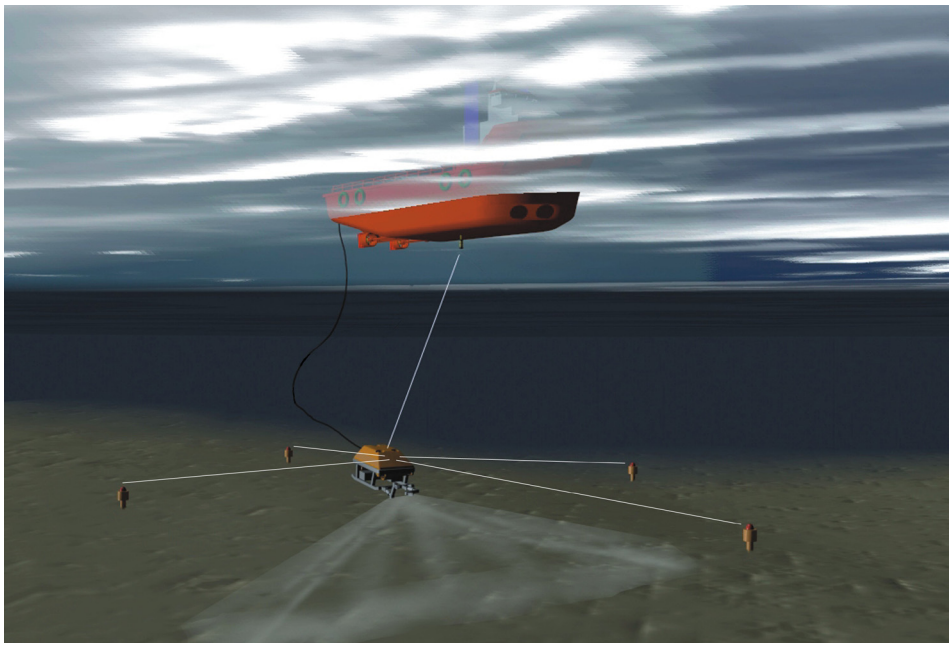
cPAP®
Subsea transceiver for ROV

KONGSBERG

The cPAP® is designed for positioning of ROV or other underwater umbilical connected vehicles or modules. The cPAP® is a must when such vehicles are to be positioned in a LBL array of transponders. The system can use both Cymbal (PSK) and HiPAP®/HPR 400 (FSK) protocols for positioning and data telemetry. Cymbal is the new wide-band Direct Sequence Spread Spectrum (DSSS) protocol. The subsea transceiver unit is designed with a modular construction such that the transducer, transceiver electronics and end-cap modules can be replaced individually to suit its purpose.

cPAP® features

- Calibrating transponder arrays
- LBL positioning
- Two way acoustic data telemetry
- Transponder and Responder functions
- Up to two (2) basic remote transducers connected
- The transducers may also be integrated into the cPAP® body



cPAP® installed on ROV communicating with transponders on the sea bed

Position accuracy

Kongsberg Maritime has gone to great lengths in hardware and software development to ensure that the ranges are measured to an accuracy of less than 10 mm. APOS may use sound profile to compensate both for ray bending and range errors caused by variations in sound velocities in the different thermal layers. However, the accuracy of an LBL system is not determined by range measurement accuracy only. Elements like number of array transponders, network geometry, baseline lengths and network calibration will also influence. Dynamic accuracy of a moving ROV/module within a few desimetres can be possible.

