



**U SAFE<sup>®</sup>**  
Technical  
Specifications



## U SAFE

The U SAFE<sup>®</sup> system is an auto propelled, remote controlled water craft designed to be a fast-and precise “aquatic robot” that can reach a person quickly. It has a U-shaped hull with two electric turbines, one on each leg of the hull. The turbines are designed so that the device operates regardless of which side is up when thrown into the water.

The behaviour and controllability of the system is very effective because of its sophisticated navigation and guidance system. Operation is simple and intuitive, allowing first-time users the immediate ability to reach a person. The U SAFE<sup>®</sup> buoy is compact at approximately 80 cm by 100 cm, it weighs 13,70 Kg, is propelled by two electric turbines with power supplied by a Lithium-ion battery package.

Unlike convential buoys and devices, the U SAFE<sup>®</sup> system is not passive, allowing it to be driven to any person with high accuracy. Its mobility and controllability allow first responders to operate in all conditions including rough sea states and operate in close proximity to rocky areas. The U SAFE<sup>®</sup> system allows first responders to operate without endangering themselves or their vessels.





“The future  
of lifesaving  
is here”

## Characteristics



- Remote controllable
- 7,5km/h (15 Km/h) cruise speed to enable a fast arrival to the person in need
- 2 motors that operate independently to enable fast and easy directional changes
- Latest generation battery technology to enable several rescue operations due its lengthy autonomy
- Possibility to operate from stand by mode after several months
- Flashing LEDs showing information to monitor major buoy data and assist night rescues
- Waterproof buoyant remote-control in case of dropping in water
- Immediate Buoy start up after by period



# Performance

## Performance Characteristics

Range                      Line of sight  
                                 @ Sea level - +/- 300mts  
                                 @ 10 mts above sea level - +/- 500mts

Endurance                3.20 nmi - buoy only\*

Speed                     Max - 15 Km/h  
                                 Cruise – 7.5 Km/h



Note: Performance values have been determined for a standard scenario (flat water, no wind). Environmental conditions of a varying scenarios will influence these values.



## Buoy

### Physical Characteristics

Total weight            13.70 Kg

Endurance                3.20 nmi - buoy only\*

Speed                     Max - 15 Km/h  
                                 Cruise – 7.5 Km/h

### Environmental conditions

Working temperature    -20°C to +50°C

Warehousing temperature -20°C to +45 °C

Relative Humidity        0% to 80% (without condensation) Battery





# Buoy continued.



## Radio Communication

Frequency 2.4 GHz

## Motors

Impulse 2 x 90 N

## Battery

Technology Lithium ion

Capacity 580 W/h

Balancing Yes

Temperature control Yes

Connectivity Bluetooth 4.2 Wi-Fi

Weight 3.8 Kg

Stand-by energy consumption 10% monthly total charge

Charging Time (induction) 15 hours (from 20%)

Capacity after 500 cycles >70% of initial capacity





# Remote-Control

## Physical Characteristics

Total weight	216.1g
Dimensions (A x L x P) (mm)	167mm x 54mm x 53mm
Floats	Yes
User Interface	myusafe.noras.pt
Connectivity	Bluetooth 4.2 Wi-Fi



## Battery

Technology	Lithium ion
Capacity	11.1 W/h
Nominal Voltage	3.6 V
Weight	46 g
Charging Time (induction)	4 hours
Autonomy	5 hours
Stand-by energy	20 $\mu$ A (74 $\mu$ W) 0.5 % monthly total charge
Capacity after 500 cycles	>70% of initial capacity

## Communication

2.4 GHz	Yes
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# Charger

## Physical Characteristics

Dimensions (A x L x P) (mm) 91.97mm x 115mm x 129.81mm

Connectivity Bluetooth 4.2 Wi-Fi



## Environmental Conditions

Working temperature -20° to +60°C

Warehousing temperature -20° to +45°C

Relative Humidity 10% to 80% (without condensation)



## Power Input

Dc Volts 25,2 V

## Induction Charger

Working Temperature -20°C to +60°C

Output Power 40 W





## Power Supply

### CA Adaptor

Power	75.6 W
Dc Volts	25.2 V
Current	3A
Entry Tension	100 - 240 V AC - 50/60 Hz:2A Max.
Class	B





Please feel free to contact FRSA  
to discuss the right solution  
for your business  
or workplace



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