

ES333-7C



KONGSBERG

Simrad ES333-7C SPLIT-BEAM TRANSDUCER

The Simrad ES333-7C is a wide-band split-beam transducer designed for fishery and research applications. The beamwidth is 7 degrees at a nominal operational frequency of 333 kHz. The transducer is designed having four separate sectors and transducers manufactured in 2021 and onwards include 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 using a clamping ring, it is secured to a mounting ring welded into the hull plating or the bottom of a blister. 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 ES333-7C 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. The transducer is available with two different transducer cables.

Transducer

- Order number:
322598 transducer with a 20 m open ended cable
428876 transducer with a 5 m cable fitted with a SubConn MCIL8M

Included in all deliveries:

- Mounting hardware
- Documents

The shipment includes

- Stuffing tube
- Cable gland (washers, rubber

gasket and packing nut inserted on the cable)

Optional items

Order these optional items from Kongsberg Maritime, or manufacture them yourself. These items are not part of the standard delivery.

- ES7-200879 Clamping ring
- ES7-204464 Mounting ring
- 382189 Transducer cable

KEY FEATURES

- Wide-band split-beam transducer for fishery and research applications
- Nominal frequency is 333 kHz
- Frequency range: 280-450 kHz
- Beamwidth is 7°
- Maximum input power is 200 W
- Physical dimensions:
Diameter: 120 mm
Height: 75 mm

SIMRAD
By KONGSBERG

Technical specifications

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

Kongsberg Maritime is continuously working to improve the quality and performance of our products. The technical specifications may be changed without prior notice and the specifications refer to typical figures for the product.

Performance specifications

- Nominal frequency: 333 kHz
- Frequency range: 280-450 kHz
- Beamwidth: 7°
- Figure of merit: -11 dB
- Max. source level: 220 dB re μPa per V @ 1 m
- Transmit sensitivity (Su): 183 dB re μPa per V @ 1 m
- Receive sensitivity (Mt): -194 dB re 1 V per μPa @ 1 m
- Sidelobe level: -21 dB
- Back radiation level: -40 dB
- Impedance (each sector): 75 Ω

