

# Simrad ES38-18/200-18C

## Combi single and split beam transducer

The Simrad ES38-18/200-18C is a two-in-one combi transducer.

The Simrad ES38-18/200-18C contains a 38 kHz split beam transducer as well as a 200 kHz single beam transducer. The beamwidth of both is 18 degrees at their nominal operational frequencies. The split beam transducer is designed with three separate sectors.

The Simrad ES38-18/200-18C is designed for fishery and fishery research applications.

The transducer comes in two versions. One version is provided with a subsea cable, and the cable is terminated with an eight-pin male connector. This version of the transducer is thus especially well suited for use with WBT Mini and EK80 Portable.

The other version of the transducer is provided with an open ended cable.



### Order information

To order the ES38-18/200-18C, 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 with open ended cable

- Order number: 398445

#### In the box

- Transducer with a 20 metre open ended cable
- Documents

#### Transducer with 8-pin male connector

- Order number: 430161

#### In the box

- Transducer with a 5 metre cable and an 8-pin male connector
- Documents

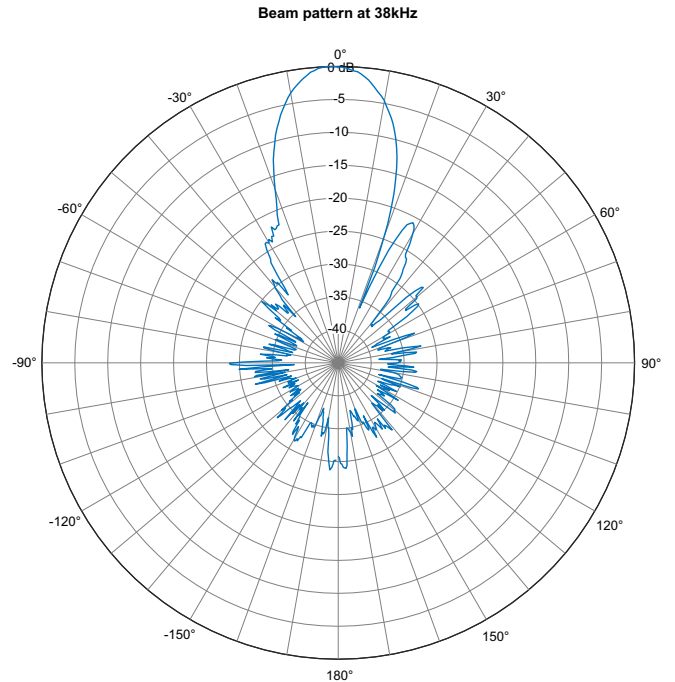
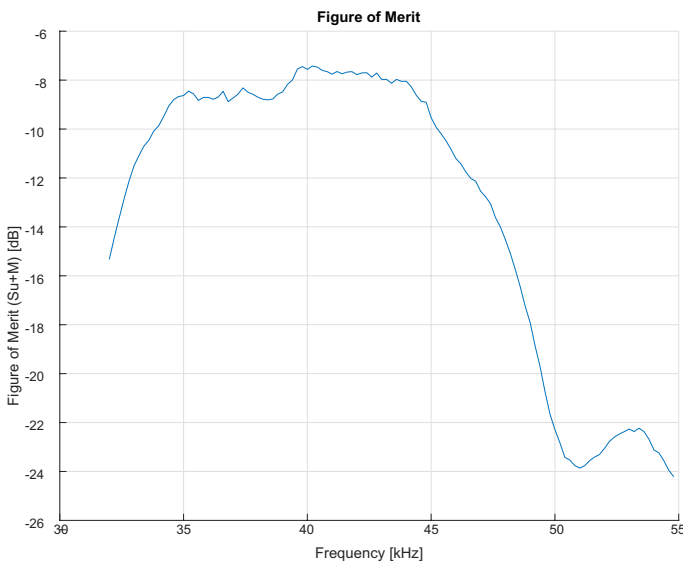
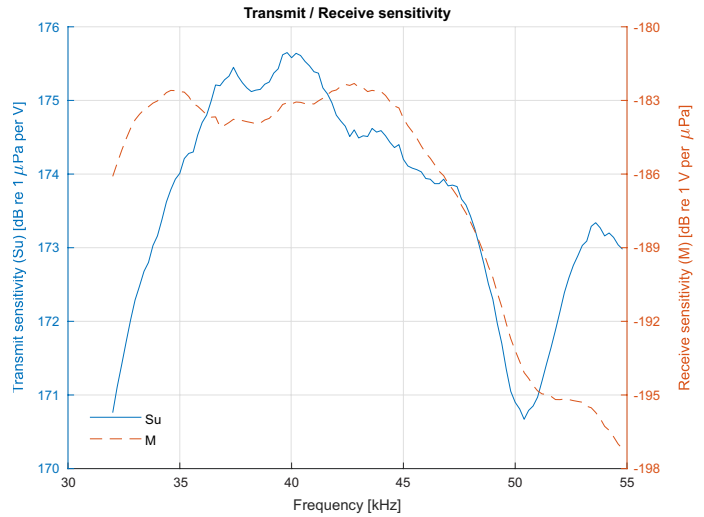
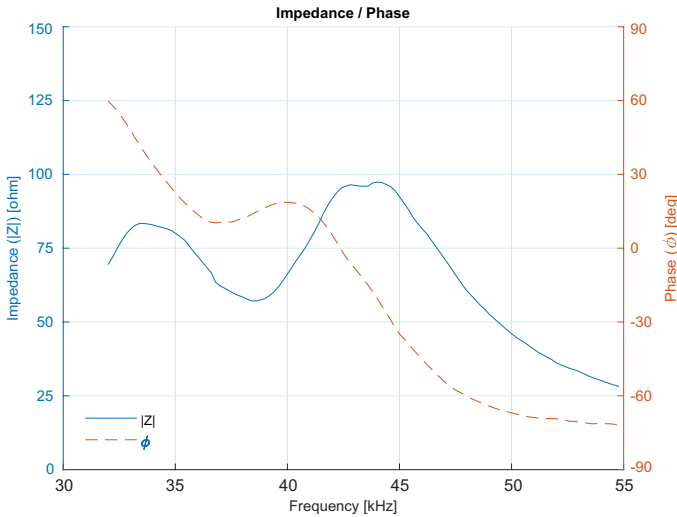
### Rules for transducer handling

