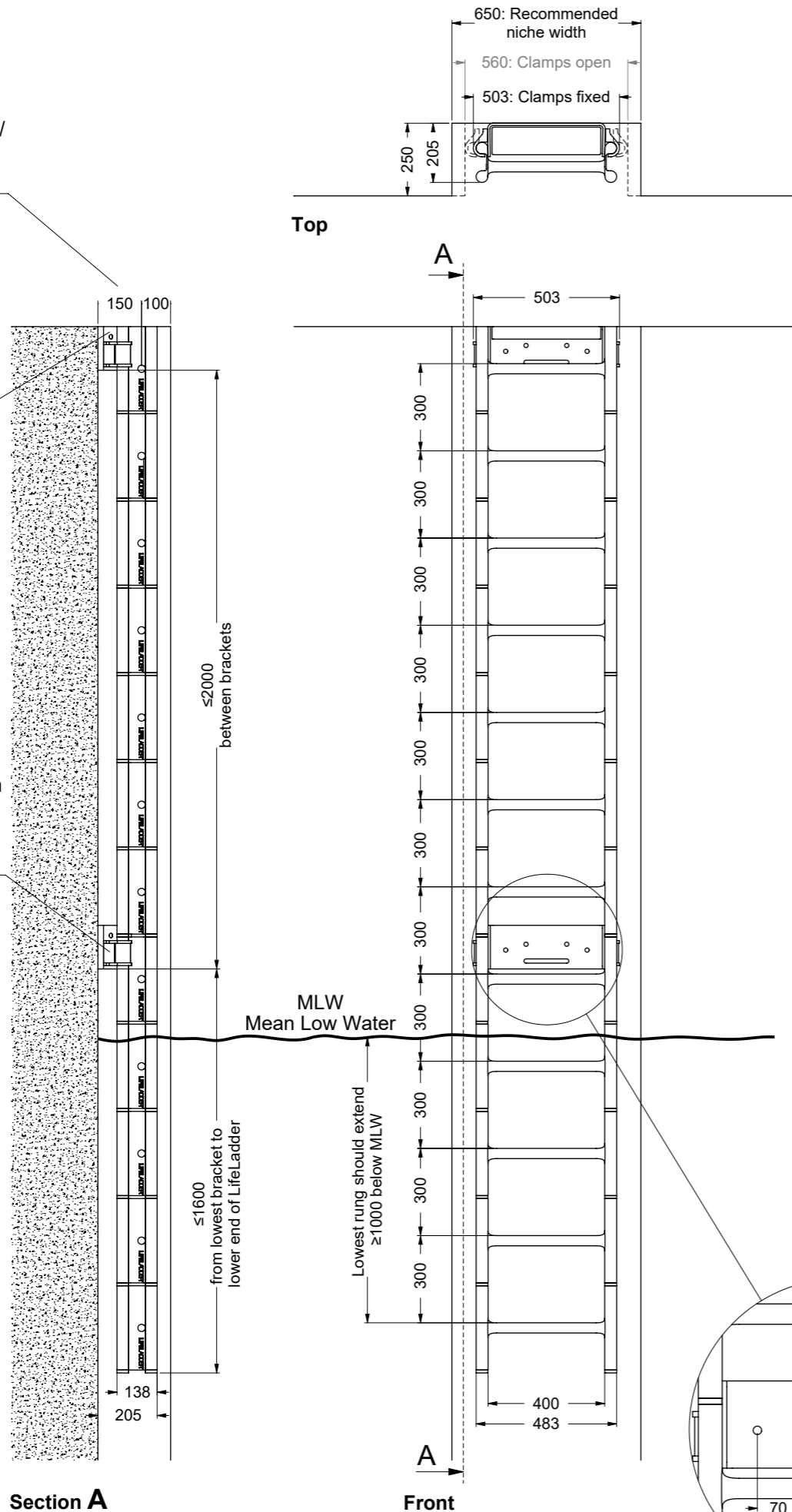


Distance from quay wall/ wharf to center step must be 150-200 mm

To assure optimum performance for the LightUnit, top-most bracket must be installed in level with quay surface.

LifeLadder brackets can be installed in custom vertical positions on quay/wharf



Section A

Front

## LifeLadder®

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

## LightUnit

The LightUnit can be installed on top of the LifeLadder®. 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 comes 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 100V-230V by a 2,0 meter cable. Works optimally above 60°N, in shady surroundings; next to buildings, under bridges etc.

## Materials and Construction

Each LifeLadder® module is injection moulded in one piece (PA66 GF30, color RAL 1016).

Rubber spacers (EPDM Shore A85) hold the modules apart.

Four ropes made with Dyneema® SK78 fibres (Ø5 mm, UHMwPE, Breaking strength 3,0 t) tie the modules together.

The LifeLadder 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® construction is covered by a pending 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® 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: Center rung to quay wall: ≥15,0 cm. Rung width: 40,0 cm.

