

ES38-10



KONGSBERG



Simrad ES38-10 SPLIT-BEAM TRANSDUCER

The Simrad ES38-10 is a split-beam transducer of medium size, designed for fishery and fishery research applications. The beamwidth is 10 degrees at a operational frequency of 38 kHz. The transducer is designed with three separate sectors and for transducers manufactured later than 2021 it also includes a sensor to measure 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 ES38-10 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:
 - KSV-202714 transducer w/20 m cable
 - 430162 transducer with 5 m cable and SubConn connector

Included in the delivery

- KSV-202714:
- 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: 499-203336
- Transducer cable: 382189 (Use this part number for transducer cable if the cable included is too short for your purposes)

KEY FEATURES

- Split-beam transducer for fishery and fishery research applications
- Operating frequency is 38 kHz
- Beamwidth is 10 degrees
- Maximum input power is 1500 W
- Physical dimensions:
 - Diameter: 340 mm
 - Height: 150 mm

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Technical specifications

The following specifications are valid when all three sectors are excited.

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

Performance specifications

- Operating frequency: 38 kHz

The following specifications are valid for operational frequency

- Beamwidth: 10°
- Figure of merit: +4 dB
- Maximum source level: 230 dB re μPa @ 1 m
- Transmit sensitivity (S_u): 181 dB μPa per V @ 1 m
- Receive sensitivity (M_t): -177 dB re 1 V per μPa @ 1 m
- Sidelobe level: -23 dB
- Back radiation level: -30 dB
- Impedance (each sector): 70 Ω

Power specifications

- Max. input power: 1500 W
- Max. pulse length: 16 ms
- Max. duty cycle: 1%

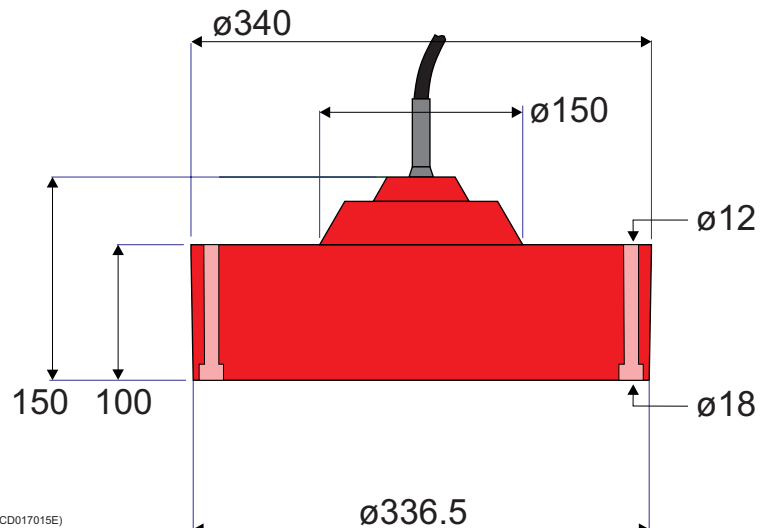
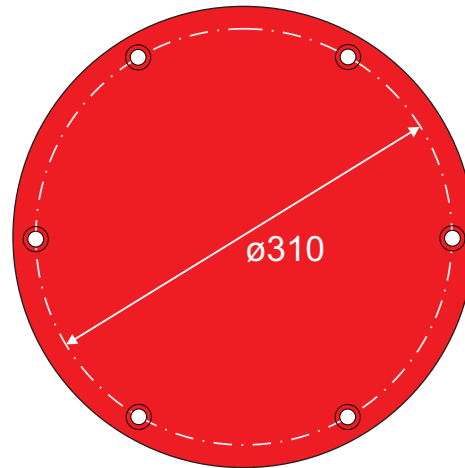
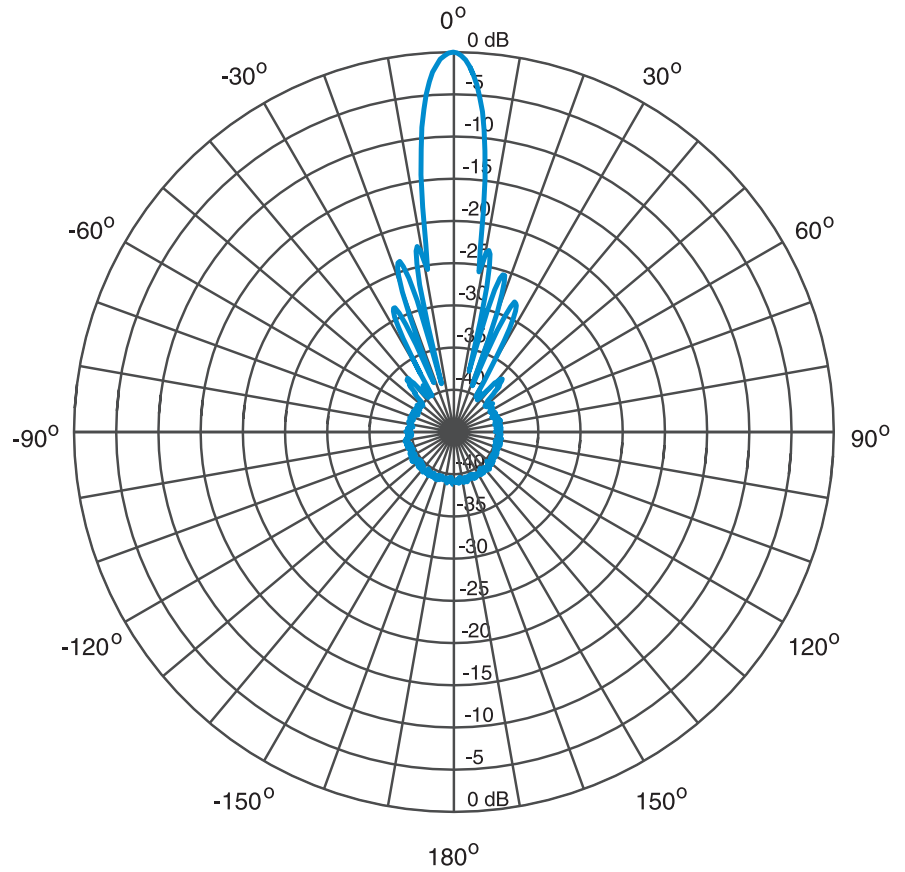
Weight and outline dimensions

