

CLIK DOCK



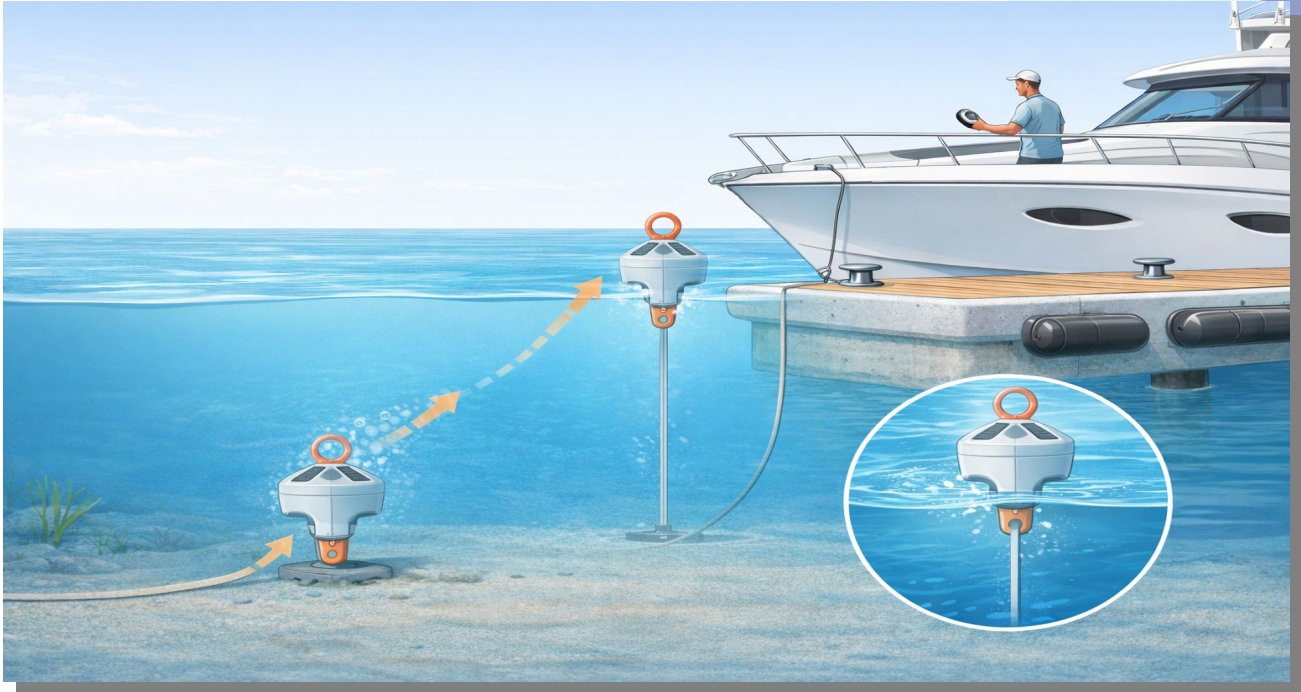
**INTELLIGENT SYSTEM
FOR THE AUTOMATION
OF PORT MOORING
OPERATIONS**





OPERATING PRINCIPLE

CLIK DOCK represents a new generation of port mooring systems: advanced technology, maximum safety, sustainability, and ease of use, all integrated into a modular platform adaptable to any port environment.



Intelligent mooring automation

In traditional marinas, vessel mooring is carried out by manually retrieving the mooring line connected to the ground anchor. This line, usually left on the seabed, must be recovered by the crew using a boat hook.

Although this procedure may appear simple, it involves numerous operational criticalities:

- direct contact with dirty and encrusted mooring lines
- risk of abrasions and hand injuries
- slow and imprecise maneuvers
- soiling of hull sides and deck
- need for assistance from dock personnel
- difficulties for small or inexperienced crews



In other words:

Mooring is still a manual maneuver today, in a context that increasingly demands automation, safety, and efficiency.

PME MARE developed CLIK DOCK to definitively overcome these limitations by introducing an automated, safe, and clean system, specifically designed for mooring automation in marinas.



THE CHALLENGES ADDRESSED BY CLIK DOCK

For a marina, **CLIK DOCK** is not just a convenience for boat owners. It is a concrete solution to everyday operational challenges.

CLIK DOCK is a modular system for intelligent mooring management, based on automatic buoys with controlled submersion and resurfacing, operated either by the boat owner or by marina staff.