Power specifications

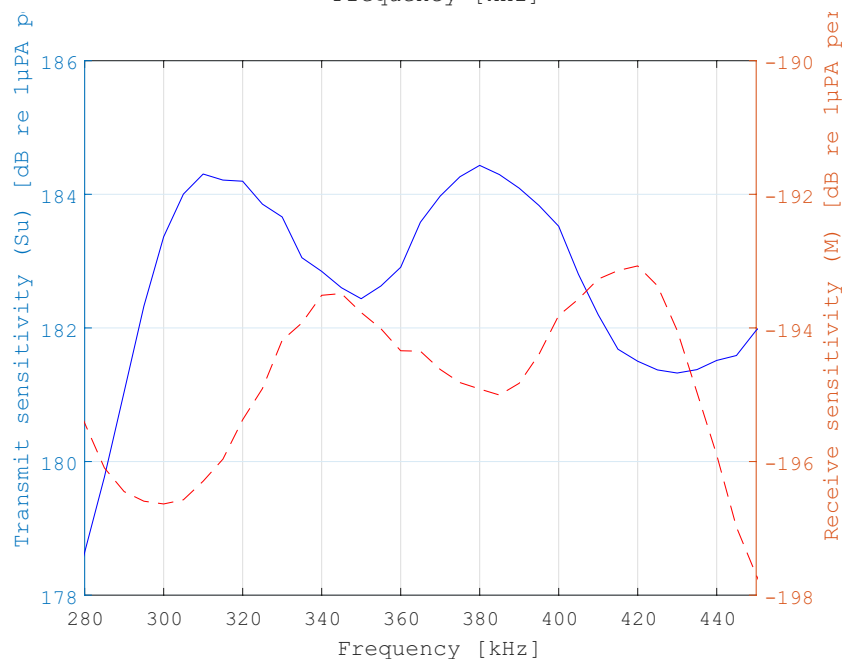
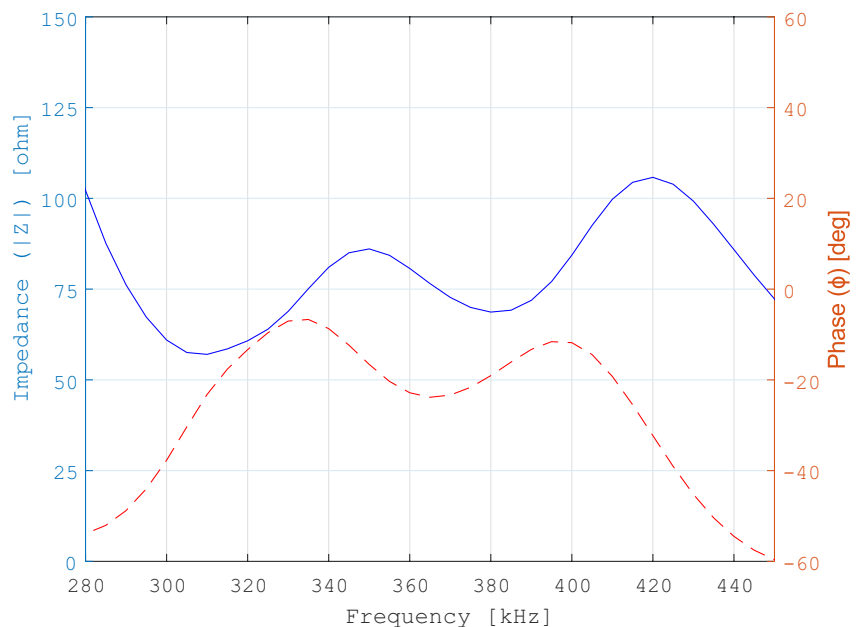
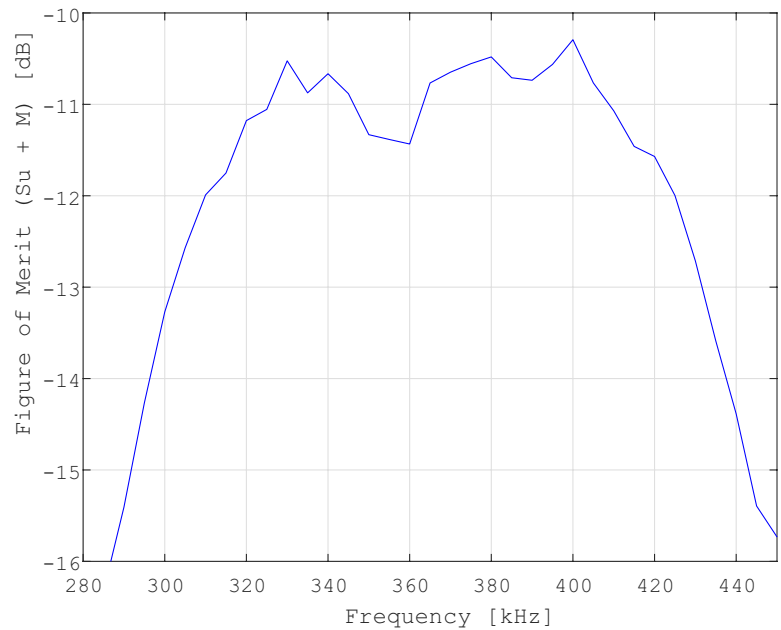
- Max. input power: 200 W
- Max. pulse length: 16 ms
- Max. duty cycle: 1 %

Weight and outline dimensions

- Physical dimensions:
 - Diameter: 120 mm
 - Height: 75 mm (body)
 - Total height: 155 mm
- Weight
 - In air: 5,0 kg (incl. 20 m cable)
 - In air: 2,3 kg (incl. 5 m cable with SubConn)
 - In water: 1,0 kg (ex. cable)
- Cable length:
 - 20 m and open-end termination
 - 5 m and SubConn connector
- Cable diameter: 12.4 mm / 9 mm
- Bending radius:
 - Static: 100 mm (theoretical)
 - Dynamic: 185 mm (theoretical)

