

WBT Tube



KONGSBERG

KEY FEATURES

- Member of the EK80 Wide-band echo sounder family
- 4000 m depth rating
- Two independent echo sounder transceivers
- Two transducer connections available for each transceiver

Subsea Wideband Echo Sounder Transceiver

WBT Tube

The WBT Tube is a subsea version of the highly efficient Wideband Transceiver (WBT) used by marine research vessels all around the world. Its energy-efficient design makes it perfect for installation in a wide range of subsea platforms and vehicles.

Typical applications

- Remotely operated vehicles
- Sensors used on probes
- Environmental monitoring installed on subsea structures
- Larger USVs

The unit is capable of long-term use down to 4000 meters, making it ideal for exploration. There are two versions available, with different power requirements. Both versions are low power consumption units. Version one requires 12-16 V DC external power, while version two requires 20-50 V DC.

Technical details

The WBT Tube is a member of the EK80 wideband echo sounder family. The EK80 software is used for managing the WBT Tube transceivers.

The WBT Tube allows for a very flexible use. Within the WBT Tube unit there are two separate transceiver boards, each having two separate transducer connectors. Each transceiver has four separate channels that go to one connector and a multiplexed

version of these channels that goes to the other transducer connector. This allows each transceiver to operate two split-beam transducers (where one is multiplexed) or up to eight single-beam transducers (where four are multiplexed). There can also be a combination of single- and split-beam transducers.

WBT options

Kongsberg Discovery delivers a range of Wide Band Transceivers for all purposes.

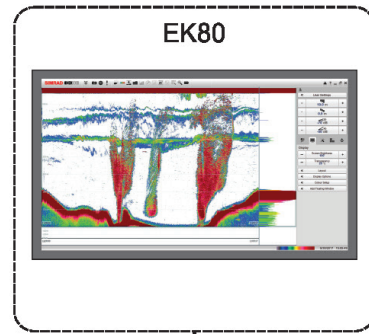
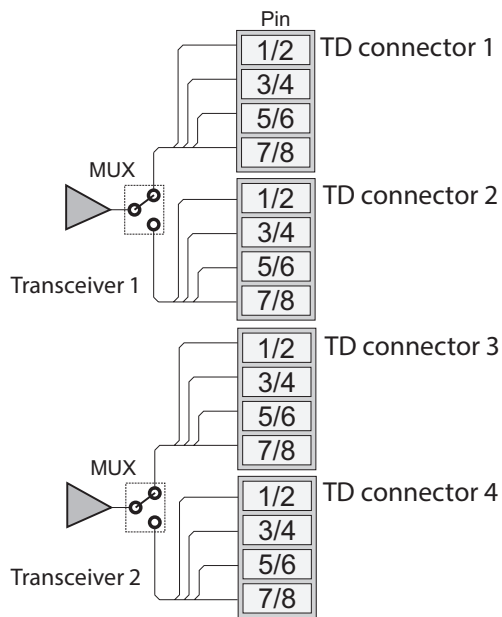
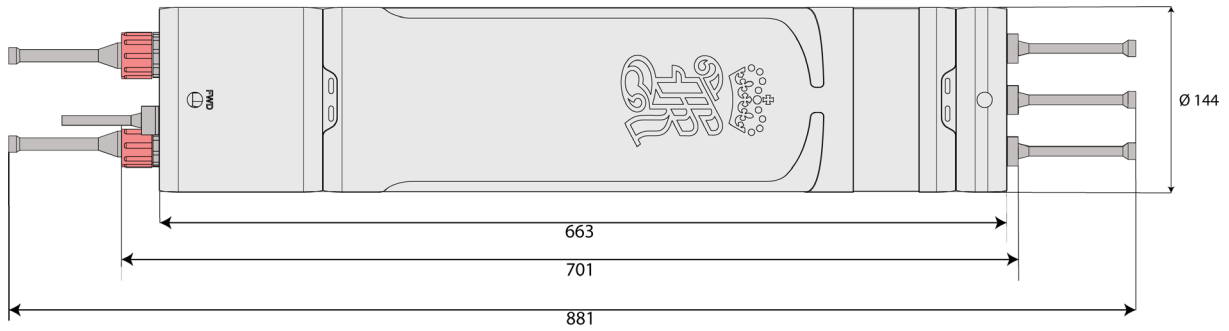
- **EK80 WBT** - standard WBT optimized for larger vessel installations
- **WBAT** - self-contained, autonomous, transceiver mass storage device and battery in a pressurized container
- **WBT Mini** - miniturized WBT for installation in cramped spaces

Order information

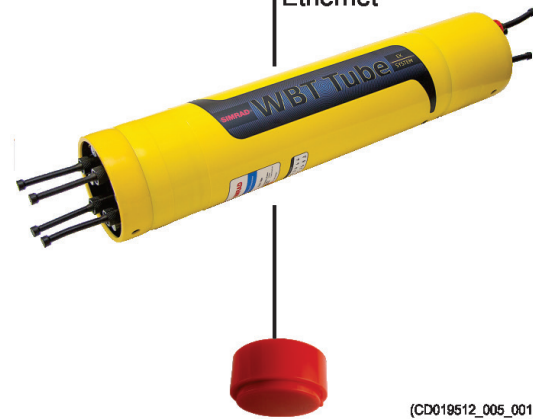
Visit www.kongsberg.com/wbt-tube for more information, the latest software version and end-user manuals.