The system makes it possible to:

- eliminate direct contact with mooring lines
- simplify and speed up docking maneuvers
- improve operational safety and comfort
- increase overall quay efficiency

CLIK DOCK represents the natural evolution of the Clik Easy system, extending its operating principle to the coordinated management of entire quays and multiple berths.

Reduced Workload

Dock staff no longer need to assist with mooring operations.

Enhanced Safety

Fewer operators involved in maneuvers means a lower risk of injuries.

Improved Traffic Flow

Faster mooring operations enable:

- more efficient berth turnover
- shorter waiting times
- smoother internal traffic flow

Marina Image

An automated mooring system:

- increases the perceived value of the facility
- enhances the customer experience
- strengthens the marina's premium positioning



WHY A MARINA SHOULD ADOPT CLIK DOCK

CLIK DOCK allows marina operators to:

- reduce operational costs
- optimize staff deployment
- improve maneuvering safety
- offer a technologically advanced service

In an increasingly competitive market, the mooring experience is one of the most critical moments in a boater's customer journey. Automating it means turning a potential stress point into a value-added feature.

CLIK DOCK enables the marina to move from reactive mooring management to a proactive, efficient, and intelligent approach to infrastructure management.

The CLIK DOCK Approach

CLIK DOCK is designed to transform mooring from a manual operation into an automated process. The system is based on an intelligent buoy installed between the mooring line and the ground anchor, capable of:

- automatically sinking to the seabed when the berth is free
- resurfacing vertically on command
- positioning precisely at the bow of the vessel
- all without the crew needing to touch the mooring line



OPERATIONAL FUNCTIONING

When the vessel leaves the berth:

1. The buoy temporarily floats at the surface.
2. The self-retracting tape unwinds, guiding the mooring line toward the seabed.
3. Once the resting position is reached:
 - the system initiates the immersion phase
 - the drum rewinds the tape
 - the buoy rapidly sinks to the bottom

In this configuration:

- the berth is completely free
- no obstacles remain on the surface
- no mooring lines float
- port traffic is unaffected

Buoy Retrieval

When the vessel returns, the buoy is retrieved on command. The system:

- receives the activation signal
- releases the internal drum brake
- uses the buoyancy of the buoy

The result is a controlled, vertical resurfacing:

- the buoy rises from the seabed
- emerges precisely above the mooring point
- presents itself to the crew in the optimal position for attachment
- without lateral dragging or unpredictable trajectories

Mooring Line Recovery

Once at the surface, the buoy is positioned directly at the bow. Unlike traditional methods, there is no need to fetch the line from the stern or call for dock assistance:

- the boat owner hooks the upper eye of the buoy using a boat hook
- the buoy is secured to the pulpit via its upper eye
- the tape is rewound automatically into the buoy
- at the end, the mooring line is immediately available at the bow attachment point

All of this occurs:

- ✓ without manual contact with the mooring line
- ✓ without assistance from dock personnel
- ✓ in significantly reduced time



SUSTAINABILITY AND AUTONOMY

CLIK DOCK is designed for reliable and sustainable operation:

- powered by solar charging
- optional rapid charging via magnetic plug and USB
- independent from the marina's electrical network
- ideal for temporary quays, events, regattas, and boat shows

COMPONENTS OF THE CLIK DOCK SYSTEM

Intelligent CLIK DOCK Buoys:

- automatic submersion and resurfacing
- ultra-cod 200Khz communication
- integrated lighting for night visibility
- fully autonomous



OPERATOR 9

Direct Control for Small Quays

- Operates up to 9 buoys
- Portable use
- USB rechargeable
- Waterproof
- No transponder required

Ideal for:

- Floating docks
- Yacht clubs
- Temporary installations



OPERATOR 99

Extended Direct Control

- Operates up to 99 buoys
- Portable use
- USB rechargeable
- Waterproof
- No transponder required

Ideal for Medium to large quays





Transponder HUB-T99

The Heart of the CLIK DOCK System

- Selective buoy management
- Reliable underwater communication
- Up to 2 ultrasonic transducers operating simultaneously
- Redundant US modules (2 or 4)
- Guaranteed service continuity

Power Supply

- Shore power
- Internal battery
- Solar panel
- No dependence on the marina's wireless network



REMOTE ONE Radio Controls (for the boater)

