ES38-10

KONGSBERG



Split-beam transducer

ES38-10

The ES38-10 is a wide-band split-beam transducer designed for fishery and fishery research applications. It features a 10° beamwidth at a nominal frequency of 38 kHz and consists of three separate sectors. A built-in sensor measures sea temperature.

The transducer is typically mounted flush with the hull plating or the bottom of a blister. It includes an installation flange and is secured using a clamping ring to a mounting ring welded into the hull or blister. It can also be flush-mounted at the bottom of a drop keel. The cable penetrates the hull via a stuffing tube and cable gland.

Order information

To order the ES38-10 transducer contact your local dealer or visit: www.kongsberg.com/discovery/ocean-science/ocean-science-transducers/es38-10/

Deliverables

- KSV-202714 transducer with a 20 m cable
- 430162 transducer with a 5 m cable and SubConn connector

Optional items

- 499-203336 Mounting ring
- 382189 Transducer cable (only if extension is needed)

KEY FEATURES

- Wide-band split-beam transducer for fishery and fishery research applications
- Nominal frequency: 38 kHz
- Frequency range: 34 to 45 kHz
- Beamwidth: 10°
- Maximum transmit power: 1500 W
- Physical dimensions:
  Diameter: 340 mm
  Height: 150 mm
- Depth rating: 20 m

Performance specifications

Nominal frequency: 38 kHz
Frequency range: 34-45 kHz
Beamwidth: 10°
Figure of merit: +4 dB
Max. source level (1500 W): 226 dB re µPa @ 1 m
Transmit sensitivity (Sw): 194 dB re µPa per W @ 1 m
Transmit sensitivity (Su): 181 dB re µPa per V @ 1 m
Receive sensitivity (Mt): -177 dB re 1 V per µPa
Sidelobe level: -20 dB
Back radiation level: -25 dB
Nominal impedance (per sector): 70 Ω

Power specifications

Max. transmit power: 1500 W (actual limit may vary due to non-linear effects in some applications)
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

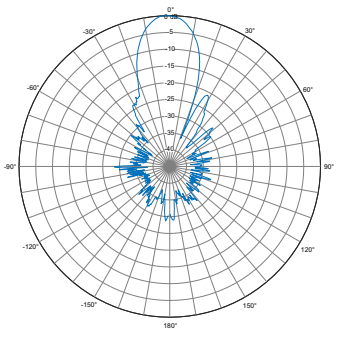
Physical specifications for open-ended cable:
Cable length: 20 meters
Weight in air: 21 kg (20 m cable)
Weight in air: 18 kg (ex. cable)
Weight in water: 8.5 kg (ex. cable)
Cable diameter: 12.4 ± 0.5 mm
Bending radius - Static: 100 mm (theoretical)
Bending radius - Dynamic: 150 mm (theoretical)

Physical specifications for SubConn cable:
Cable length: 5 meters
Weight in air: 19 kg (5 m SubConn cable)
Cable diameter: 10.4 ± 0.5 mm
Bending radius - Static: 100 mm
Bending radius - Dynamic: 150 mm

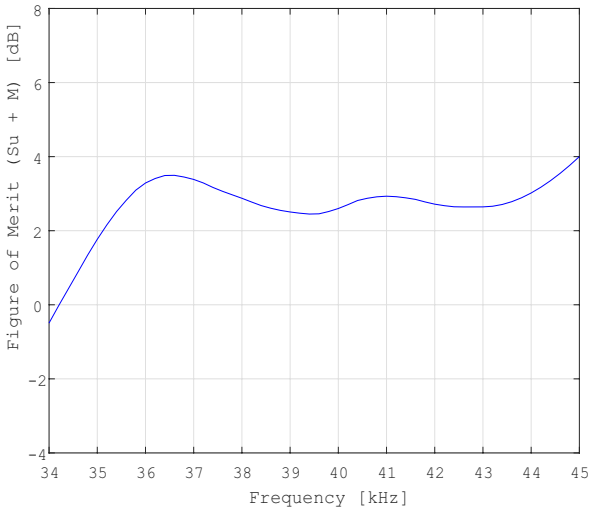
Environment requirements

Storage temperature: -20°C to +60°C
Operating temperature: -5°C to +40°C
Depth rating: 20 meters

