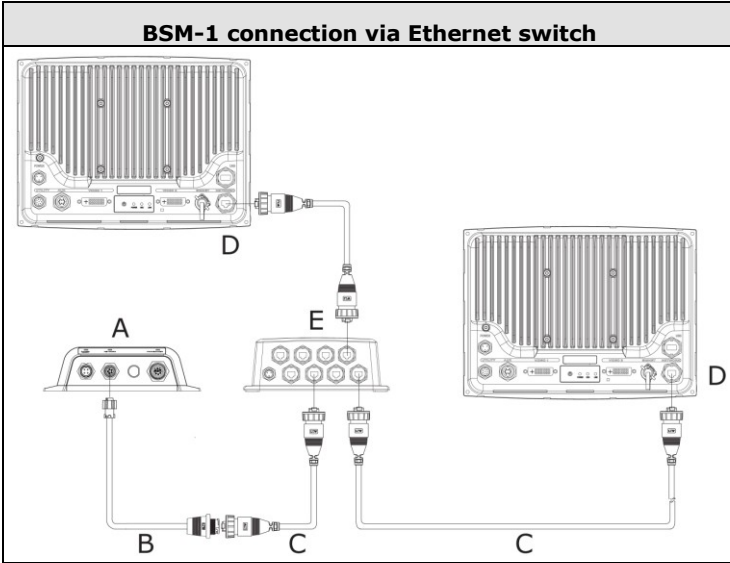


| Key | Description |
|-----|---|
| A | Ethernet cable yellow 5 pin. Cable can be connected directly to NSE or via a Network Expansion Port. See the <i>NSE Installation manual</i> for more information. |
| B | Power cable, 12 or 24 V DC |
| C | Navico 8 port Ethernet Linker AA010009 |

Simrad GB40 / Northstar 8000i

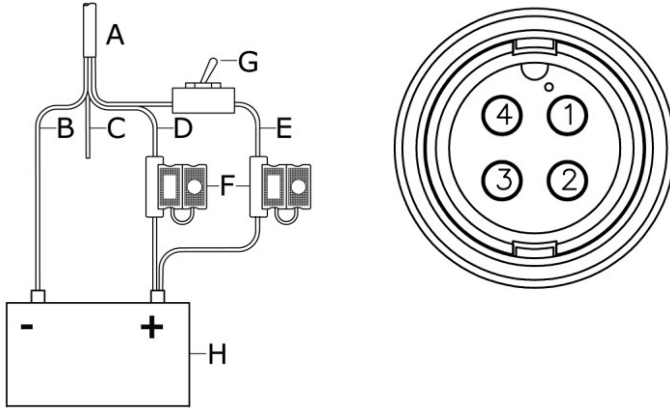


Connect power of BSM-1 to same power source as the display. If BSM-1 is connected directly to the display, it is important that the BSM-1 is powered on when the GB40 or 8000i is on so that the display can see a functioning network. C is a standard Ethernet cable. No X-over cable is required.



| Key | Description |
|-----|--|
| A | BSM-1 |
| B | Ethernet adapter cable 5 pin to RJ45 (not included) |
| C | Ethernet cable RJ45 type (not included) |
| D | GB40 / 8000i NavComputer network port |
| E | Navico 8 port Ethernet Linker AA010009 |

Connect power



Power cable connections

| Key | Item | Pin | Description |
|--|-------------|---------|--|
| A | Power cable | | 2 m (6.5 ft) (032-0167-02) |
| B | BLACK | Pin 1 | Connect to DC supply negative. |
| C | BLUE | Pin 2 | No connect. |
| D | RED | Pin 4 | Connect to DC supply positive 12-24 V DC use supplied fuse |
| E | YELLOW | Pin 3+4 | * Ignition sense. Connect to DC supply positive 12-24 V DC via a on/off switch (pin 3). ** Connect to DC positive in common with RED. Use supplied fuse |
| <i>NOTE: GB-40 and 8000i Power cable ignition sense wire is gray, NSE Displays Power cable ignition wire is yellow</i> | | | |
| F | Fuses | | 3 A |
| G | Switch | | Connect via a switch at console (not included) to turn off BSM-1 when not in use. |
| H | Battery | | 12 or 24 V DC (Max range 9-32 V DC) |

* BSM-1 connected GB40 or 8000i network via an Ethernet Linker.

