

ES38-7



KONGSBERG

Simrad ES38-7 SPLIT-BEAM TRANSDUCER

The Simrad ES38-7 is a wide-band split-beam transducer designed for fishery and fishery research applications. The beamwidth is 7 degrees at a nominal operational frequency of 38 kHz. The transducer is designed with four separate sectors and includes a sensor to measure the sea temperature.

The transducer is normally mounted flush with the hull plating or the bottom of a blister. It is provided with an installation flange, and by means of a clamping ring, it is secured to a mounting ring welded into the hull plating or the bottom of a blister. The clamping ring is provided with the transducer and already fitted.

The transducer can also be flush mounted at the bottom of a drop keel.

The transducer cable penetrates the hull using a stuffing tube and a cable gland.

Order information

To order the ES38-7 or any of the optional items provided with it, contact your local dealer. If you do not have a regular dealer, a list of all our distributors and dealers can be found on our website. Your dealer will also be able to help you with a detailed quotation including price and delivery information.

Transducer

- Deliverables:
 - 321842 transducer w/20 m cable
 - 479466 transducer w/40 m cable

Included in the delivery:

- Transducer
- Stuffing tube
- Cable gland (washers, rubber gasket and packing nut inserted on the cable)
- Mounting hardware

- Documents

Optional items

These optional items are available for any installation of the transducer and not part of the delivery.

- Mounting ring: 499-074076
- Transducer cable: 382189 (Use this part number for transducer cable if the cable included is too short for your purposes)

KEY FEATURES

- Wide-band split-beam transducer for fishery and fishery research applications
- Nominal frequency is 38 kHz
- Beamwidth is 7 degrees
- Frequency range is 35 to 45 kHz
- Maximum input power is 2000 W
- Physical dimensions:
 - Diameter: 478 mm
 - Height: 145 mm

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Technical specifications

The technical specifications and requirements provided are those valid when operating at the nominal frequency with all sectors excited.

The technical specifications may be changed without prior notice due to continuous improvements.

Performance specifications

- Nominal frequency: 38 kHz
- Frequency range: 35 to 45 kHz

The following specifications are valid for nominal frequency

- Beamwidth: 7°
- Figure of merit: +7.5 dB
- Maximum source level: 230 dB re μPa @ 1 m
- Transmit sensitivity (Su): 184 dB re 1 V per μPa @ 1 m
- Receive sensitivity (Mt): -176 dB re 1 V per μPa @ 1 m
- Sidelobe level: -21 dB
- Back radiation level: -35 dB
- Impedance (each sector): 70 Ω

Power specifications

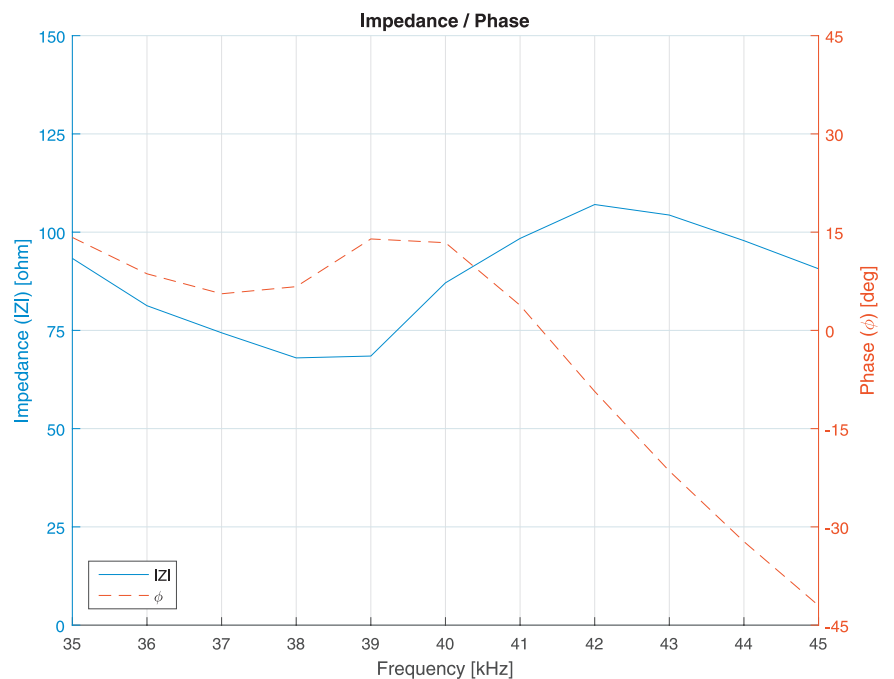
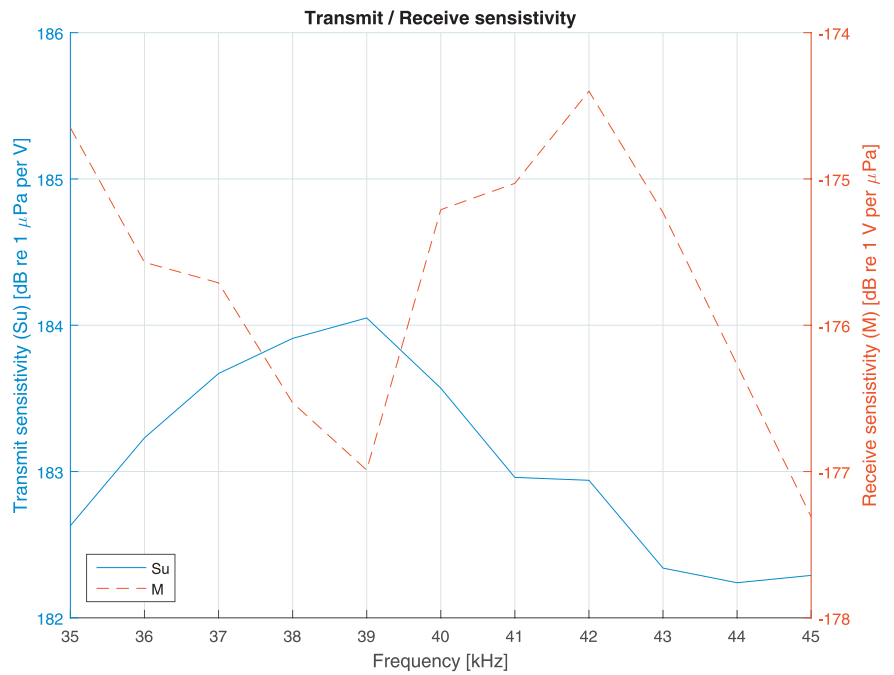
- Max. input power: 2000 W
- Max. pulse length: 16 ms
- Max. duty cycle: 1%