Environment requirements

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

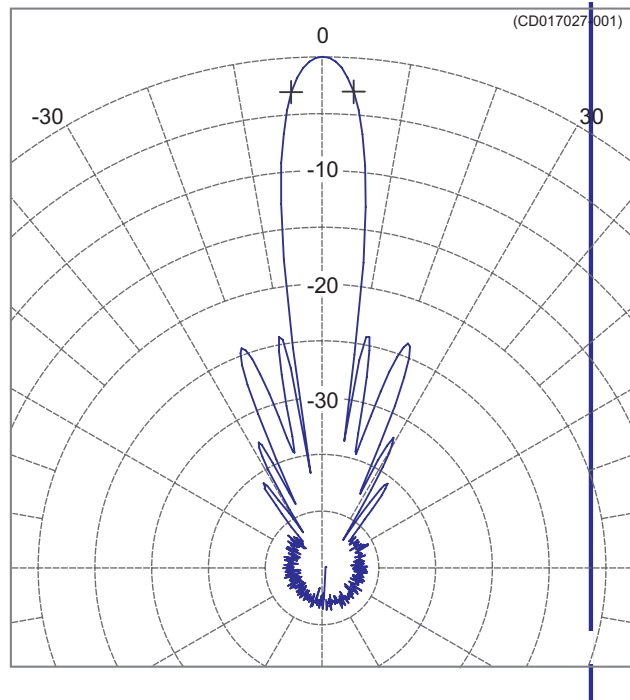


Rules for transducer handling

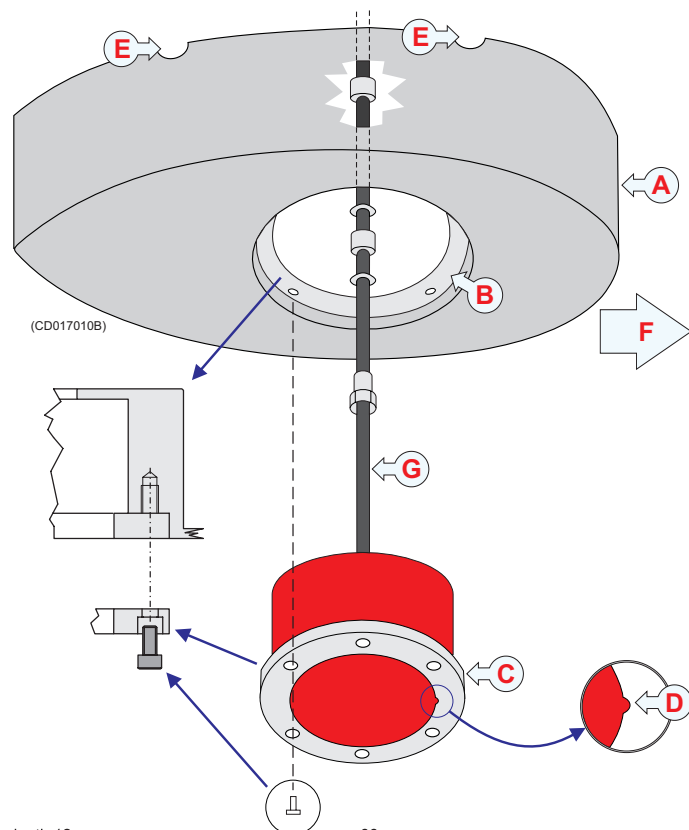
To secure the long life and accurate results, the transducer must be handled correctly.

A transducer must always be handled like 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.



