

# cNODE® Transponders

## Maxi 31 Exd



KONGSBERG

### Introduction

cNODE® is a family of transponders for underwater acoustic positioning and data link, and operates with both HiPAP®, HPR and cPAP® transceivers. The cNODE® transponders operates with either the HiPAP®/HPR 400 channels and telemetry or with the new Cymbal acoustic protocol.

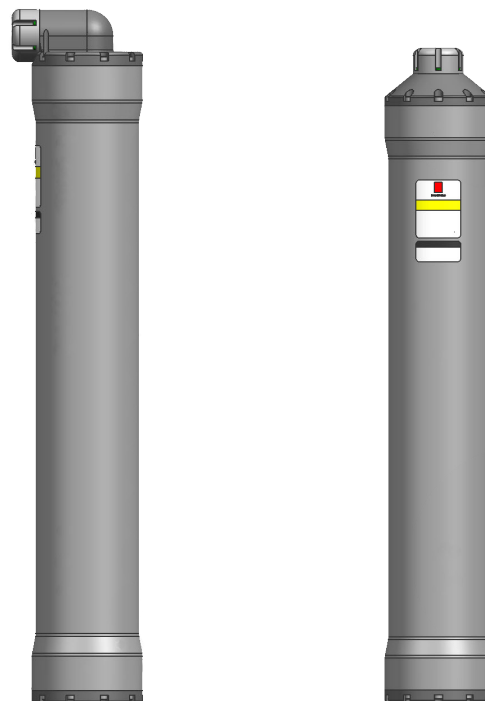
The cNODE Maxi 31 Exd transponders are made especially for operating in an explosive atmosphere.

Two models are available:

- cNODE Maxi 31-80V-90-Exd
- cNODE Maxi 31-80V-Exd

The cNODE Maxi 31 Exd transponders comply with the following standards:

- IEC/EX 60079-1:2007
- IEC 60079-0:2011
- IEC 60086-1
- EN 60079-0:2012



*cNODE® Maxi 31-80V-90-Exd    cNODE® Maxi 31-80V-Exd*

### Technical specifications

#### Materials

Bolts and tube:.....Super Duplex stainless steel  
Transducer, top end cap and bottom end cap:.....Titanium grade 5

#### Performance specifications

Operation depth:.....1000 m  
Operating frequency:.....21 kHz to 31 kHz  
Communication principle:.....Phase Shift Keying (Cymbal) and Frequency Shift Keying (FSK)  
Transducer beam width:.....80° at -3 dB  
Frequency band:.....Medium frequency (MF)  
Source level:.....198 dB  
Receiver sensitivity:.....85 dB

#### Weight and outline dimensions

##### cNODE Maxi 31-80V-90-Exd

Width:.....164 mm  
Height:.....874 mm  
Weight in air:.....35.5 kg  
Weight in water:.....25 kg

##### cNODE Maxi 31-80V-Exd

Width:.....139.5 mm  
Height:.....880 mm  
Weight in air:.....35.5 kg  
Weight in water:.....25 kg

#### Power specifications

Battery type:.....Non-rechargeable Lithium metal, (Li/SOC<sub>2</sub>)  
Operating voltage:.....10 to 14.4 VDC  
Battery output:.....14.4 VDC  
Total battery energy content:.....128 Ah  
Cells per battery:.....48  
Type of cells:.....Lithium  
Power consumption (peak operation):.....250 W  
Power consumption average:.....3.6 W  
(Presumed High Tx power and ping rate 1 sec.)

#### Environmental specifications

Operation temperature:.....-5°C to +55°C  
Storage temperature:.....-30°C to +70°C

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