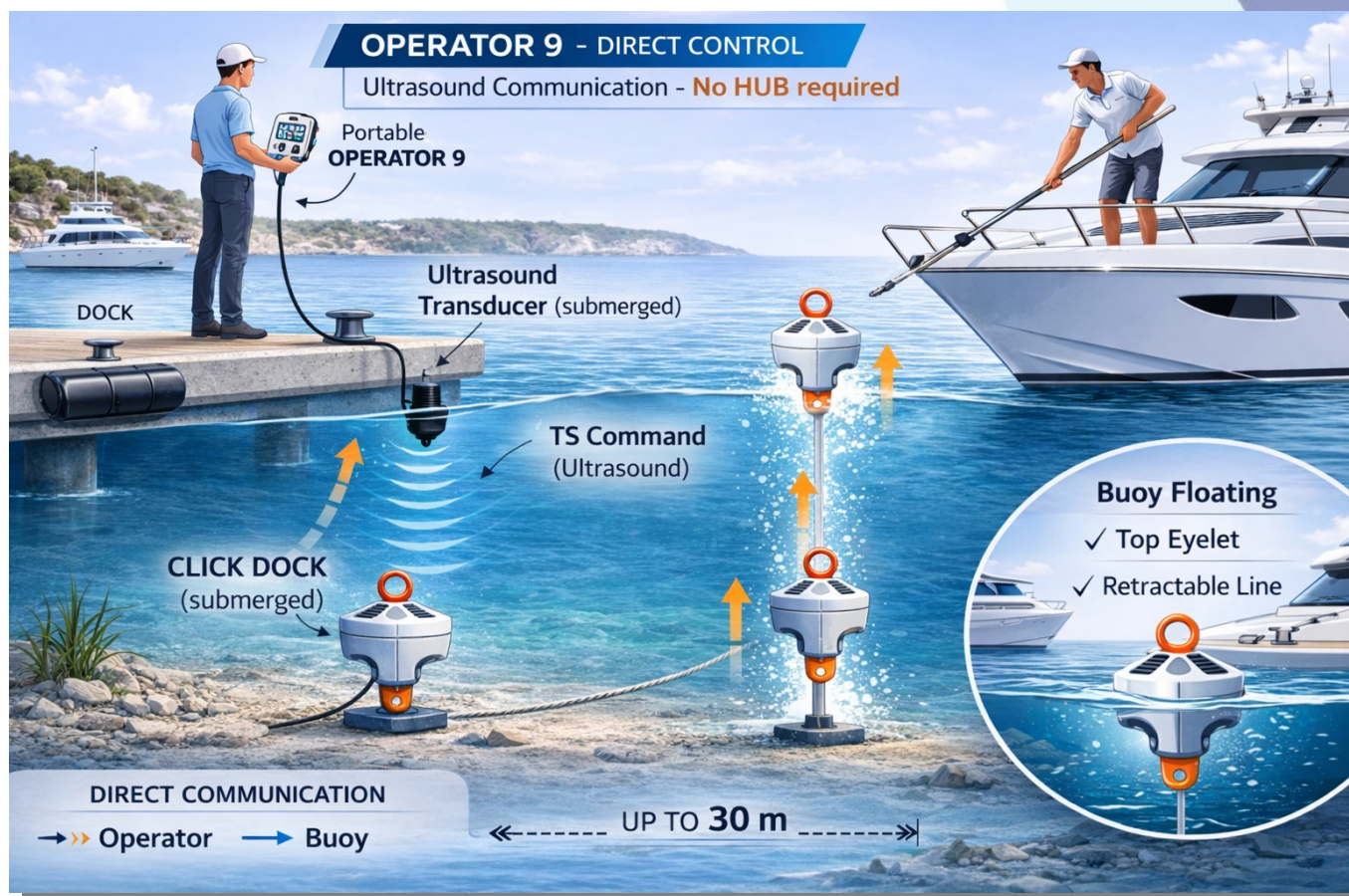
- Linked to individual berths
- Operates at 433 MHz
- Pairing and deletion via transponder
- Fully autonomous mooring management



CONFIGURAZIONI:

CLIK DOCK Buoys + OPERATOR 9 Handheld

(Direct control dockmaster)