** *BSM-1 connected directly to a GB40 or 8000i display*



If the BSM-1 is connected directly to the vessel's battery, the module will continue to draw power even when it is not in operation. It is recommended that the yellow power cable wire be fitted with an optional on/off switch, allowing the BSM-1 to be powered off when not in use. (except GB40 / 8000i direct network connection – no Ethernet Linker).



It is recommended that the BSM-1 power cable be connected to a separate power source other than the one starting the engine. Doing so will prevent voltage drop. Voltage drop will not harm the module, but it can cause the BSM-1 to reset. If the BSM-1 resets, some information could be lost and it may change the operation mode of the unit.

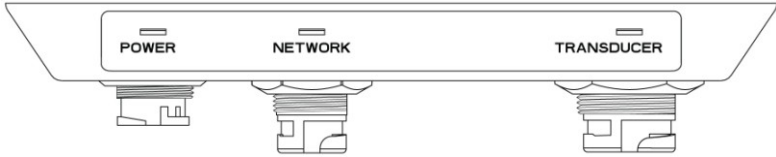


This system is not intended for use on a "positive" ground vessel.

The BSM-1 contains high voltages and specialized parts; the operator should never remove the module's cover or attempt to service the device.

BSM-1 Indicator lights

The Power, Network and Transducer status lights are located on top of the module.



| LED | Color | Code 1 | Code 2 | Code 3 |
|------------|-----------|---------------------------|--|-------------------------------------|
| Power | red/green | solid green - all okay | solid red - system starting | blinking red - internal error |
| Network | green | traffic indicator | n/a | n/a |
| Transducer | green | solid green - all okay | blinking green - searching for signal | n/a |

4 Parts List

Ethernet cables RJ45 type

| Part no | Description |
|----------|----------------|
| AA010079 | 0.5 m (1.6 ft) |
| AA010080 | 2 m (6.5 ft) |
| AA010081 | 5 m (16.4 ft) |
| AA010082 | 10 m (32.8 ft) |

Transducer options

Below is a list of standard transducers. Consult your dealer for more information.

| Part no | Description |
|---------------|---|
| 000-0136-02 | P319 Low Profile Thru Hull 50/200Khz Depth/Temp w 45/12° Beamwidths. 12 m (39.4 ft) cable |
| 000-0136-03 | P79 Plastic In-Hull 50/200Khz Depth Only w 45/12° Beamwidths. 12 m (39.4 ft) cable |
| 000-00021-001 | B60 Bronze Thru Hull 50/200Khz Depth/Temp w 45/12° Beamwidths and 20° tilt. 12 m (39.4 ft) cable |
| 000-0136-04 | B60 Bronze Thru Hull 50/200Khz Depth/Temp w 45/12° Beamwidths and 12° tilt. 12 m (39.4 ft) cable |
| 000-0136-05 | B744V Bronze Thru Hull 50/200Khz Depth/Temp/Speed w 45/12° Beamwidths and high Speed Fairing Block. 12 m (39.4 ft) cable |
| 000-0136-06 | B164 Bronze Low Profile Thru Hull 1kW 50/200Khz Depth/Temp w 22/20° 6/6° Array Beamwidths and 12° tilt. 12 m (39.4 ft) cable |
| 00-0136-000 | B258 Bronze Thru Hull 50/200Khz Depth/Temp w 15/21° 3/5° Array Beamwidths and High Speed Fairing Block. 12 m (39.4 ft) cable |

| Part no | Description |
|---------------|---|
| 000-0106-82 | B260 Bronze Thru Hull 50/200Khz Depth/Temp w 19/6° Beamwidths and High Speed Fairing Block. 12 m (39.4 ft) cable |
| 000-0106-91 | M260 Plastic In-Hull 50/200Khz Depth Only Tank Kit w 19/6° Beamwidths. 12 m (39.4 ft) cable |
| 000-0106-77 | XDCR ASY HST-DF SBL. 7 m (23 ft) cable |
| 000-10116-001 | TM260 Plastic Transom Mount 50/200Khz Depth/Temp with 19/6° Beamwidths and Kickup Bracket. 10 m (32.8 ft) cable |

