



KONGSBERG

# Subsea Construction Transponder

## MPT 341 "Shorty" series Multifunction Positioning Transponder

**Deep water use - 4000 m rated**

### Introduction

The medium frequency "Shorty" MPT 341 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.

<b>MPT</b>	=	Multifunction Positioning Transponder
<b>3xx</b>	=	30 kHz band
<b>x4x</b>	=	4000 meter depth rated
<b>xx1</b>	=	±15° beam width
<b>DT</b>	=	Built-in <u>D</u> epth and <u>T</u> emperature sensors
<b>R</b>	=	Includes Release mechanism
<b>S</b>	=	Split transducer-head
<b>Sx</b>	=	<u>S</u> hort tube
<b>Si</b>	=	Serial interface
<b>DuB</b>	=	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 (9/29) .....	Alkaline (can be air freighted)
Reg no. ....	290-219964
Number of replies .....	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 / horizontal) - 2 steps ..	115 / 121 dB

## LBL / Metrology

Transducer side lobes used for LBL and Metrology	
Maximum baseline .....	600 m

## 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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