

PRODUCT INFORMATION

HAMMAR MRRS

– MANUAL REMOTE RELEASE SYSTEM



HAMMAR®

BETTER SOLUTIONS FOR SAFETY AT SEA

SOLUTIONS THAT IMPROVE SAFETY, PERFORMANCE AS WELL AS ECONOMY

THE HAMMAR REMOTE RELEASE SYSTEMS

Hammar Remote Release Systems are designed to release liferafts, evacuation systems and other lifesaving equipment on board vessels of all types, with the least possible effort. Whether you are a ship owner, designer, builder or onboard safety officer, Hammar Remote Release Systems offer flexible solutions with many decisive advantages – for both safety and economy.

With a remote release system, lifesaving equipment can be released from the bridge or other strategic locations on board. This means that in an emergency situation, you can save precious minutes. Furthermore, the release mechanism can be deployed irrespective of factors such as weather, smoke or fire, without the crew having to take any unnecessary risks.

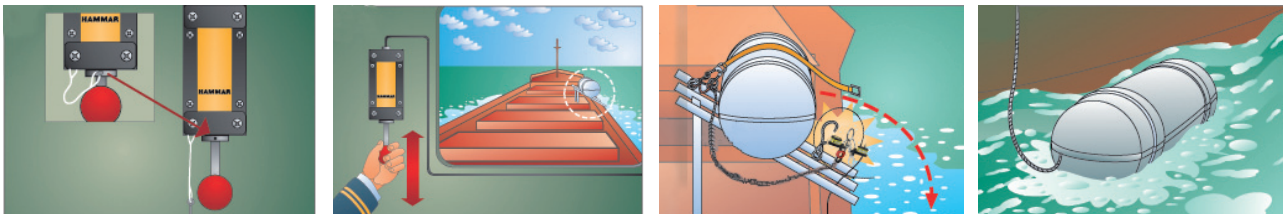
Remote release systems not only improve safety on board, they also represent a sound economic investment. Liferafts can be positioned in remote locations on board and valuable deck space can be freed for passengers or cargo. You get a head start by planning for a remote release system from the initial design stage, but the systems can also be retrofitted.

Since Hammar remote release systems are easy to handle, you can also minimize both crew and training costs.

Hammar Remote Release Systems require a minimum of maintenance and annual service. Check the system's function once a year, install a new release unit every two years and dispose of the old one. The whole installation is weatherproof and designed for a harsh marine environment.

MRRS: Manual Remote Release System

MRRS is suitable for installations of up to 50 metres in length. By means of a vacuum pump, which is operated manually, the vacuum is conveyed via stainless steel tubing to a release unit. When the release unit is activated, a sharp knife blade cuts the rope sling holding the liferaft to be released. Vacuum pumps can be connected in parallel to give multiple control positions.



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Do you need help to choose your Remote Release System?

The Hammar Interactive Guide will help you to choose the right Hammar remote release system. The guide will lead you through a few essential questions. In the end it will give you a suggestion of which system to choose and which components to order.

COMPONENTS

MRRS SYSTEM

Part no.

HM-0301 Vacuum pump complete with S/S coupling for S/S tubing connection



Part no.

HM-0321 U-console stainless steel, complete for nylon tubing connection



HM-0302

Vacuum pump complete with connection for nylon tubing



HM-0311

Tubing stainless steel, 3/2 mm diameter, supplied by metre. 10/20/30/40 m rolls also available



HM-0305

U-console stainless steel, complete with S/S coupling for S/S tubing connection



HM-0306

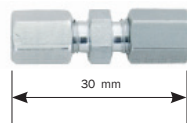
H2O HRU console, stainless steel, complete



MRRS SYSTEM OPTIONS

Part no.

HM-0307 Interconnection tube coupling, stainless steel, complete



HM-0312

Ball valve, 2-ways, stainless steel, complete

Note: Used in set-up with one pump and two or more liferafts in the same system



HM-0308

T-piece coupling, stainless steel, complete



HM-0313

Non-return valve, stainless steel, for 3 mm S/S tubing, complete

Note: Used in set-up with two or more pumps connected to one MRU in the same system



MRRS DUAL ASSEMBLY

Part no.

HM-0300

MRU – manual remote unit complete with 1 m tubing and two sleeve hoses



Part no.