Buoy Management and Retrieval System – Portable Module

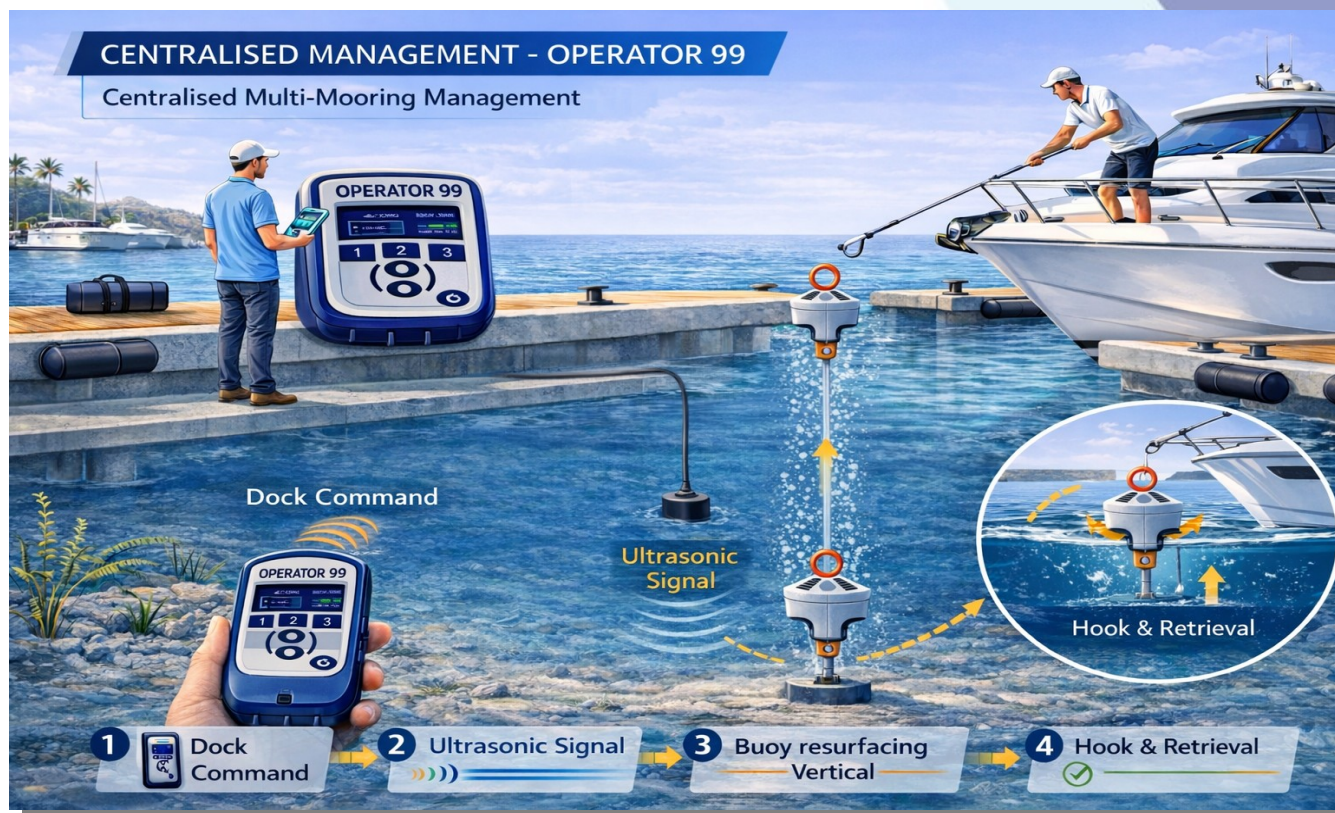
A simplified portable transmitter module manages and retrieves up to 9 buoys.

- The handheld unit includes a connector for an ultrasonic transducer.
- The operator immerses the transducer near the target berth.
- By entering the berth number on the handheld, the command is sent directly to the associated buoy, which resurfaces.
- Controls up to 9 buoys
- No transponder or additional infrastructure required
- Portable, USB rechargeable
- Waterproof
- Cost-effective

This configuration is designed for marinas that wish to retain exclusive control of mooring operations through dock personnel, managing a limited number of berths. Ideal for: small quays, floating docks, yacht clubs, or temporary installations.