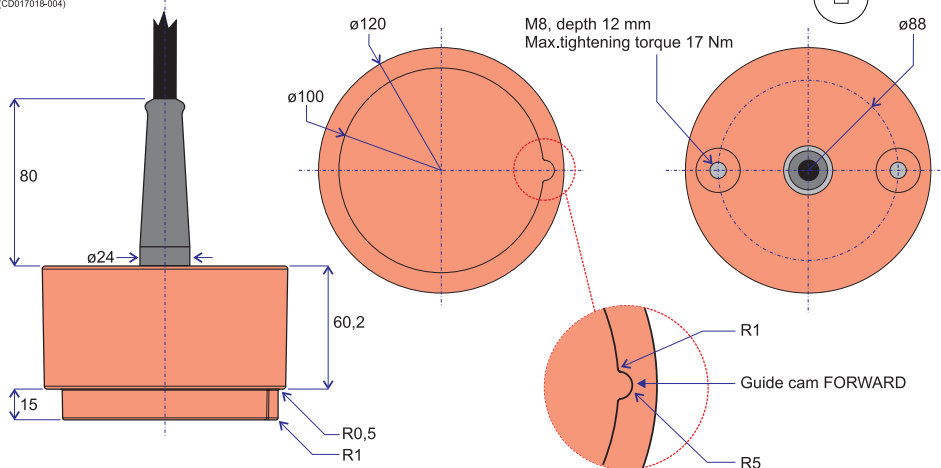
Beam pattern



Installation principle

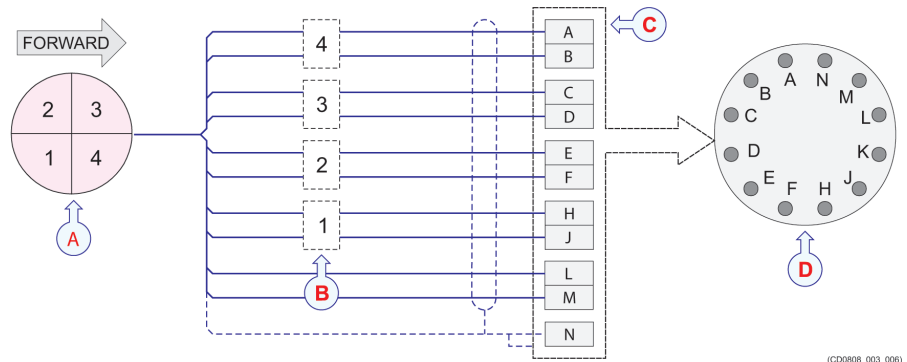
- (A) Steel blister, must be manufactured by the shipyard
- (B) Mounting ring, can be supplied by Kongsberg Maritime
- (C) Clamping ring, can be supplied by Kongsberg Maritime
- (D) Guide to indicate "Forward"
- (E) Air outlet
- (F) Forward
- (G) Transducer cable

(CD017016-004)



Connections

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

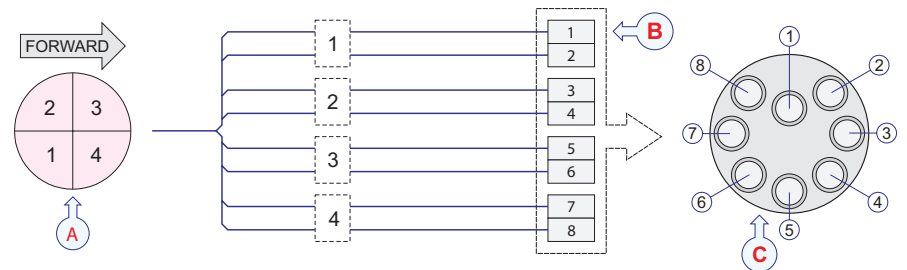


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Connections to Amphenol (WBT/GPT) socket

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



(CD0808_003_006)

Connections to MacArtney SubConn socket

The transducer connects to terminals 1 through 8 on a circular 8-pin Sub Conn socket. This socket is used for some versions of the WideBand Transceivers (WBT), WBT Mini and WBT Tube.

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

Split-beam transducer to single-beam output

A split-beam transducer can be connected to sockets A&B, C&D; E&F or J&H to enable the transducer to be used as a single-beam transducer.

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

