

# MST 319 & MST 342

## Transponder description

The Mini SSBL transponders (MST) are medium frequency mini transponders. The MST transponders are to be used with the following underwater positioning and navigation systems:

- HiPAP system
- HPR series

It is to be used for applications where a small and light-weight unit is required.

A MST transponder is delivered with a moulded protective plastic coating. Uncoated units are also available as an option.

- All switches and connectors are recessed within the end cap for added protection.
- The transponder comes with a pigtail with connector.

## Features

- External selection switches
- Channels for use with the:
  - HiPAP system / HPR 400 series
  - HPR 300
- Operator selectable source level to optimise battery life requirements
- Operator selectable sensitivity
- Fast battery charging
- Both transponder and responder function (external power supply)
- Expendability for the future addition of various sensors is built-in
- Fast battery charger (requires rechargeable battery)

## Design

The design makes extensive use of surface mount technology. This allows all of the hardware to be confined to two boards, thus increasing reliability and reducing spare part holding requirements.

The unit is designed with a modular construction. The electronics, battery pack, transducer and end cap can easily be replaced individually.



## Transponder identification

The transponder name includes; the model name, model number and option (the battery type included).

### Name

#### Number

Digit 1: frequency band  
Digit 2: depth rating ( x000m)  
Digit 3: Beameith

#### Options

N: NiMH  
L: Lithium battety

## Models

MST 319/N and MST 319/L  
MST 342/N and MST 342/L

## Example

MST 319/N - operating in the 30 kHz band, depth-rated to 1000 meters, with  $\pm 90^\circ$  beam width, and it includes a rechargeable NiMH battery.

### Source level (rel.1 µPa ref. 1 m)

MST 319: 190 dB (max)

MST 342: 203 dB (max)

Source level can be reduced by 6 dB using an internal link (increases the battery lifetime).

Receiver sensitivity (rel. 1 µPa): 100 dB

Sensitivity can be decreased by 10 dB using an internal link.

### Basic data

Transponder Type	Overall length	Weight in air/water	External diameter
MST 319	348 mm	2.4 kg / 1 kg	76 mm
MST 342	349 mm	4.1 kg / 2 kg	85 mm

### Opening beam

MST 319 @ -3 dB: ±90°

MST 342 @ -15 dB: ±40°

### Housing material / coating

Hard anodized aluminum / Polyurethane.

### MF channels (30 kHz band)

HiPAP / HPR 400: 56 channels

HPR 300: 14 channels

### Power supply options

Internal batteries:

- Rechargeable: NiMH

- Lithium: Primary Lithium battery

External: 22-26 Vdc (40 W)

### Pigtail

A Pigtail is included in the delivery.

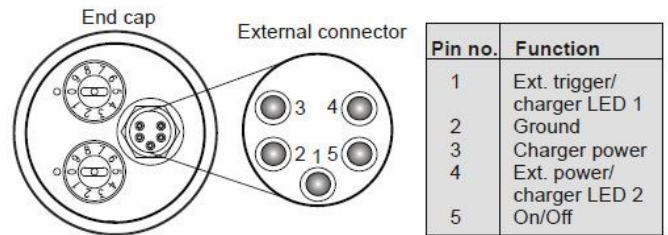
### Batteries

	Lithium	Rechargeable
<b>Battery type:</b>	Primary Lithium Thionyl Chloride	NiMH
<b>Battery Part no:</b>	499-219504	499-215473
<b>Quiescent time:</b>	40 days (same for all models)	20 days (same for all models)
<b>No. of replies:</b>	MST 319: 129 600 MST 342: 64 800	MST 319: 64 800 MST 342: 32 400

### Connectors

- Transponder connector: Subcon MCBH5M (5 pin)

- Pigtail connector: Subcon MCIL5F (5 pin)



### Floating collars

#### MST 319:

Type no: 119-099206

Depth rating: 2000 m

Buoyancy: MST 319 / MST 324 - 4.5 kg / 4 kg

Height with cage / diameter: 549 mm / 275 mm



MST 319 w/floating collar

#### MST 342:

Type no: 119-217083

Depth rating: 4000 m

Buoyancy: 3.5 kg

Height with cage / diameter: 597 mm / 290 mm

### Battery charger

Charge method: constant current

Charge rate: 0,5 C (fast charge)

Permit fast charge between: 10 °C and 40 °C