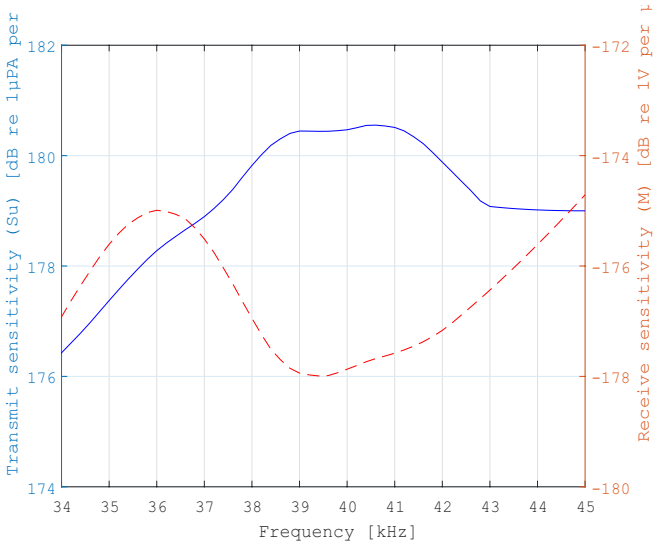
Specifications apply when operating at nominal frequency with all sectors excited simultaneously. Subject to change without notice.