To secure 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, sand blasting, 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.

## 38 kHz split beam



### Technical specifications

The technical specifications and requirements provided are design values when operating with all sectors excited simultaneously.

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

### Performance specifications

#### 38 kHz split beam

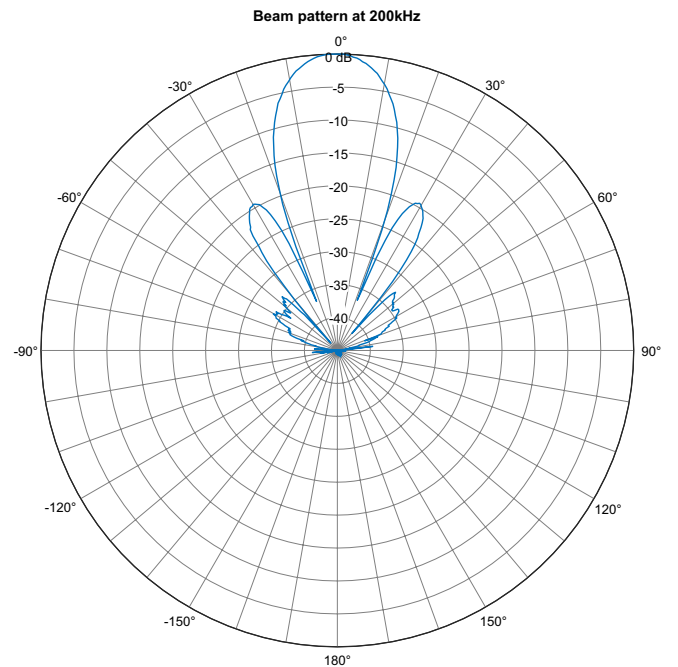
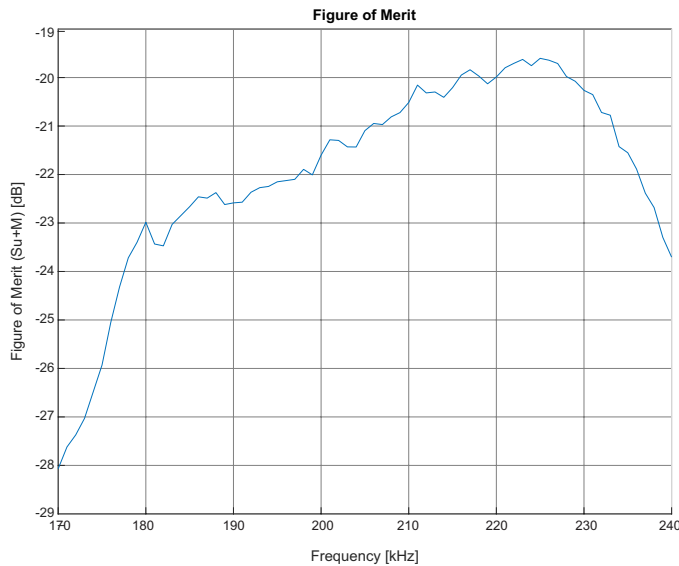
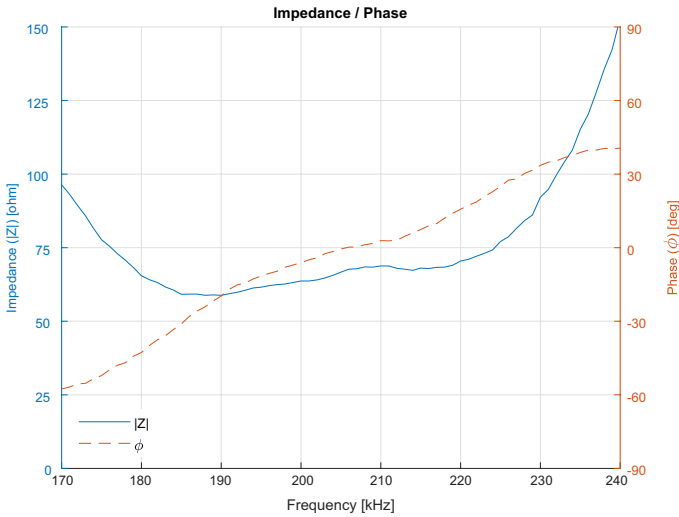
- Nominal frequency: 38 kHz
- Frequency range: 35 to 45 kHz
- Beamwidth: 18 degrees
- Equivalent two-way beam angle:  $10 \log \Psi$ : -12.5 dB
- Figure of merit (Su+Mv): -9 dB
- Maximum source level: 217 dB re  $\mu\text{Pa}$  @ 1 m
- Transmit sensitivity (Su): 176 dB re  $\mu\text{Pa}$  per V @ 1 m
- Receive sensitivity (Mv): -184 dB re 1 V per  $\mu\text{Pa}$  @ 1 m