- Physical dimensions:
 - Diameter: 340 mm
 - Height: 100 mm (body)
 - Total height: 150 mm
- Weight
 - In air: 18 kg (w/20 m cable)
 - In water: 8.5 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

Beam pattern at nominal frequency

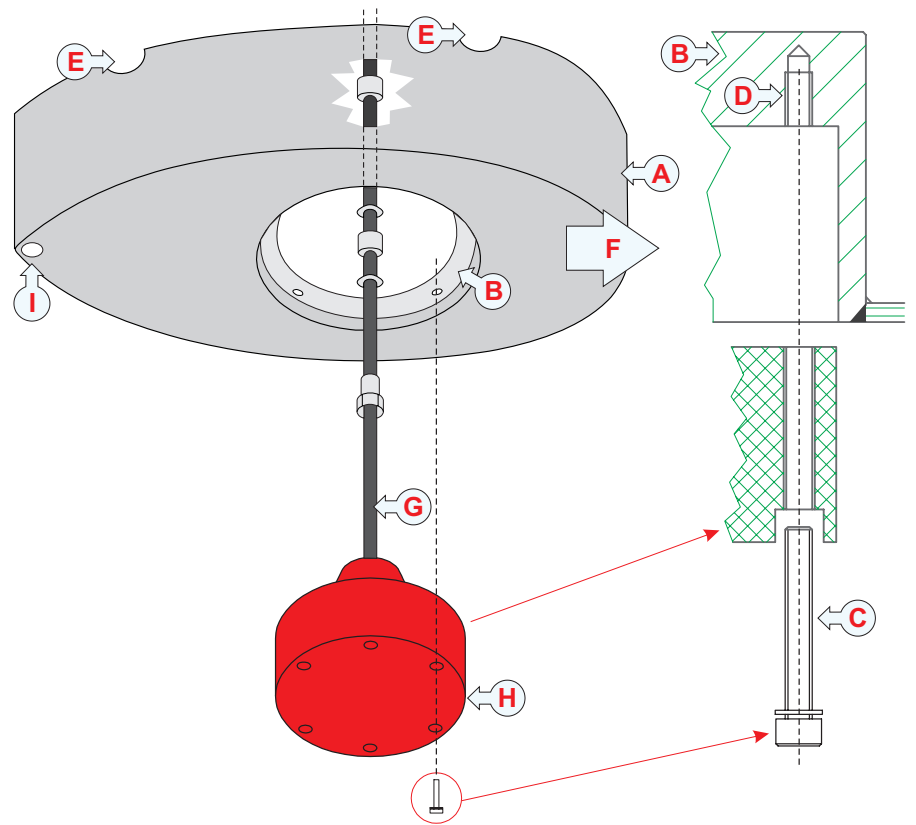


Rules for transducer handling

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.



Installation principles

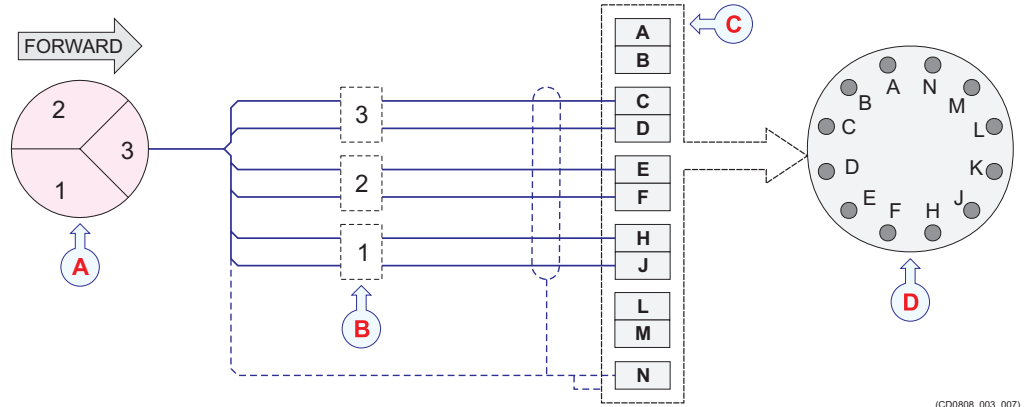
- (A) Steel blister, must be manufactured by the shipyard
- (B) Mounting ring
- (C) Bolt (M10x100, maximum torque 31 Nm)
- (D) Self-locking threads
- (E) Air outlet
- (F) Forward
- (G) Transducer cable
- (H) Observe the marking on the transducer that identifies “forward”
- (I) Water drainage

For more information regarding installation, refer to the ES38-10 Installation manual

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
- Digital output: Red cable to terminal
- Digital ground: Black cable to terminal M
- Cable screen: Screen to terminal N and plug housing

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

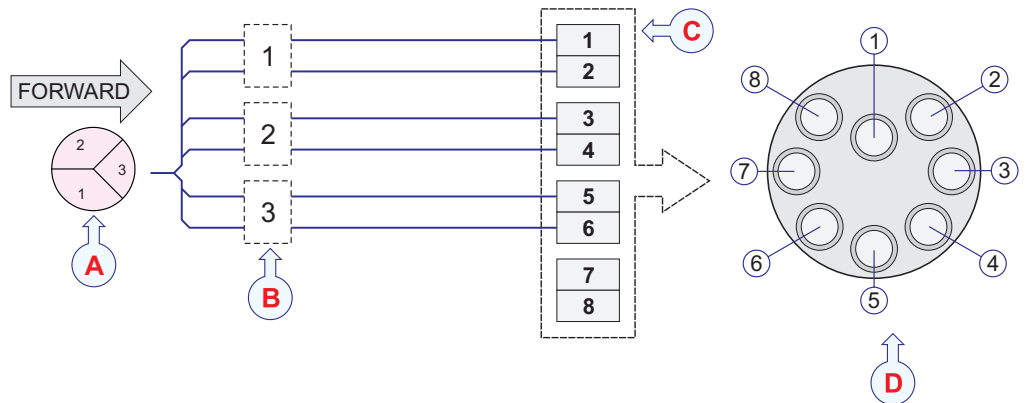


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Connections to a circular transducer socket

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

The transducer connects to terminals 1 through 8 on a circular 8-pin SubConn socket. This socket is used for the General Purpose Transceiver (GPT), and for 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

