

ES70-7C



KONGSBERG



Simrad ES70-7C SPLIT-BEAM TRANSDUCER

The Simrad ES70-7C 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 70 kHz. The transducer is designed having 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 ES70-7C 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:
KSV-203678 transducer with a 20 m open ended cable
428874 transducer with a 5 m cable fitted with a SubConn MCIL8M

Included in all deliveries:

- Mounting hardware
- Documents

Included in with KSV-203678

- 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.

- ES7-203679 Clamping ring
- ES7-203680 Mounting ring
- 382189 Transducer cable

KEY FEATURES

- Wide-band split-beam transducer for fishery and fishery research applications
- Nominal frequency is 70 kHz
- Frequency range: 45 to 95 kHz
- Beamwidth is 7 degrees
- Maximum input power is 1000 W
- Physical dimensions:
Diameter: 250 mm
Height: 86 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 simultaneously.

Kongsberg Maritime are continuously working to improve the quality and performance of our products. The technical specifications may be changed without prior notice.

Performance specifications

- Nominal frequency: 70 kHz
- Frequency range: 45 to 95 kHz
- Beamwidth: 7°
- Figure of merit: +5 dB
- Max. source level: 227 dB re μPa per V @ 1 m
- Transmit sensitivity (S_u): 185 dB re μPa per V @ 1 m
- Receive sensitivity (M_t): -180 dB re 1 V per μPa @ 1 m
- Sidelobe level: -21 dB
- Back radiation level: -40 dB
- Impedance (each sector): 78 Ω