CLIK DOCK Buoys + OPERATOR 99 Handheld (Direct control dockmaster)



Mooring Management System – Extended Control

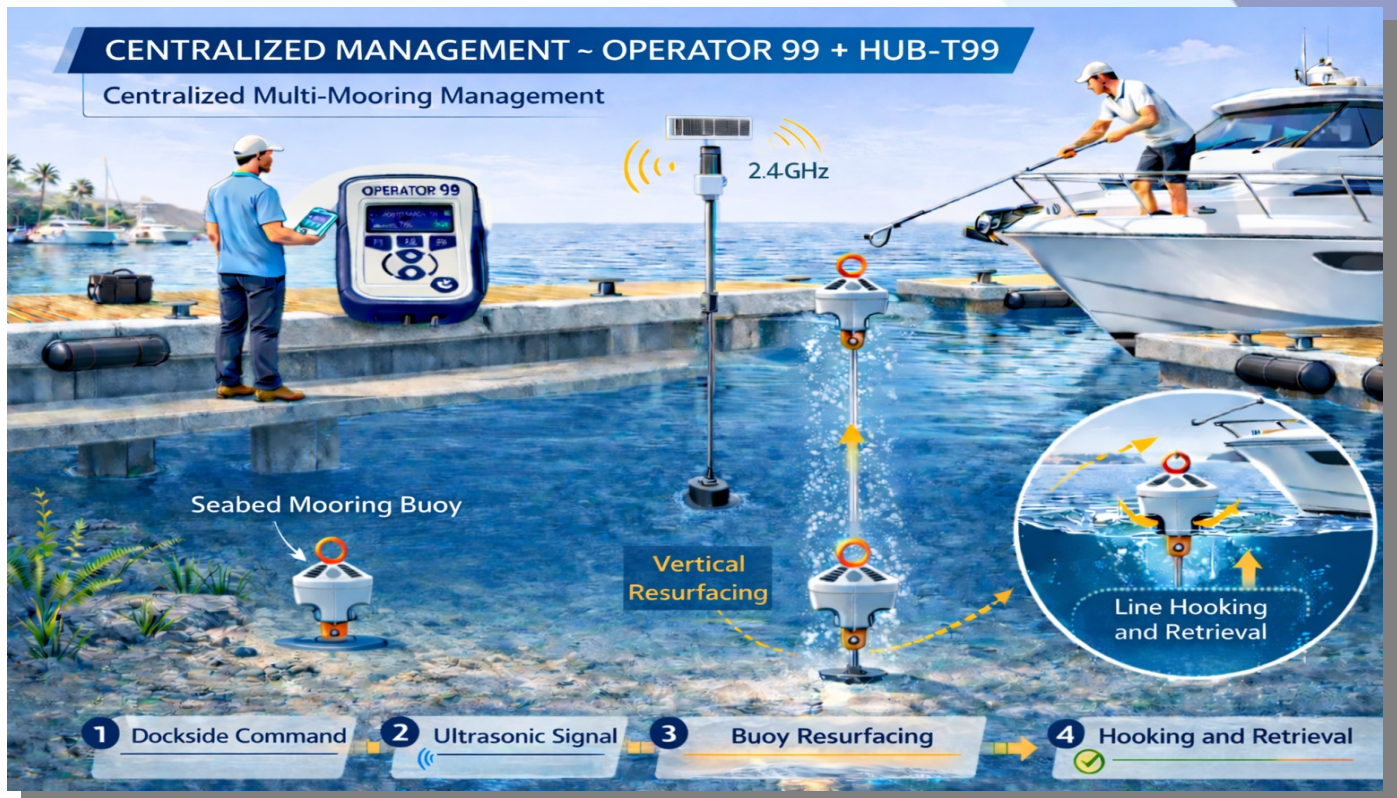
Designed for marinas that wish to retain exclusive control of mooring operations via dock personnel, with the ability to manage up to 99 buoys.

- The handheld unit includes a connector for an ultrasonic transducer.
- The operator immerses the transducer in the water near the target berth.
- By entering the berth number on the handheld, the command is sent directly to the associated buoy, which resurfaces.
- Controls up to 99 buoys
- No transponder or additional infrastructure required
- Portable, USB rechargeable
- Waterproof
- Cost-effective

This configuration is perfect for quays, floating docks, yacht clubs, or temporary setups that require more than 9 berths. Operates without transponders or additional infrastructure



CLIK DOCK Buoys + OPERATOR 99 Handheld + HUB-T99 Transponder (Centralized multi-berth management with direct control by the dock operator)



Transponder-Based Mooring Management System

This system relies on transponders positioned at the quay ends, with buoy control managed by the dock operator and/or mooring manager.