Weight and outline dimensions

- Physical dimensions:
 - Diameter: 478 mm
 - Height: 145 mm (body)
 - Total height: 191 mm
- Weight
 - In air: 68 kg (w/20 m cable)
 - In water: 45 kg (without cable)
- Cable length: 20/40 meters
- Bending radius:
 - Static: 100 mm (theoretical)
 - Dynamic: 180 mm (theoretical)

Environment requirements

- Storage temperature:
 - Max.: +60°C
 - Min.: -20°C
- Operating temperature:
 - Max.: +40°C
 - Min.: -5°C

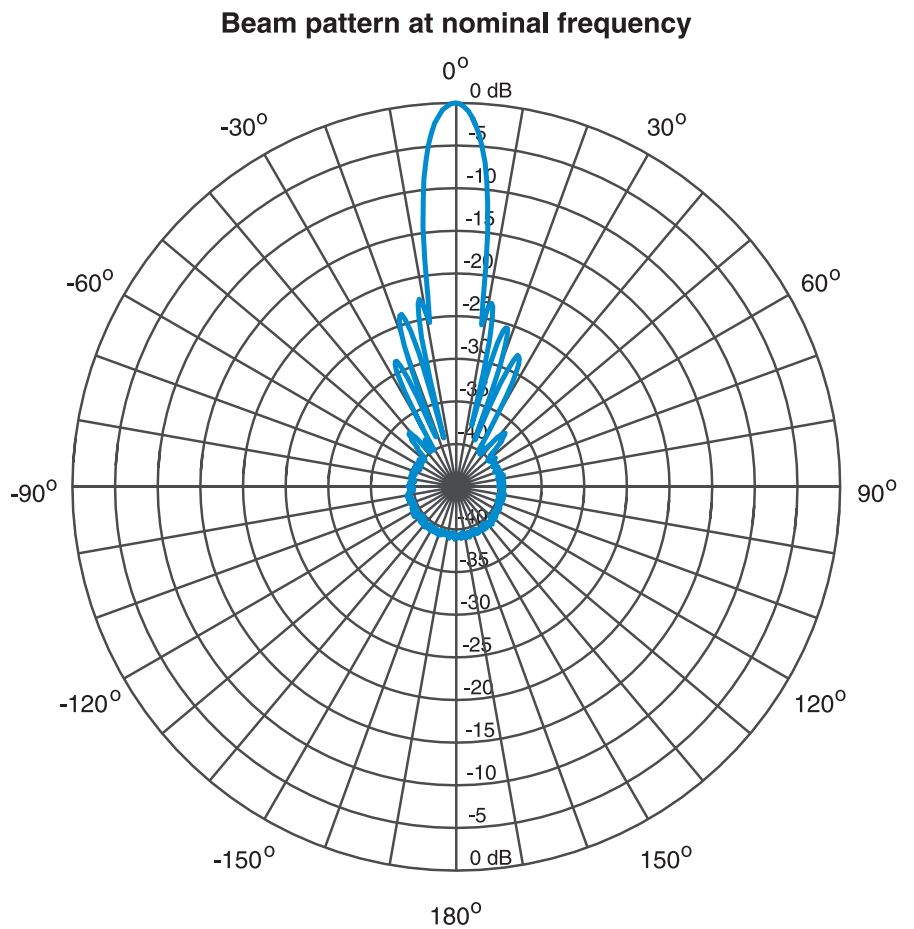
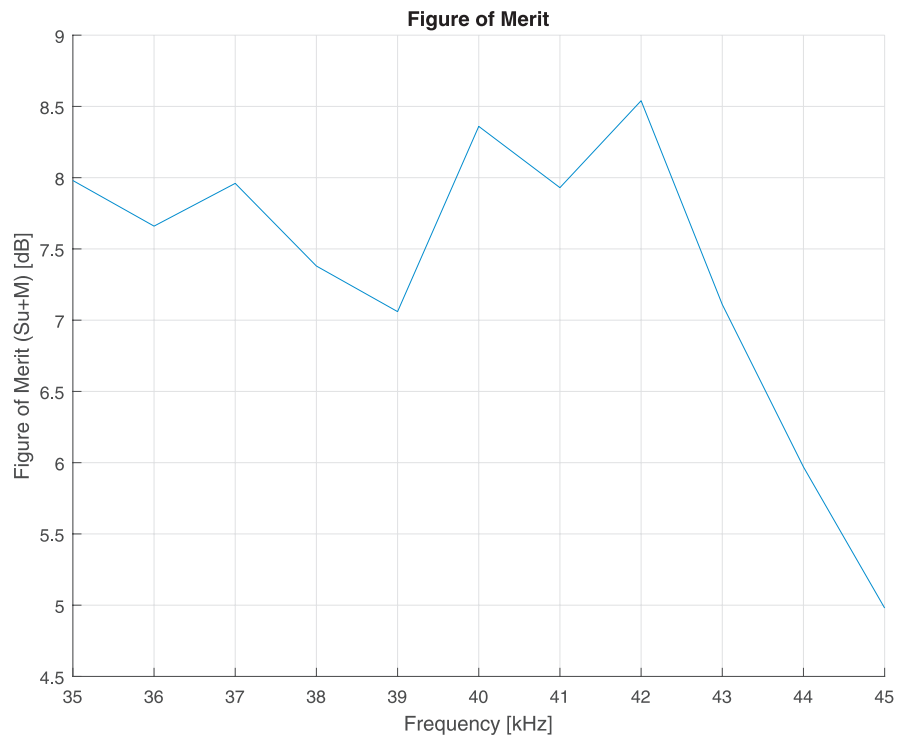


Rules for transducer handling

To secure the long life and accurate results, the transducer must be handled correctly.

