



KONGSBERG

Subsea Construction Transponder

MPT 341 "Shorty" series Multifunction Positioning Transponder

Deep water use - 4000 m rated

Introduction

The medium frequency MPT 341 "Shorty" series transponders design, are based on the standard Kongsberg Maritime MPT transponder. This is a transponder for shorter duration subsea jobs, like subsea construction applications - small size, light weight, but full MPT capability. The transponders are to be used with the following underwater positioning and navigation systems:

- HiPAP system
- HPR series

All the MPT 341 transponders will, on interrogation, reply with a single- or a multi-pulse response. This reply contains different information for use by the HiPAP / HPR system, depending on the application.

Basic transponder

The basic transponder is the **MPT 341/DTSxDuB transponder**. This is a Multifunction Positioning Transponder, with depth / temperature sensors. It is a short unit, with aluminium housing, and is 4000-m depth rated. The transponder has SSBL, LBL and telemetry functions. The transponder works as a dual beam transponder, and is equipped with one vertical and one horizontal transducer. The array calibration and Metrology are performed using a "doughnut-shaped" beam. When the calibration is completed, this beam is switched off, and the transponder is then operating in the position mode, with a $\pm 15^\circ$ beamwidth upwards.

The basic MPT 341/DTSxDuB transponder can be field-rebuilt to contain:

- Serial interface
- Release
- Split transducer-head

These options are not included in the basic transponder.



Available kits

Serial interface

This kit includes a computer handling up to 4 external subsea sensors, using serial lines (RS-232). This transponder together with a HiPAP / HPR system, makes it possible for the operator to read the subsea sensors data. Some sensor types are pre-defined in a library, other types can be defined by the user (generic). The system configuration and test can be carried out prior to transponder deployment via one serial line, using a portable PC.

Release

This kit includes a release mechanism.

Split transducer-head

This kit allows the transducer to be separated from the transponder body. An underwater cable of 5 m length is included.

Naming principles

The transponder name contains three letters followed by three digits, and the letters after the digits describes the options.

MPT	=	Multifunction Positioning Transponder
3xx	=	30 kHz band
x4x	=	4000 meter depth rated
xx1	=	±15° beam width
DT	=	Built-in <u>D</u> epth and <u>T</u> emperature sensors
R	=	Includes Release mechanism
S	=	Split transducer-head
Sx	=	<u>S</u> hort tube
Si	=	Serial interface
DuB	=	Dual Beam, ±15° upwards and horizontal “doughnut”

Models - relevant combinations

MPT 341/DTSxDuB	(Basic)
MPT 341/DTSSxDuB	(Basic + Split kit)
MPT 341/DTSiSxDuB	(Basic + Serial interface kit)
MPT 341/DTRSxDuB	(Basic + Release kit)

Basic data

Maximum depth rating	4000 m
Housing material	Aluminium
Coating	Polyurethane
Weight in air / water	24 - 32 kg / 10 - 15 kg

Outside diameter

- Housing	148 mm
- Flange	200 mm

Overall length

- MPT 341/DTSxDuB	910 mm
- MPT 341/DTSSxDuB	600 mm
- MPT 341/DTSiSxDuB	1020 mm
- MPT 341/DTRSxDuB	1185 mm

Connectors Subconn

DT sensor (built-in)

Maximum depth	4000 m
- Depth resolution	0.1 m
- Depth accuracy (FS)	< 0.1%
Temperature range	-5 deg to + 30 deg
- Temp resolution	0.1 deg
- Temp accuracy	0.2 deg

MF channels (30 kHz band)

HiPAP / HPR 400	56 channels
HPR 300	14 channels

Battery

Type A10/36 (8/26)	Alkaline (can be air freighted)
Reg no.	290-219964
Number of replies (max)	300.000 pings
Quiescent time	50 days
Max. continuous on-time	12 days
Max. continuous on-time w/serial line	approx. 4 days

Transducer

Transducer beamwidth (vertical and horizontal)	+/- 15 deg
Source level (vertical / horizontal) - 4 steps	206 / 190 dB
Rx sensitivity:	
- Vertical - 2 steps	100 / 106 dB
- Horizontal - 2 steps	115 / 121 dB

Serial interface

Number of sensors	4 external
Electrical	Serial line (RS-232)

Sensor types

- Library
- Generic

Acoustic telemetry link

Can handle 3 sensors from a pre-defined library, or 3 generic sensors (floating-point numbers) in one telemetry message.	
Data transfer speed	up to 48 bit/sec
Update time (depending on depth)	min. 15 sec

Release unit

Release; lift / buoyancy	max. 250 kg
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Floating collar

Depth rating	4000 m
Total weight in air	62 kg
Total buoyancy in water	30 kg
Overall height	520 mm
Colour	Orange

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