Transponder Features:

- Can control up to 2 ultrasonic transducers simultaneously
- 2 or 4 US transmission modules, connected in pairs and fully redundant
- In case of a module failure, the system automatically switches to the twin module without service interruption

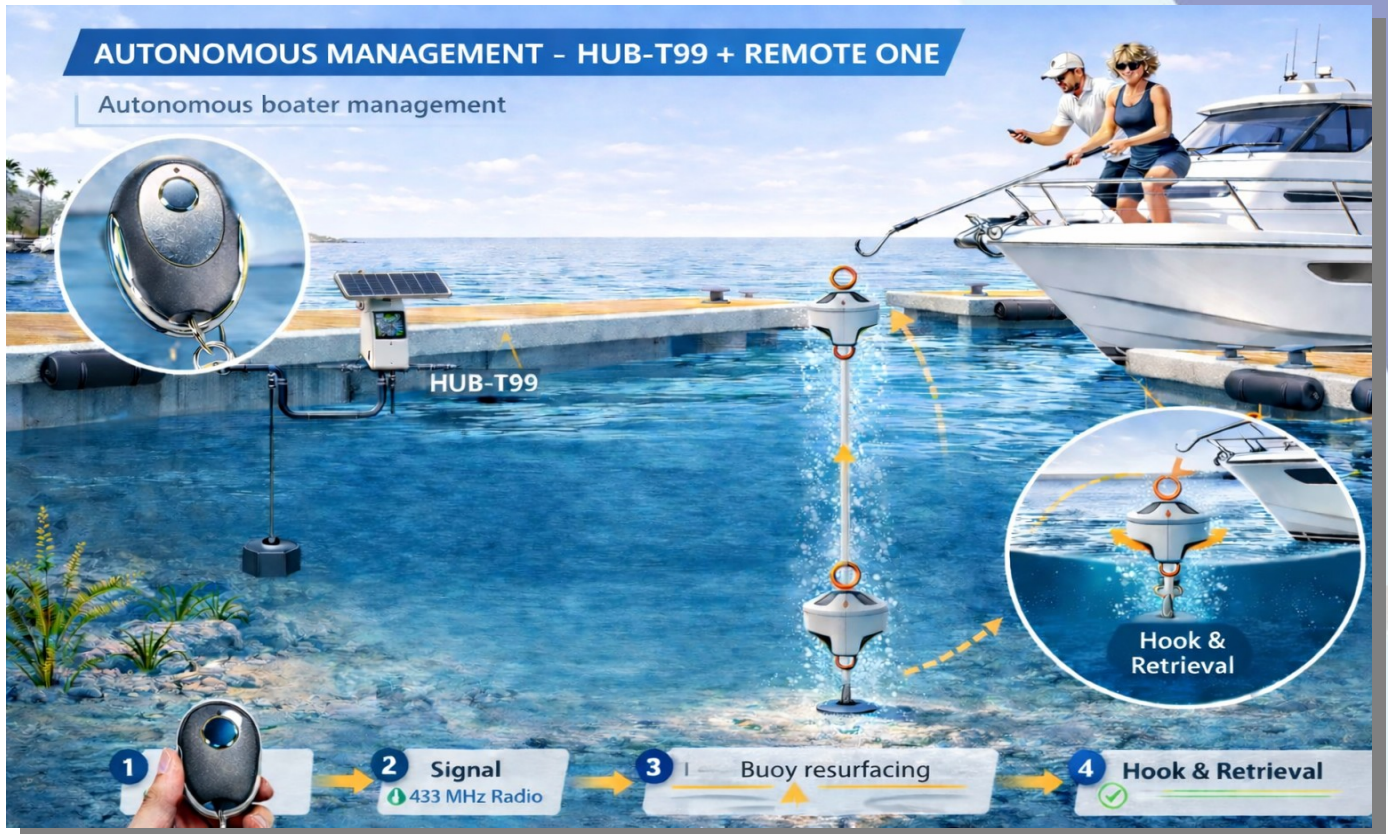
Power Supply:

- Shore power
- Internal battery
- Battery recharging via solar panel
- Operates independently of the marina's wireless network

Communications:

- Wireless over a dedicated 2.4 GHz network, with range >200 m
- Multiple transponders can be installed to control several quays using the same handheld unit

This configuration allows a dock operator to manage up to 99 berths per transponder, making it ideal for medium to large marinas with multiple quays.



In this configuration, the transponder is paired with 433 MHz radio controls, issued directly to boat owners.