Optional parts

| Part no | Description |
|---------------|---|
| AA010009 | Navico 8 port Ethernet Linker (RJ45 type) |
| 000-0132-031 | Navico NEP-1 4 port Ethernet Linker (HDS type - orange connector) |
| 000-00022-001 | Transducer adapter cable - 6 Pin LTW to 7 Pin BLUE 0.6 m (2 ft) |
| 000-10046-001 | Transducer adapter cable, 7 Pin BLUE with free ends 0.6 m (2 ft) |

Spare parts for service

| Part no | Description |
|---------------|----------------------|
| 151-10016-001 | Module for BSM-1 box |



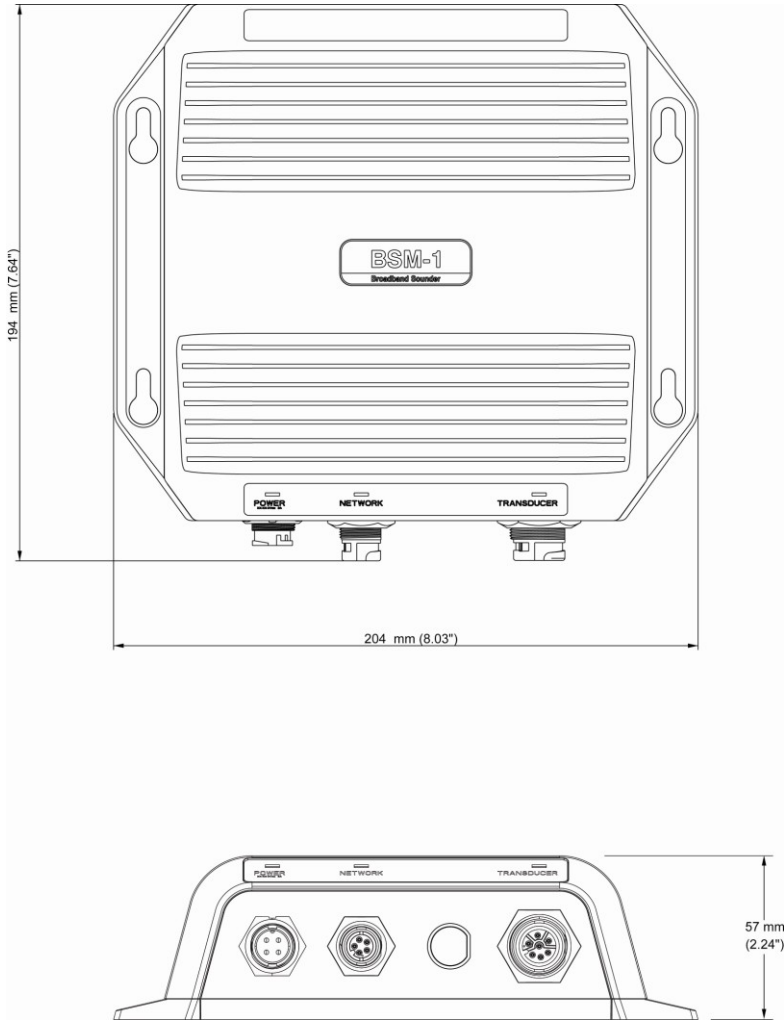
Special Notes:

1. Cable 000-00022-001 potentially allows use of an existing Airmar transducer already installed in your boat. For NSE displays both depth and temp can be used. Select your transducer with a 10K value in the installation page of your NSE for proper reading. GB40 and 8000i will display improper temperature until your transducer is changed to one listed on page 18 with a 5K value.

- 2. Cable 000-10046-001 is simply a stripped wire adapter cable that can be used if you wish to cut the plug off of an existing transducer. We highly recommend a professional electronic technician hired to do this soldering work.*

A list of main transducers that can be accommodated is on our website (www.simrad-yachting.com and www.northstarnav.com).

5 Drawings



6 Specifications

| Electrical | |
|--------------------------|--|
| Voltage input | 12 or 24 V DC (max range 9 V to 32 V DC) |
| Output power | 3,000+ feet at 250 Watts RMS |
| Frequencies | 50 kHz, 83 kHz, 200 kHz |
| Communication | Ethernet 10/100 |
| Module dimensions | |
| Size: | (HWD) 57 X 180 X 203.75 mm (2.24 X 7.09 X 8.02 in.) |
| Weight: | 0.9 Kg (2 lbs) |
| Environmental | |
| Waterproof | IPX-7 |
| Temperature | -15° to 55° C (5° to 131° F) |