HC-0213

H2O/Remote dual assembly, Hammar type for raft in MES system, CE approved



HC-0200

H2O/Remote dual assembly, RFD MES type, CE approved



HC-0214

H2O/Remote dual assembly, Hammar type for raft, CE approved



HC-0210

H2O Dual Assembly, Viking Type FDB
CE approved
Only available through Viking network



HC-0219

HC-0219 H2O/Remote Dual Assembly, Hammar Type 4 metres



HC-0207

H2O/Remote dual assembly, DSB type
CE approved



HR-0130

H2O for raft/MES installations, no weak link, to be used for cutting the MRU plastic tubing, MCA/CE approved



HC-0208

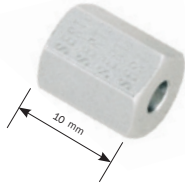
HC-0208 H2O/Remote Dual Assembly, Hamma Heavy Load Type



MRRS SPARE PARTS

Part no.

HM-0309 Nut, stainless steel, to S/S couplings above, spare part



Part no.

HM-0304 End part to vacuum pump for nylon tubing connection, spare part



HM-0310

Olive, stainless steel, to S/S couplings above, spare part



HM-0314

Nylon tubing 6/4 mm diameter, black, to MRU, spare part



HM-0370

Olive, stainless steel, to non-return valve, spare part



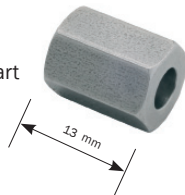
HM-0332

Nylon tubing 8/6 mm diameter, black



HM-0375

Nut, stainless steel, to non-return valve, spare part



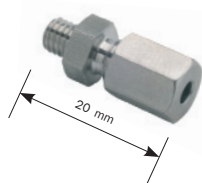
HM-0331

Sleeve hose, 1 cm of black nylon tubing 8/6 mm diameter



HM-0329

Coupling stainless steel, to U-console, spare part



HM-0335

Safety seal for vacuum pump

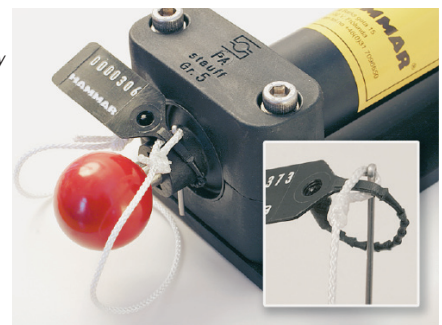


HM-0328

Nipple stainless steel, to U-console, spare part



Safety seal correctly mounted and easy to break in an emergency situation



HM-0303

End part to vacuum pump for S/S tubing connection, spare part



MRRS TOOLS

Part no.

HM-0315

Tube cutter for stainless steel tubing



Part no.

HM-0333

Vacuum pressure gauge for testing of vacuum pressure



HM-0324

End part tool, to stainless steel tubing. Ensures tight connection.



HM-0334

Lubricant TP55 for piston in vacuum pump



COMPARISON MATRIX

Products		Operates without power supply	System check	Multiple control positions	Number of MRU units	Installation length (max)
Part no.	Part					
HM-0301	Pump	Yes	No	Yes	1	50 m
HM-0450	RS	No, needs 24 V	No	No	1	150 m
HM-0462	LRS	No, needs 24 V	Yes	Yes	2	150 m