- Sidelobe level: -18 dB
- Back radiation level: -25 dB
- Impedance (each sector): 70 Ohm

#### Power specifications (maximum)

- Input power @ 38 kHz: 500 W
- Pulse length @ 38 kHz: 16 ms
- Duty cycle: 2 %

## 200 kHz single beam



### Performance specifications

#### 200 kHz single beam

- Nominal frequency: 200 kHz
- Frequency range: 190 to 230 kHz
- Beamwidth: 18 degrees
- Equivalent two-way beam angle:  $10 \log \Psi$ : -12.6 dB
- Figure of merit(Su+Mv): -22 dB
- Max. source level: 214 dB re  $\mu\text{Pa}$  @ 1 m
- Transmit sensitivity (Su): 170 dB re  $\mu\text{Pa}$  per V @ 1 m
- Receive sensitivity (Mv): -193 dB re 1 V per  $\mu\text{Pa}$  @ 1 m
- Sidelobe level: -18 dB
- Back radiation level: -30 dB
- Impedance (each sector): 70 Ohms

#### Power specifications (maximum)

- Input power @ 200 kHz: 250 W
- Pulse length @ 200 kHz: 4 ms
- Duty cycle: 2 %

#### Weight and outline dimensions

- Physical dimensions:
  - Length: 416 mm
  - Width: 172 mm
  - Height: 94 mm
- Weight in air: 7.3 kg
- Weight in water: 2.3 kg
- Cable length with open-ended cable: 20 m
- Cable length with connector: 5 m

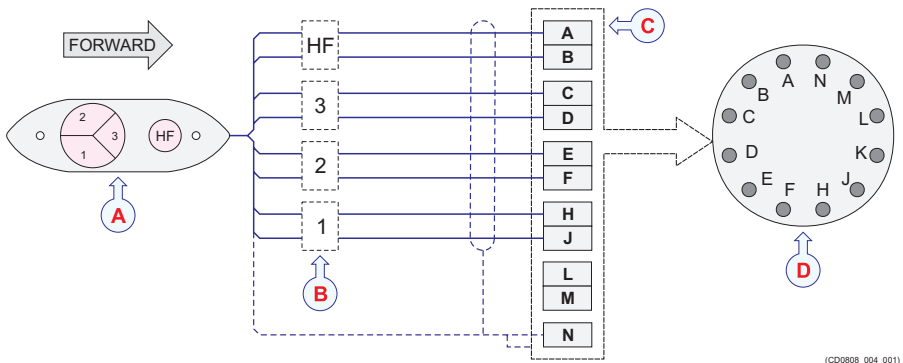
- Termination with connector: 8-pin male subsea connector MCIL8M (MacArtney)
- Bending radius: 150 mm (theoretical)