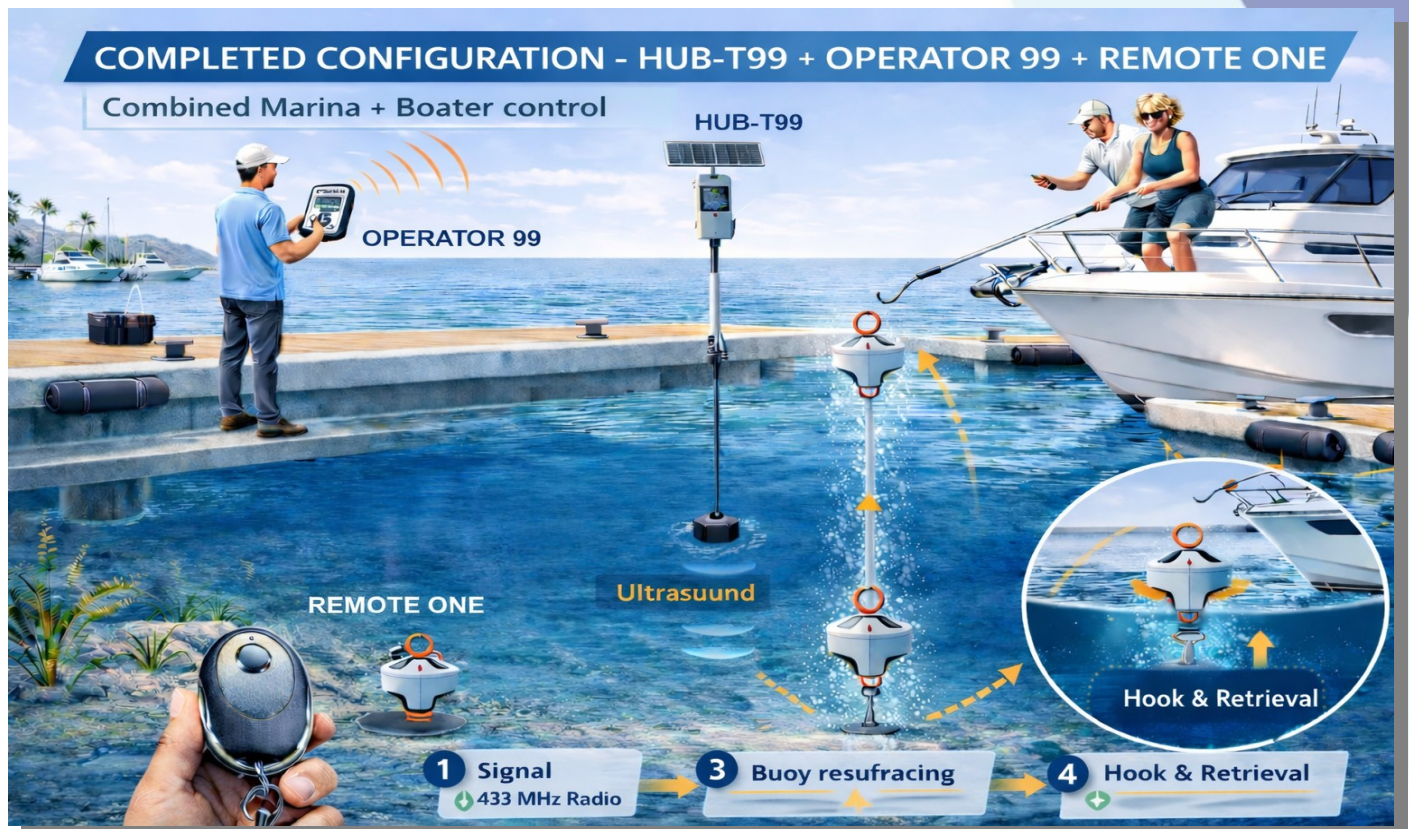
- Each radio control is linked to an individual berth.
- Boat owners can independently retrieve their buoy without dock operator assistance.
- Radio controls can be paired or unpaired with the transponder.
- Up to 99 radio controls can be managed per transponder.

This solution reduces the operational workload of dock personnel while maintaining centralized control of the buoys via the transponder.

CLIK DOCK Buoys + HUB-T99 Transponder + REMOTE ONE Controls + OPERATOR T99 Handheld



(Maximum Operational Flexibility)



This is the most complete and advanced configuration:

The boater can operate independently using the radio control
The dock operator retains full control via the handheld unit
The transponder coordinates all communications, ensuring safety, selectivity, and uninterrupted service

This configuration is ideal for large marinas, high-turnover ports, or premium facilities.