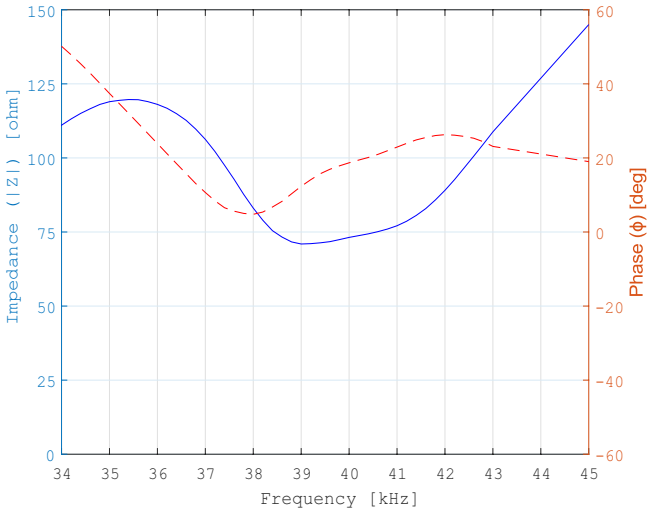
Beam pattern



Typical figure of merit

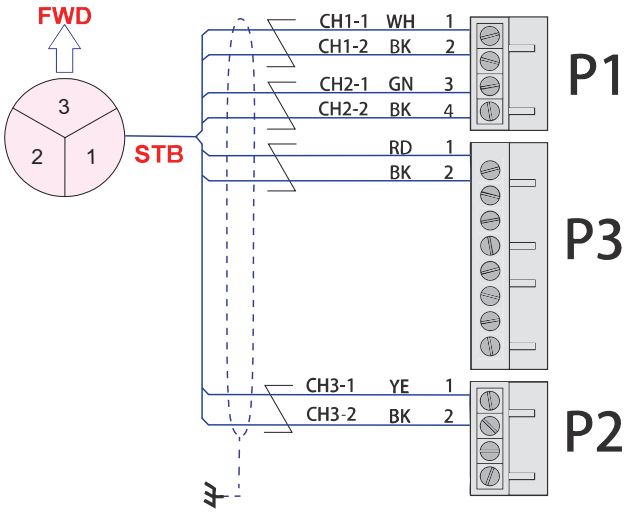


Transmit and receive sensitivity



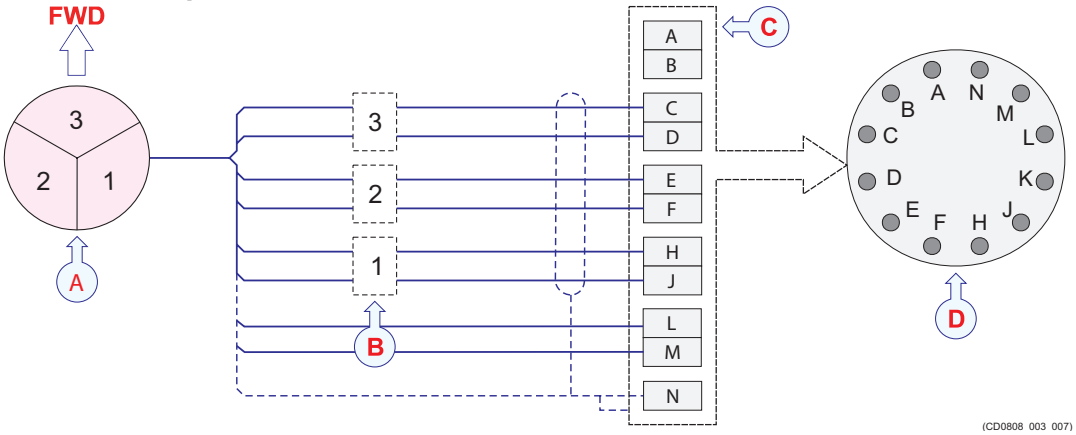
Impedance and phase

Connection to Phoenix connectors



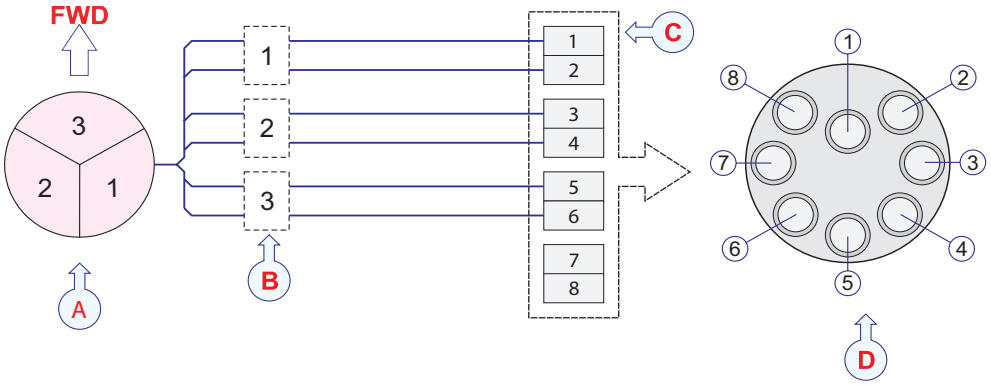
Transducer seen from the above

Connections to Amphenol socket

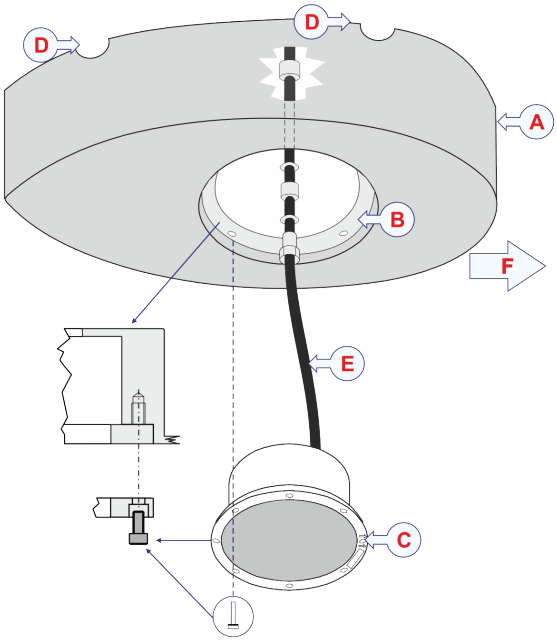


Amphenol Socket (12-pin, part no. 099-133981): Terminals A–N, Sector orientation relative to forward direction illustrated.
(A) Transducer seen from above - observe the sector locations relative to the forward direction!
(B) Sectors
(C) Terminals
(D) Transducer socket seen from the outside

Split-beam transducer with SubCon connector

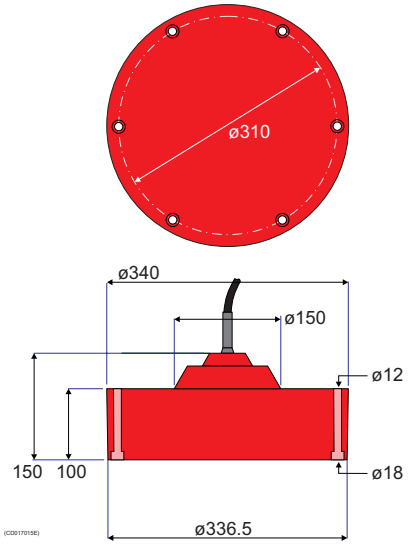


SubConn Socket (8-pin): Terminals 1–8, Sector orientation and face view illustrated.
(A) Transducer seen from above - observe the sector locations relative to the forward direction.
(B) Sectors
(C) Terminals
(D) Face view (male connector)



Installation principles

(A) Steel blister (shipyard manufactured)
(B) Mounting ring (available from Kongsberg Discovery)
(C) Forward direction guide
(D) Air outlet
(E) Transducer cable
(F) Forward



Kongsberg Discovery
P.O. Box 111
N-3183 Horten, Norway
www.kongsberg.com/discovery
Switchboard: +47 815 73 700
Global support 24/7: +47 33 03 24 07
support.science@kd.kongsberg.com
Sales: kd.sales@kd.kongsberg.com

Rules for transducer handling

To ensure long life and accurate performance:

- Activate the transducer only when fully submerged and there is enough water for the acoustic energy to disperse.
- Avoid impacts and rough handling.
- Protect from direct sunlight and excessive heat.
- Do not clean with high-pressure water, metal tools, or strong solvents.
- Avoid damaging the transducer face or cable.
- Never lift by the cable or step on it.