#### Environmental requirements

- Storage temperature
  - Maximum: +50 °C
  - Minimum: -20 °C
- Operating temperature
  - Maximum: +40 °C
  - Minimum: -5 °C
- Depth Rating: 50 m

### Connection with open ended cable

This version of the transducer is delivered with an open ended cable. The transducer can be connected to a amphenol connector as specified in the diagram.



A Transducer seen from top -observe the sector locations relative to the forward direction!

B Sectors

C Pin numbers on the connector

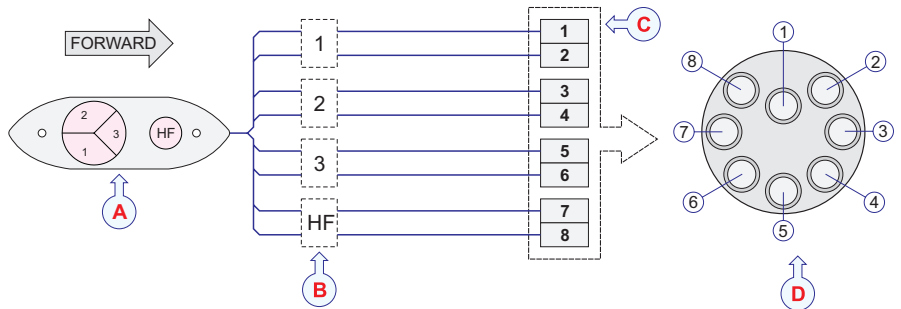
D Male face view of the connector

- Sector 1  
White cable to pin J  
Black cable to pin H
- Sector 2  
Green cable to pin F  
Black cable to pin E
- Sector 3  
Yellow cable to pin D  
Black cable to pin C
- Sector HF  
Blue cable to pin B  
Black cable to pin A

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### Connection with 8-pin male connector

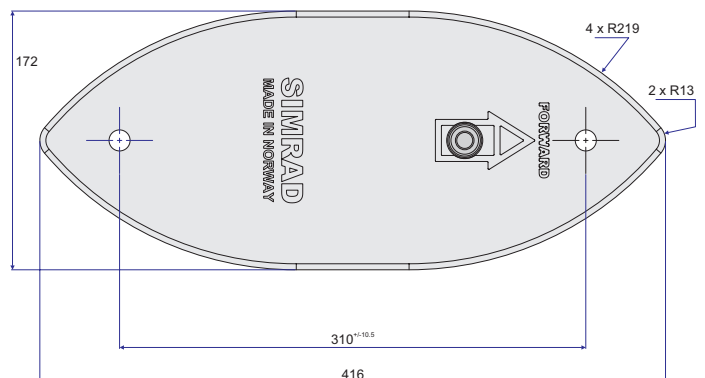
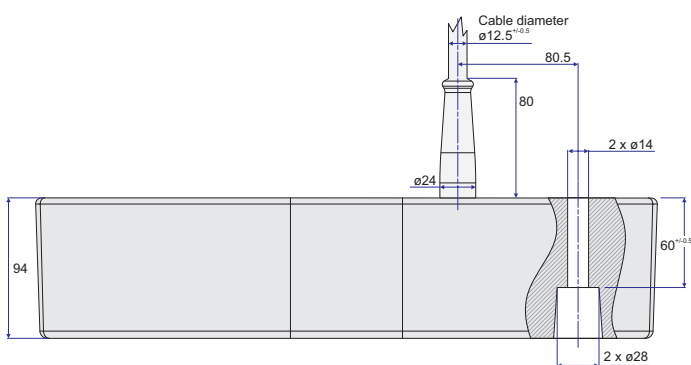
This version of the transducer is terminated to an 8 pin male connector when delivered. The transducer is connected as specified in the diagram.



- Sector 1  
Black cable to pin 1  
White cable to pin 2
- Sector 2  
Red cable to pin 3  
Green cable to pin 4

- Sector 3  
Orange cable to pin 5  
Blue cable to pin 6
- Sector HF  
White/Black cable to pin 7  
Red/Black cable to pin 8

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