Standard deliverables

- WBT Tube 15 V version: 415710
- WBT Tube 24 V version: 403515
- Included in the delivery: WBT Tube, software, Ethernet cables for test and dummy connectors



Power and Ethernet



(CD019512_005_001)

Transducers and multiplexing

The WBT Tube contains two independent echo sounder boards with a total of four transducer connections. Each transducer connector may interface one of the following configurations:

- A single 4-sector split-beam transducer
- A single 3-sector split-beam transducer and a single-beam transducer
- Up to four single beam transducers

The four transceiver channels are multiplexed.

- TD Connector 1: main connector for the first transceiver
- TD Connector 2: multiplexed with connector 1.
- TD Connector 3: main connector for the second transceiver
- TD Connector 4: multiplexed with connector 3

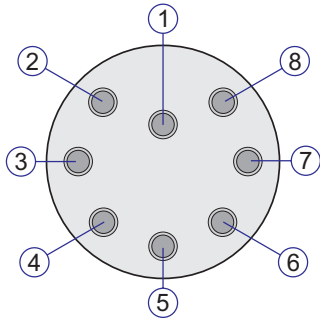
System overview

A standard computer is used for running the EK80 echo sounder software. The EK80 software provides real-time control of the WBT Tube using an Ethernet interface.

A wide range of single- and split beam transducers are available

Ethernet

Connector type: SubConnfemale DBH8F

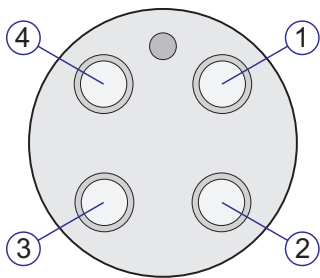


Seen towards the connector

1. N/C
2. N/C
3. N/C
4. N/C
5. RJ45-2 (Orange)
6. RJ45-1 (Orange/White)
7. RJ45-6 (Green)
8. RJ45-3 (Green/White)

Power 15 V Version

Connector type: SubConn male MCBH4M



Seen towards the connector

Transceiver 2:

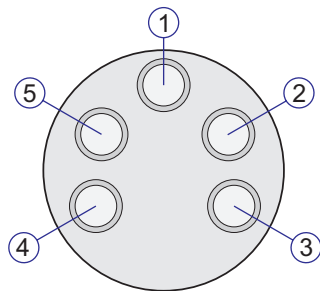
1. +15 V DC
2. GND

Transceiver 1:

3. GND
4. +15 VDC

Power 24 V Version

Connector type: SubConn male MCBH5M



Seen towards the connector

1. N/C (black)

Transceiver 2:

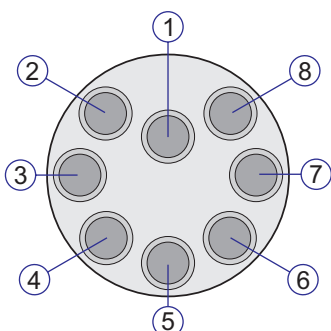
2. +24 V DC (white)
3. GND (red)

Transceiver 1:

4. GND (green)
5. +24 VDC (orange)

Transducer 8-pin

Connector type: SubConn female MCBH8F



Seen towards the connector

1. Channel 1+
2. Channel 1-
3. Channel 2+
4. Channel 2-
5. Channel 3+
6. Channel 3-
7. Channel 4+
8. Channel 4-



Communication End Cap

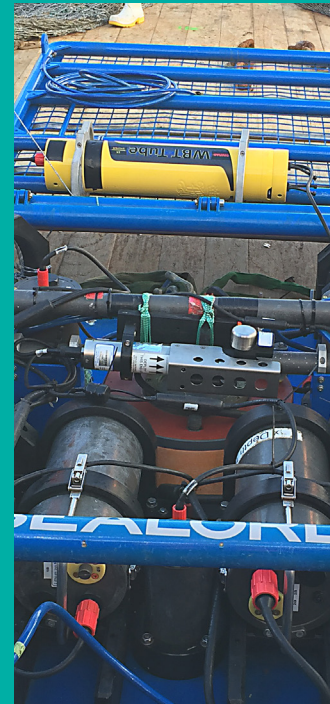


Transducer End Cap



Technical specifications

Performance	<p>Frequency range: 30 to 500 kHz Puls duration: 64 to 2048 μs Puls forms: CW, FM (linear up-sweep) Maximum transmit power: 1000 W @55 Ω Number of transceivers: 2 Number of transducer channels: 4 (including multiplexer: 8) Transducer options: Single-beam/split-beam</p>
Connections	SubConn® DBH8F, MCBH8F, MCBH4M and MCBH5M
Power requirements	<p>Voltage requirements 15 V version: 12 to 16 V DC Voltage requirements 24 V version: 20 to 50 V DC 2 W during operation for both versions 5 A peak during start-up for both versions</p>
Environmental requirements	<p>Operational temperature: -15° to 35°C Storage temperature: -20° to 55°C Salinity: 0 to 40 PSU Enclosing material: Aluminium</p>



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