



## LifeLadder Thor®

The LifeLadder® is made of maintenance-free, reinforced synthetic modules in a bright, yellow color that ensures visibility during daytime. A solar- or grid powered LightUnit provides visibility at night and clear direction to safety.

## LightUnit

The LightUnit can be installed on top of the LifeLadder Thor®. When surroundings are dark, two LED lights illuminate the steps and stiles of the ladder, providing visibility at night and clear direction to safety. The LightUnit is available in two versions: Solar Powered and Grid Powered.

**Solar Powered** version operates autonomously in locations below 60°N. A solar panel charges the battery pack during daytime and under normal conditions the LightUnit's power saving algorithm ensures functionality all year round.

**Grid Powered** version connects to the local power grid of 230V AC by a 2,0 meter cable. It is the recommended choice for locations north of 60°N and installations in shady surroundings; next to buildings, under bridges etc.

## Materials and Construction

Each LifeLadder Thor® module is injection moulded in one piece (PP, color RAL 1016). Rubber spacers (EPDM Shore A85) keep the modules apart. Four ropes made with Dyneema® SK78 fibres (Ø5 mm, UHMwPE, Breaking strength 3,0 t) tie the modules together.

The LifeLadder Thor® is mounted with Brackets of stainless steel (Marine Grade A4 SS316) that can be bolted, screwed or welded on to any waterfront structure.

The invention behind the LifeLadder Thor® is covered by a patent no.EP17166906.2.

The LightUnit is made from an injection moulded casing (PA66 GF30, carbon black), transparent lid (PMMA), silicone gasket, waterproof valve (IP68), stainless steel screws (Marine Grade A4 SS316).

The LightUnit is designed for highest impact protection class IK10 (undergoing verification) and waterproof class IP68 (undergoing verification).

## Dimensions and weight

LifeLadder Thor® is dimensioned to comply with European Standards: EN 14329:2004.

Outer Dimensions: 0,5(W) x 0,2(D) x max. 9,0 m(H).

Other Dimensions: Rung width: 40,0 cm. Center rung to quay wall: ≥15,0 cm.

Included SS Brackets. 5 mm thick.

LightUnit: 37,5(W) x 9,5(D) x 4,3 cm(H). 2,6 kg. incl. steel supports.

Weight of a LifeLadder Thor® depends on the length, e.g. 3,6 m LifeLadder Thor® (12 modules): 12,8 kg (ladder) + 9,8 kg (2 x SS Bracket) + 2,6 kg (LightUnit) = 25,2 kg.

## Recommended quay/wharf geometry

Distance between LifeLadders Thor®: Every 30 m (ref. EN 14329:2004)

Niches: For best protection, LifeLadder Thor® should be installed in niches: Recommended width: 0,65 m and depth: 0,25 m

Fenders: Where niches are not an option, fenders of adequate dimensions should be installed on both sides of a LifeLadder Thor®

For special requirements, e.g. customized installation, please contact Port-Safety.

## Installation

Mount the Brackets using at least 2 of the 4 ready made holes with a diameter of Ø14,5 mm.

Use appropriate M12 size fasteners (screws/bolts/rods) when mounting the Brackets to quay walls of steel/concrete/stone/wood etc.

Turn Brackets upside-down for alternative hole-positions.

The Brackets (B10) can also be welded onto steel structures or modified to fit the place of installation. Please see the LifeLadder Thor® Installation Guide for proper installation.

NOTE: At thruster exposed positions, the lowest module must be fixed with a Bracket.

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**LifeLadder Thor® Product Specifications**  
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