SIMRAD C-All Single Beam Transducer Instructions

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SIMRAD

SIMRAD C-All Single Beam Transducer

Key Features
The Simrad C-All is a single beam transducer designed for fish finding applications. The transducer body includes four different transducer elements providing four operational frequencies: 38, 70, 120 and 200 kHz. Order information, end user documentation and installation drawings can be found at **https://www.kongsberg.com/c-all** 479238 / Rev.B / April 2022

Technical Specifications

- The technical specifications and requirements provided are those valid when operating at the nominal frequencies.
- Kongsberg Maritime are continuously working to improve the quality and performance of our products.
- The technical specifications may be changed without prior notice and the specifications refers to typical figures for the product.

Performance Specifications

- Echo sounder transducer with four frequencies
- Nominal frequencies: 38, 70, 120 and 200 kHz
- Bandwidth:
    - 38 kHz : 35 to 42 kHz
    - 70 kHz : 60 to 80 khz
    - 120 kHz : 100 to 140 kHz

    - 200 kHz : 180 to 220 kHz
- Beamwidth: 18° (each element)
- Depth rating: 60 m
- Sidelobe level: -17 dB
- Impedance: 75 Ω (each element)

Power Specifications

- Static: 100 mm (theoretical)
- Dynamic: 185 mm (theoretical)
- Max. input power:
    - 500 W (38 kHz)
    - 250 W (other frequencies)
- Maximum pulse length: 4 ms
- Maximum duty cycle: 1 %

Weight and Outline Dimensions

- Weight: N/A
- Outline Dimensions:
    - Length: 7.6 inches
    - Width: 7 inches
    - Height: 3.6 inches
- Physical dimensions:
    - Diameter: 300 mm
    - Height: 116 mm (body)
    - Total height: 198 mm
- • Weight
    - In air: 9,1 kg
    - In air: 12,2 kg (with cable)
    - In water: 1,0 kg
- Cable length: 20 m
- Cable diameter: 12.4±0.5 mm
- Bending radius:
    - Static: 100 mm (theoretical)
    - Dynamic: 185 mm (theoretical)

Environment Requirements

The Simrad C-All is designed for use in marine environments.

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

Long-awaited Solution

The echo sounder's operating frequency is important for good results. This is because the echo strength of different fish species varies with frequency. Some fish species are easier to find with a high frequency than a low one, and vice versa. This is also important if you are going to find smaller species, such as shrimp or krill. At the same time, lower frequencies generally have a longer range. A low frequency allows you to find both fish and the bottom when working in deep water. For these reasons, many echo sounder systems are equipped with more than one transducer. Some people prefer two transducers to work with two different frequencies, others want more. This increases the price of the echo sounder and entails increased installation costs.

Installation

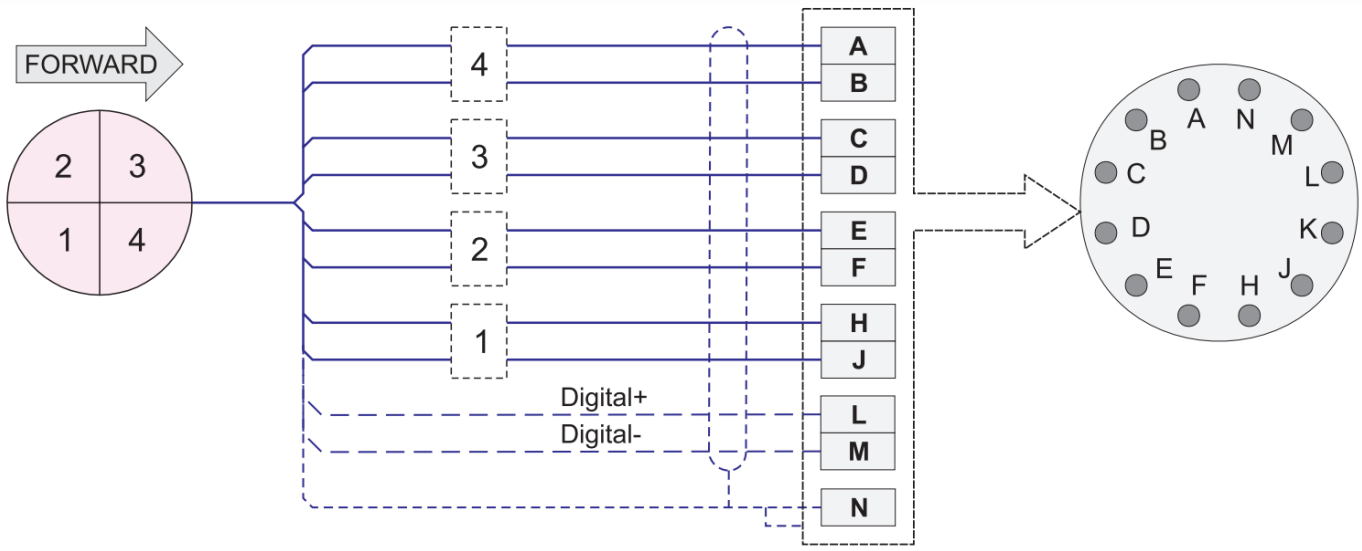
- The transducer is normally mounted flush with the hull plating or the bottom of a blister. It is provided with an installation flange, and by means of a clamping ring it is secured to a mounting ring welded into the hull plating or the bottom of a blister.
- The transducer can also be flush mounted at the bottom of a drop keel.
- The transducer cable penetrates the hull using a cable gland which consists of a bushing, washer, rubber gasket and packing nipple.