A transducer must always be handled as a delicate item. Wrongful actions may damage the transducer beyond repair. Observe these transducer handling rules:

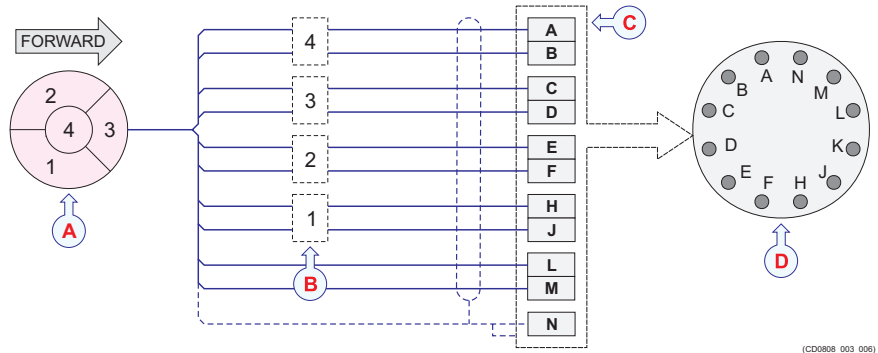
- Do not activate the transducer when it is out of the water.
- Do not handle the transducer roughly, avoid impacts.
- Do not expose the transducer to direct sunlight or excessive heat.
- Do not use high-pressure water, sandblasting, metal tools, or strong solvents to clean the transducer face.
- Do not damage the outer protective skin on the transducer face.
- Do not lift the transducer by the cable.
- Do not step on the transducer cable.
- Do not damage the transducer cable, avoid sharp objects.