Power specifications

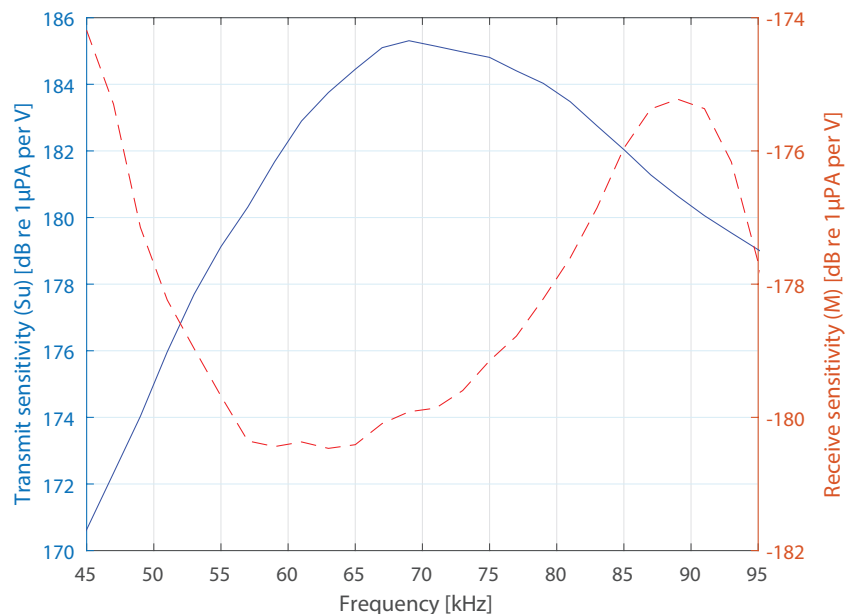
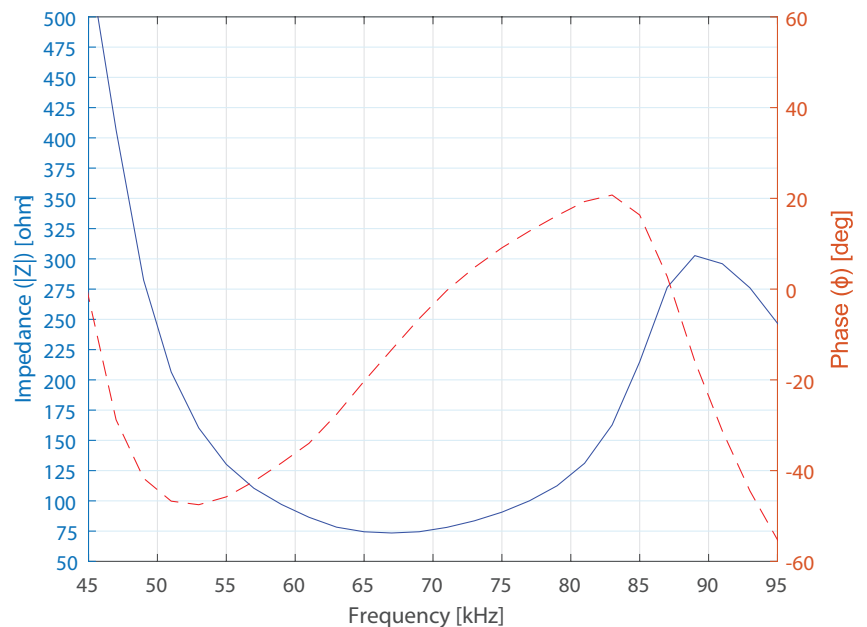
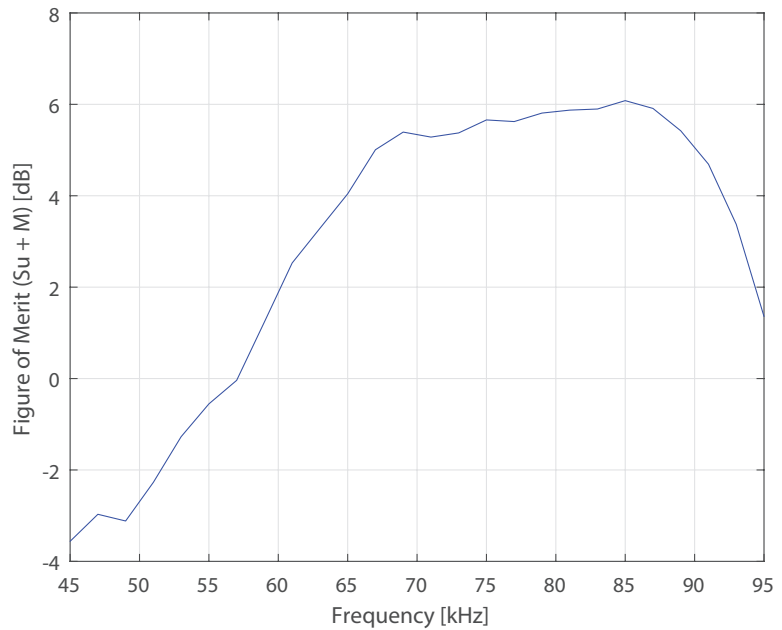
- Max. input power: 1000 W
- Max. pulse length: 16 ms
- Max. duty cycle: 1 %

Weight and outline dimensions

- Physical dimensions:
 - Diameter: 280 mm
 - Height: 85 mm (body)
 - Total height: 165 mm
- Weight
 - In air: 9,4 kg (including cable 20 m cable)
 - In air: 6,5 kg (including 5 m cable SubConn)
 - In water: 1,3 kg (without cable)
- Cable length:
 - 20 meters with open ended cable
 - 5 meters with SubConn connector cable
- Cable diameter: 12.4±0.5 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