Product Usage Instructions

To use the Simrad C-All echo sounder transducer:

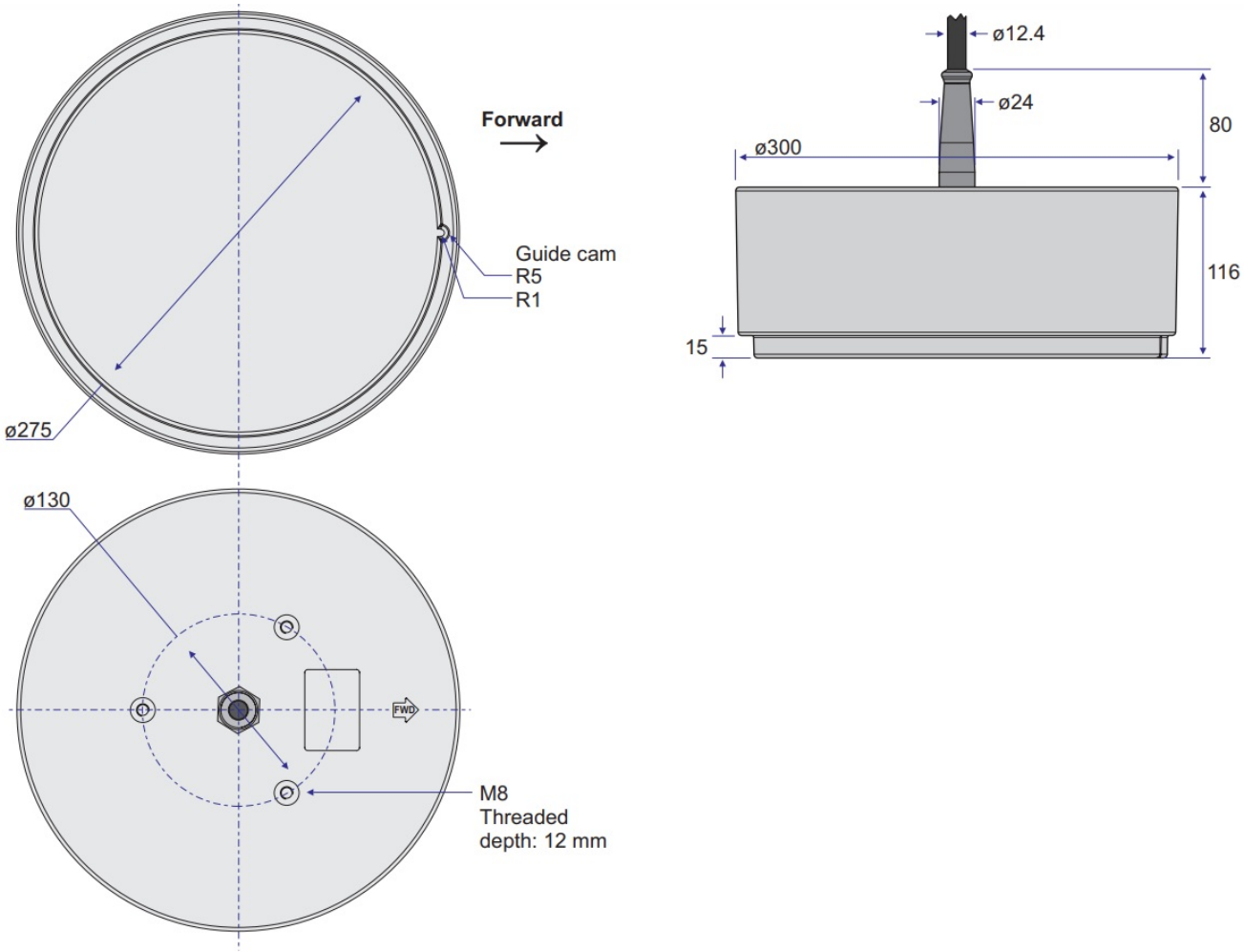
1. Mount the transducer flush with the hull plating or the bottom of a blister using the provided installation flange and clamping ring.
2. Alternatively, flush mount the transducer at the bottom of a drop keel.
3. Penetrate the hull using a cable gland which consists of a bushing, washer, rubber gasket, and packing nipple to connect the transducer cable.
4. When operating the echo sounder, choose one of the four operational frequencies (38, 70, 120, or 200 kHz) depending on the type of fish species you want to find and the depth of the water you are working in.

WIRING



Sector	Frequency	Cable colours	Terminal on socket	Transceiver channel
1	38 kHz	White	H	1
		Black	J	
2	70 kHz	Yellow	E	2
		Black	F	
3	120 kHz	Green	C	3
		Black	D	
4	200 kHz	Blue	A	4
		Black	B	
Digital output		Red	L	
Digital ground		Black	M	
Cable screen		Screen	N	

Outline dimensions



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 hand-ling 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.

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Documents / Resources

	**SIMRAD C-All Single Beam Transducer** [pdf] Instructions C-All Single Beam Transducer, Single Beam Transducer, Beam Transducer, Transducer

References

- **Simrad C-All - Kongsberg Maritime**