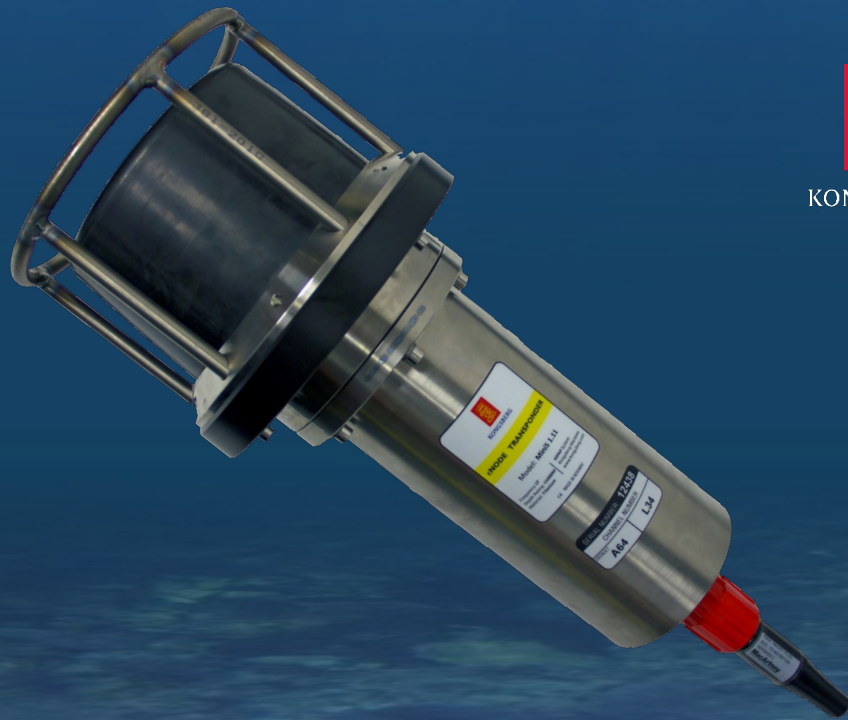




KONGSBERG



cNODE MiniS 1.11-50V

- 56 Cymbal Wideband channels
- Full telemetry
- SSBL and LBL ranging
- Fast Track mode
- Responder mode
- Rechargeable Li-Ion battery
- External 24V power supply
- Works with HiPAP 101 and HiPAP 102
- 11,500m depth rating
- RS232 Comms to setup and change channel
- Internal tilt sensor $\pm 90^\circ$

cNODE MiniS Full Ocean Depth Transponder

The cNODE MiniS 1.11-50V is a full ocean depth low frequency transponder designed for acoustic positioning of subsea vehicles including ROVs, autonomous underwater vehicles, deep towed bodies and manned research submarines.

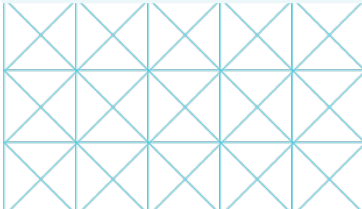
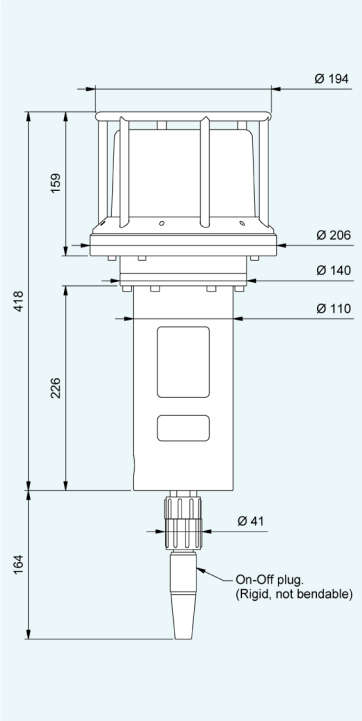
The transponder is built in a titanium, 11,500m depth rated housing, with a pressure balanced directional transducer and has been field proven in the Marianas Trench.

To balance the requirements between size, weight and mission duration, the internal rechargeable Li-Ion battery has been designed to provide an operational life of up to 5 days in high power, with a 6 second ping rate. External 24 V power from the vehicle can also be used to recharge the battery and extend operational time.

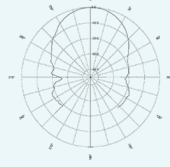
cNODE MiniS 1.11-50V is fully compatible with the HiPAP[®] 102 & HiPAP[®] 101 SSBL positioning systems operating with Cymbal[®], KONGSBERG's wideband acoustic signal protocol.

Subsea cables for charging and operating the Transponder in responder mode (in case of an ROV) are pressure balanced oil filled (PBOF).

The PBOF charging/responder/interface cable length can be customized and delivered according to the customer's requirement.



ACOUSTIC INFORMATION

cNODE transponder model	MiniS 1.11-50V Ti
Signal type	Cymbal wideband and FSK
Frequency	10-15 kHz (Low Frequency)
Beam coverage	50° vertical
Transducer beam pattern	
Maximum source level (re 1 μ Pa)	200 dB
Minimum source level (re 1 μ Pa)	182 dB
Trigger level	<85 dB
Range capability (m) *)	13.000
Range accuracy	Better than 0.02 m

*) Range capability is depending on line of sight, transponder's transmit power setting, vessel's acoustic system and influence of ambient noise and ray bending.

TRANSPONDER TECHNICAL DATA

Depth rating (m)	11.500
Length x diameter (mm)	418 x 206/110
Weight in air/water (kg)	20 / 15
Housing	Titanium
Responder and beacon/pinger mode	Yes
Battery life time	Up to 420.000 replies
Standby time	30 days
External power supply	24 VDC/1 A
Subsea connector	Subcon BH8MTI
Operating temperature	-5°C to +55°C
Part number/name	436500 cNODE MiniS 1.11-50V Ti

ACCESSORIES

Part no.	Item
404199	Battery charger
424209	Charger Cable cNODE MiniS 1.11
424207	Interface cable PBOF 6m
463018	TTC 10 test unit