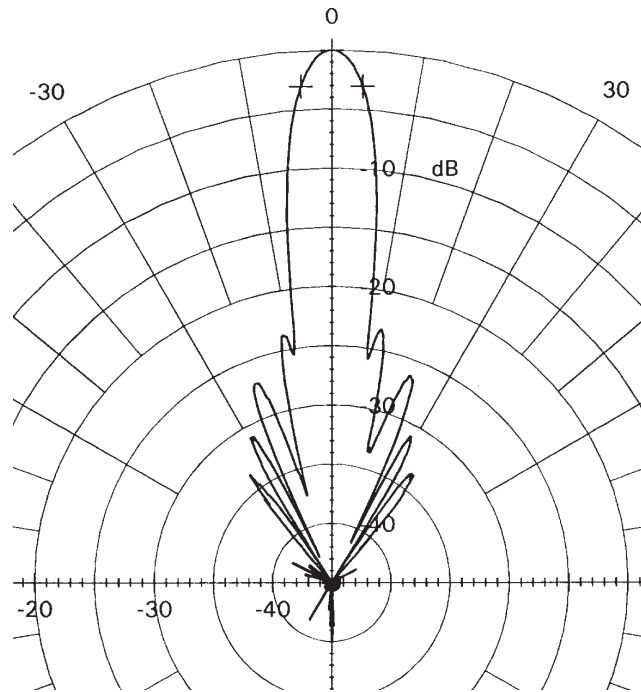


Rules for transducer handling

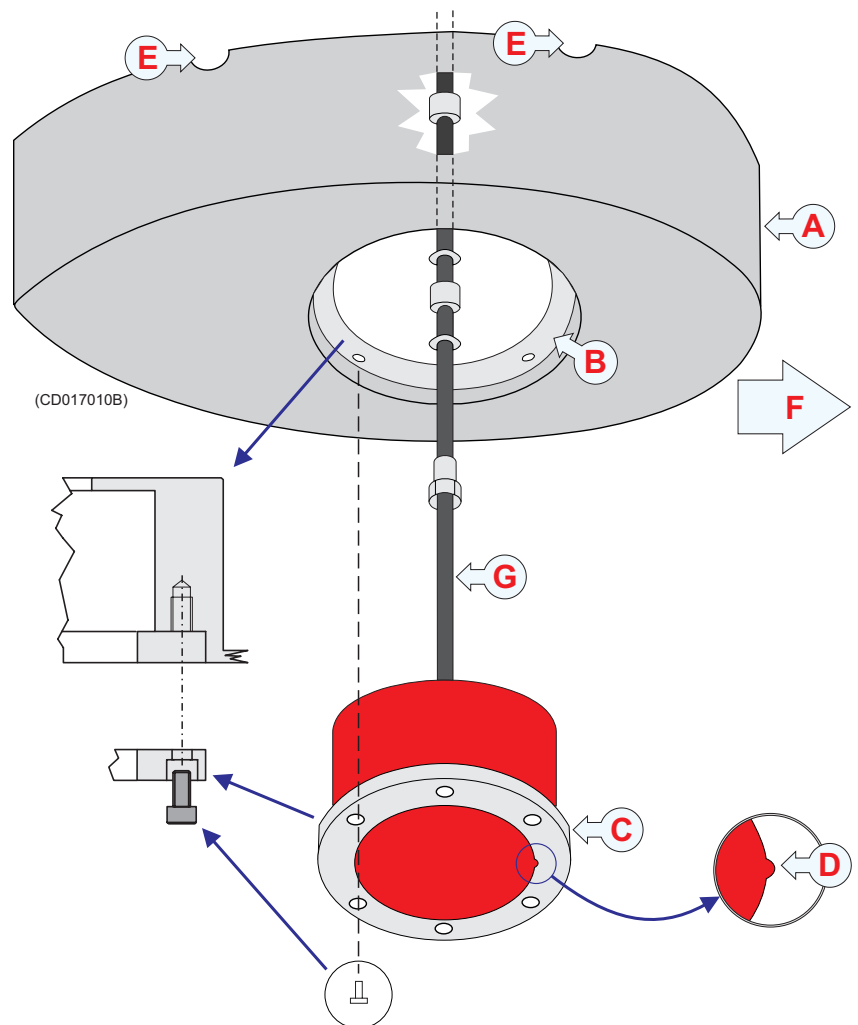
To secure the long life and accurate results, the transducer must be handled correctly.

A transducer must always be handled 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.