CLIK DOCK BUOY

Feature	Specification
Self-retracting tape length	8,5 m
Tape type	High-strength, self-retracting
Solar charging	Always included (standard)
Submersion autonomy	10 days
Autonomy with dual battery	20 days
Solar recharge time	8 hours
Solar recharge time (dual battery)	16 hours
Fast USB recharge	2–4 hours
Weight	1,5 kg
Diameter	20 cm
Bidirectional operation	Automatic submersion and resurfacing
Safety mode	Automatic submersion at end of release
Protection class	IP68/20



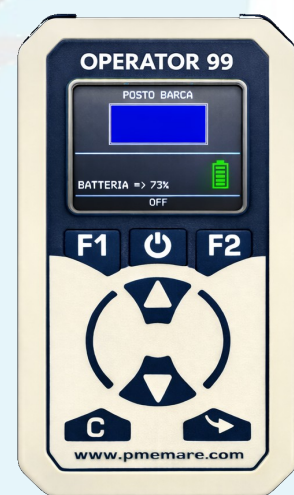
PORTABLE OPERATOR 9

Feature	Specification
Number of manageable buoys	Up to 9
Usage type	Portable
Communication	Direct ultrasound (US)
Boat position selection	Manual
US transducer	External, connectable
Multi-berth management	Limited
Power supply	Rechargeable internal battery
Charging	USB
Typical use	Small docks, events, sailing clubs
Indicative range	Up to 50 meters from the buoy
Protection class	IP68



PORTABLE OPERATOR 99

Feature	Specification
Number of manageable buoys	Up to 99
Usage type	Portable
Communication	Direct ultrasound (US) or via transponder
Boat position selection	Numerica
US transducer	External, connectable
Multi-berth management	Advanced
Radio communication	2,4 GHz (with trasponder)
Radio range	> 200 m
Power supply	Internal battery
Charging	USB
Typical use	Medium and large marinas, professional management
Indicative range (US transmission)	Up to 50 m from the buoy
Indicative range (2.4 GHz transmission)	Over 200 m from the transponder
Protection class	IP68





REMOTE ONE REMOTE CONTROL

Feature	Specification
Frequency	433 MHz
Boat position association	Single
Programming	Via portable
Reset	Real-time
Usage	Autonomously by the boat owner
Power supply	Internal battery
Typical use	Boat owner
Indicative range	> 200 meters from the transponder



HUB-T99 TRASPONDER

Feature	Specification
Manageable buoys	Up to 99
Manageable US transducers	Up to 4 (2 simultaney)
US transmission modules	1 to 4
Redundancy	Automatic
Communication with portable device	Dedicated 2.4 GHz radio
Communication range	> 200 m
Buoy communication	Underwater US
Power supply	Mains / battery
Internal battery	Opzional
Solar charging	Opzional
External Wi-Fi network	Not required
Installation	At the head of the dock
Typical use	Full dock automation
Indicative range (US transmission)	Up to 100 m from the buoy
Indicative range (2.4 GHz transmission)	Over 200 m from the portable device
Indicative range (433 MHz transmission)	> 200 meters from the radio remote
Protection class	IP68



Caratteristica / Configurazione	OPERATOR 9 Portable stand alone	OPERATOR 99 Portable stand alone	HUB-T99 + OPERATOR 99 Trasponder + portable	HUB-T99 + REMOTE ONE Trasponder + Remote ctrl	HUB-T99 + OPERATOR 99 + REMOTE ONE Trasponder + portable + remote ctrl
Number of manageable buoys	Up to 9	Up to 99	Up to 99	Up to 99	Up to 99
Portable device	✓	✓	✓	✗	✓
Controlled by dockmaster	✓	✓	✓	✗	✓
Controlled by boater	✗	✗	✗	✓	✓
Underwater US communication	Direct	Direct	Direct, Via trasponder	Direct, Via trasponder	Direct, Via trasponder
Multi-berth management	Limited	Advanced	Advanced	✗	Advanced
Transponder included	✗	✗	✓	✓	✓
433 MHz radio remotes	✗	✗	✗	✓	✓
Advanced portable device	✗	✓	✓	✗	✓
US power modules (transponder)	—	—	2 or 4	2 or 4	2 or 4
Automatic redundancy	—	—	✓	✓	✓
Transponder battery	—	—	Option	Option	Option
Solar panel	—	—	Option	Option	Option
External wireless network	Not required	Not required	Not required	Not required	Not required
Temporary use (events)	✓	✓	✓	✓	✓

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These specifications are subject to change at any time without notice.

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