System overview

Remote transducer

Transducer cable
P/N: 345772

cPAP 34
P/N: 330098

Interface cable
(APC/APOS)
P/N: 345771

cPAP 34-30H
P/N: 349741
(with integrated transducer)

Remote transducers

TDR30H
P/N: 345773
30° horizontal “doughnut” beam

TDR180
P/N: 349742
180° beam

TDR40V
P/N: 349743
40° vertical beam

Technical specification

General specification

Frequency band:.....Medium Frequency (MF)
Depth rating:.....4000 m
Operating temperature:.....-5 °C to +55 °C
Housing:.....Anodised aluminium
Housing coating:.....Polyurethane

Transducer cable

Length:.....6 m

Data interface

Data interface:.....RS-422 and RS-232
Baud rate:.....9600 Baud

Power supply

Power supply:.....110/230 Vac or 24 Vdc (optional)
Power consumption:.....Max. 250 W (transmitting pulses)

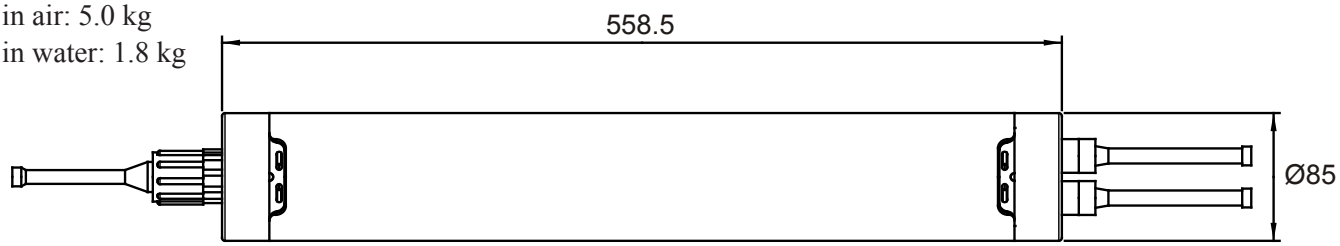
Interface cable (Pigtail)

Length:.....0.6 m

Outline drawings

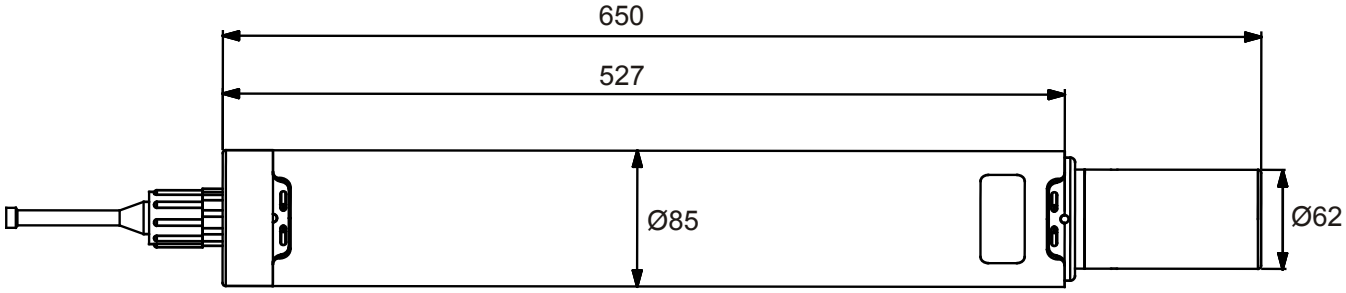
cPAP 34

Weight in air: 5.0 kg
Weight in water: 1.8 kg



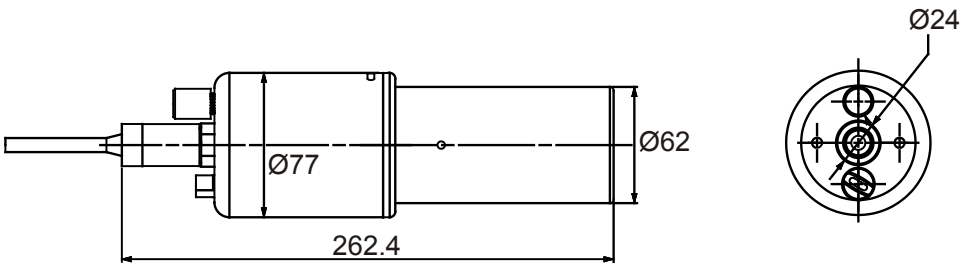
cPAP 34-30H

Weight in air: 5.0 kg
Weight in water: 1.8 kg



Transducer TDR 30H

Weight in air: 1.52 kg
Weight in water: 0.8 kg



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