Beam pattern



Installation principle

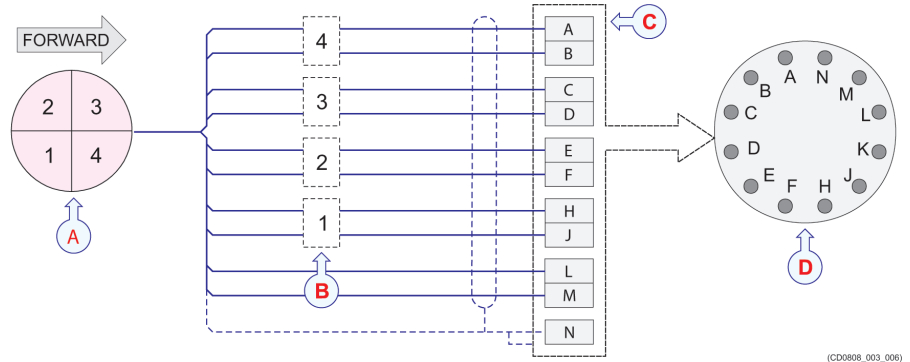
- (A) Steel blister, must be manufactured by the shipyard
- (B) Mounting ring, can be supplied by Kongsberg Maritime
- (C) Clamping ring, can be supplied by

Kongsberg Maritime

- (D) Guide to indicate "Forward"
- (E) Air outlet
- (F) Forward
- (G) Transducer cable

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 screen to terminal N and plug housing

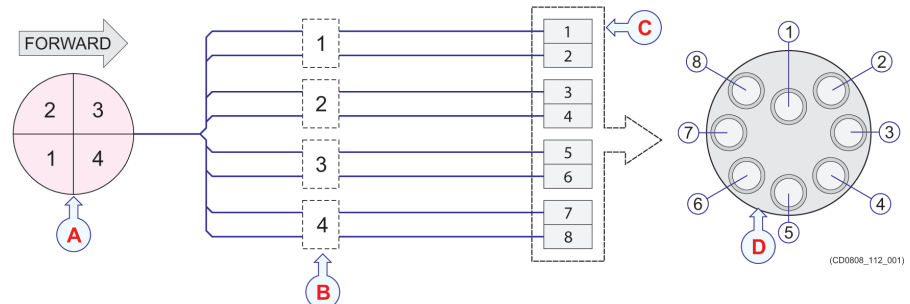


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Connections to a circular transducer socket

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

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

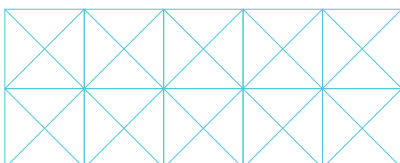
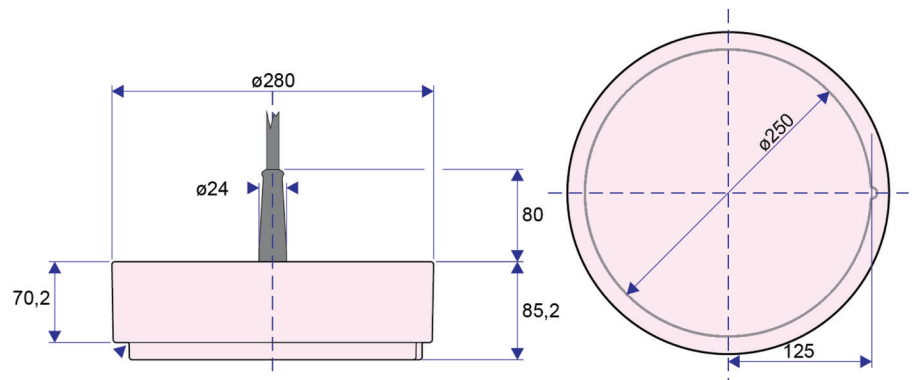


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Connections to a circular transducer socket

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).

- (A) Transducer socket seen from outside
- (B) Junction box
- (C) Terminals
- (D) Transducer socket seen from outside



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