Connections to a circular transducer socket

The transducer connects to terminals A through N on a circular 12-pin Amphenol socket (part number 099-133981). This socket is used on the General Purpose Transceiver (GPT), and on some versions of the Wide Band Transceiver (WBT)

- (A) Transducer seen from top - observe the sector locations relative to the forward direction!
- (B) Sectors
- (C) Terminals
- (D) Transducer socket seen from outside



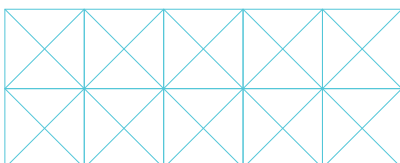
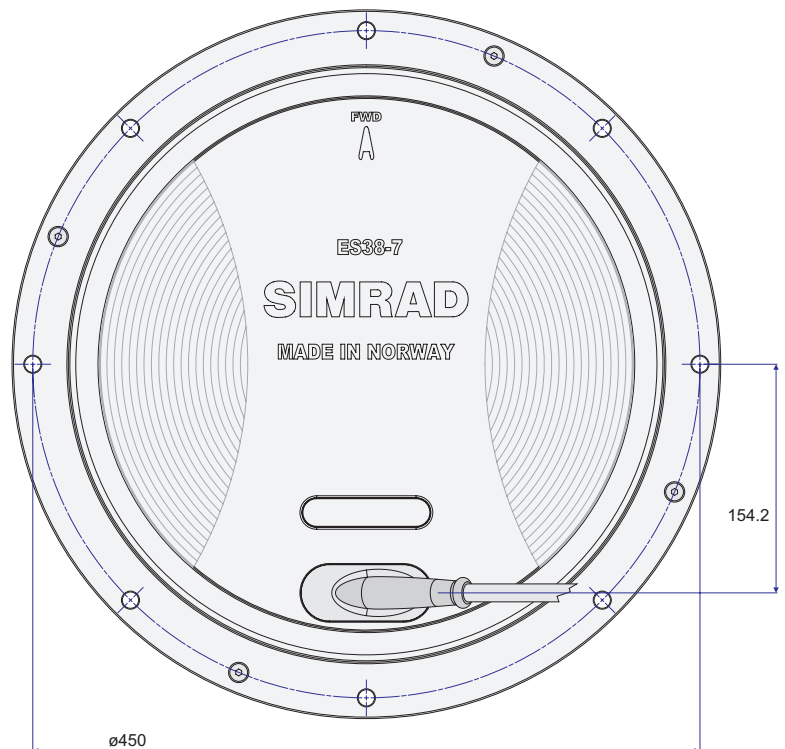
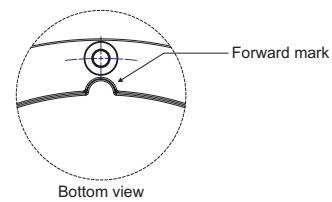
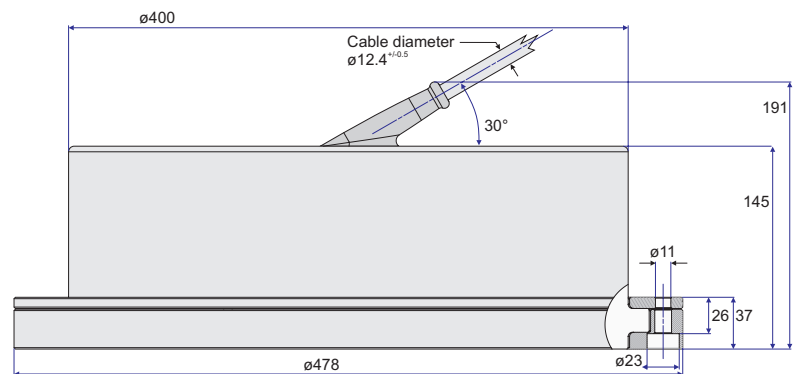
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Connections

- Sector 1
White cable to terminal H
Black cable to terminal J
- Sector 2
Green cable to terminal E
Black cable to terminal F
- Sector 3
Yellow cable to terminal C
Black cable to terminal D
- Sector 4
Blue cable to terminal A
Black cable to terminal B
- Digital output: Red cable to terminal
- Digital ground: Black cable to terminal M
- Cable screen: Screen to terminal N

The cable screen must be connected to the housing on the transducer plug and to terminal N

You must always install the transducer cable in a steel conduit. The black wires in the transducer cable are not for grounding. You must never connect these together, and you must not connect any of them to vessel ground.



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