Weight depends on length. Example: A LifeLadder® of 3,6 m (12 modules): 19,5 kg.

2 x included SS Brackets. 14,8 kg. Total weight: 34,3 kg.

LightUnit: 37,5(W) x 9,5(D) x 4,3 cm(H).

## Recommended quay/wharf geometry

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

**Niches:** For best protection, LifeLadder® 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®.

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

## Installation

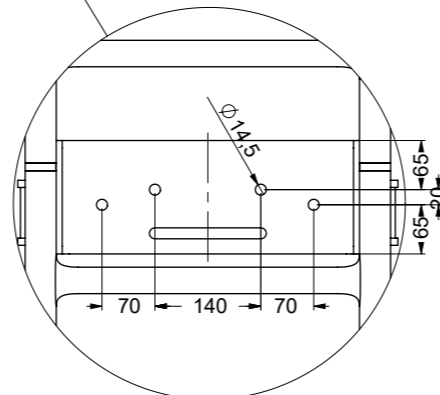
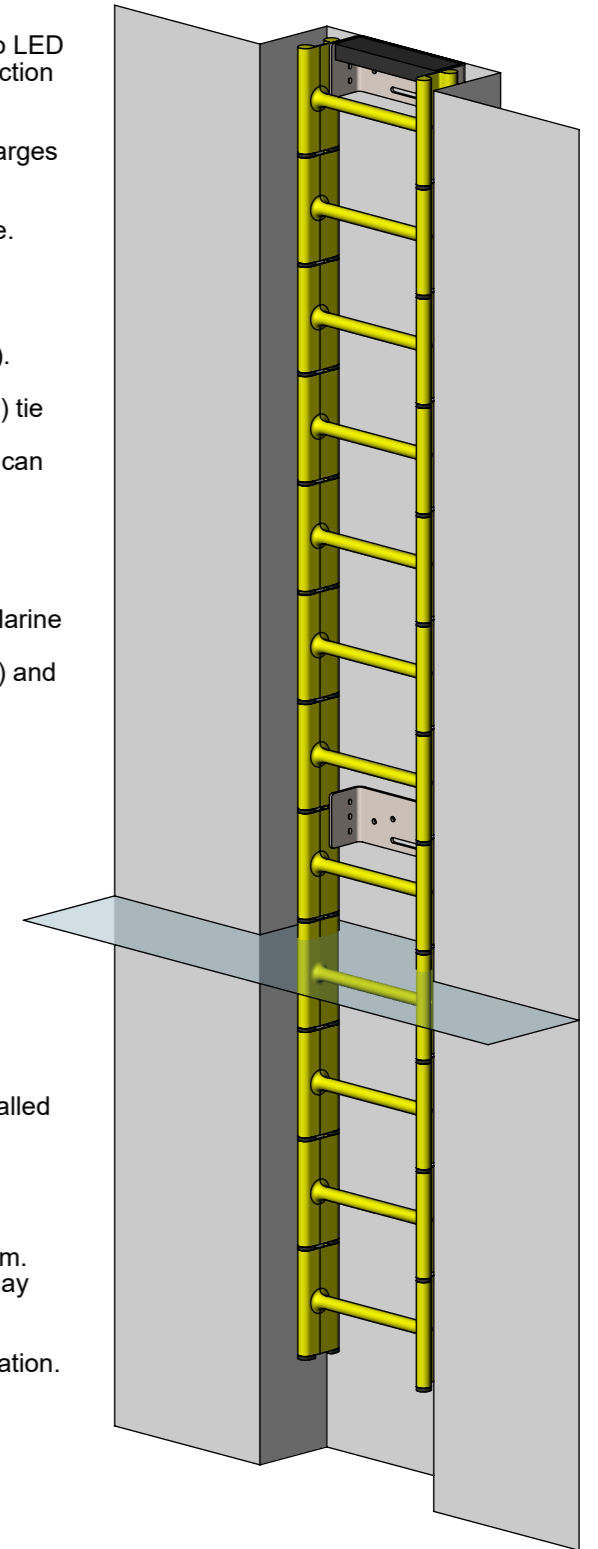
Mount the Brackets using at least 2 of the 4 ready made holes with a diameter of Ø14,5 mm.

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 can also be welded onto steel structures or modified to fit the place of installation.

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



Component number	-
Component name	-
Revision number	M
Revision date (d-m-y)	01-05-2019

Units	Millimeter
Scale	1:20
Sheet size	A3
Sheet	1 of 1

Drawing	LifeLadder Product Specifications	Ref. to EN 14329:2004
Materials	-	"Inland navigation vessels - Installation of berths and loading areas"
Color	-	-
Surface finish	-	-

Project	LIFELADDER®		
Owner	Port-Safety ApS	info@port-safety.com	www.port-safety.com
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