TECHNICAL SPECIFICATIONS

VACUUM PUMP

Material

Anodised Alloy
Glassfibre reinforced nylon
Stainless steel coupling/pist

Size base plate

70 x 176 mm

Hole size

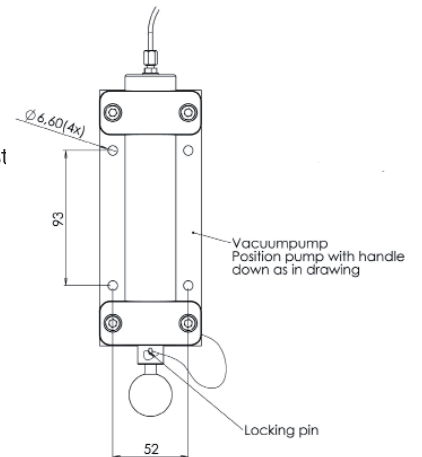
6,6 mm

Size operating requirement

176 + 300 mm = 476 mm

Weight

640 grs



U-CONSOLE

Material

Acid resistant stainless steel

Size base plate

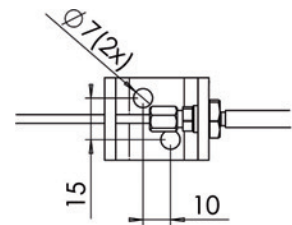
30 x 38 mm

Hole size

7 mm

Weight

85 grs



H2O REMOTE RELEASE

Material

Glassfibre reinforced nylon
Stainless steel knife and nipple
Polyester rope, breaking strength 15 kN
Nylon tubing, black

Rope sling length

155 + 15 mm/- 0 mm

Weight

185 grs

TUBING

Material

Acid resistant stainless steel

Dimension

Outer diameter 3 mm +0,05/-0 mm

Inner diameter 2 mm +/- 0,1 mm

Weight

30 grs per metre

Hardware (couplings etc)

Acid resistant stainless steel

TEMPERATURE RANGE

MRRS system and its components

-30 °C to +65 °C

APPROVALS

Approved to SOLAS and EU directive by leading shipping authorities.

DOCUMENTATION

Product leaflet
Product Information

MAINTENANCE

MAINTENANCE INTERVAL

The MRRS system shall be tested and checked on a regular basis and at least once a year. The Hammar Manual Release Unit (MRU) or dual assembly must be replaced after two years of service.

TESTING THE SYSTEM

To test the system: cut the nylon tubing close to the U-console and remove the remaining part on the nipple. Use a vacuum gauge to test the system and attach this to the free end of the U-console. A few slow pulls of the pump will give enough vacuum to release. Please note that due to the small bore diameter of the stainless steel tubing, the vacuum may take a few seconds to

build up if the distance from the pump is 20 metres or more. The reading should be at least minus 0,6 Bar (- 600 millibar) or minus 8,7 PSI. In a properly installed system the vacuum will be kept for hours.

After successful testing of the system, connect the black nylon tubing from the Remote Release Unit (MRU) to the nipple of the U-console and lock the tube with the spare nylon sleeve hose. If the nylon tube is too tight to connect to the nipple, it might be gently heated.

Make sure that the water is not entering the tubing during service.

Do not rinse the MRRS components or tubing with hot water.

VACUUM PUMP LUBRICANT INSTRUCTION

Lubricate piston every second year. Always use lubricant approved by CM Hammar - Lubricant TP55 - part no HM-0334 or Molycote 55.

If the vacuum pump does not hold the vacuum after lubrication service is done disassemble the stainless steel tubing and make sure that no dirt or burr is affecting the air flow.

Do not disassemble the non-return valve in the end part. If the failure continue, a new complete part should be ordered.

NEW MODEL (INTRODUCED 1999)



1. Vacuum pump



2. Remove lower bracket and take out the piston rod.



3. Clean the piston. Do not disassemble the piston.



4. Apply a layer of new lubricant to the outer surface of the piston.



5. Carefully insert the piston rod and refit the bracket.



6. After service always perform a vacuum test



7. Install the safety seal to prevent un-authorized activation.

OLD MODEL (BEFORE 1999)



1. Vacuum pump



2. Remove lower bracket and take out the piston rod.



3. Remove the O-ring from the piston with a blunt tool. Do not damage the O-ring or the piston. Clean the O-ring and the piston recess.



4. Apply a layer of new lubricant to the O-ring and piston recess. Put the O-ring back in position and apply a thin layer of lubricant to the outside of the O-ring.



5. Carefully insert the piston rod and refit the bracket.



6. After service always perform a vacuum test



7. Install the safety seal to prevent un-authorized activation.

INSTALLATION

MRRS

Installation of the MRRS system should always be done by trained service or shipyard staff and in accordance with instructions or drawings from liferaft manufacturer or CM Hammar AB

The U-console is mounted on the cradle and in a position close to the liferaft lashing. If possible, mount the U-console with the connection pointing downwards, in order to avoid water ingress during service. The flexible nylon tubing on the Hammar Remote Release Unit (MRU) is approx. 1 m in length.

Start the installation of stainless steel tubing from the liferaft end. The location of the tubing will have to be individually designed to each installation. Make sure that entrance through bulkhead is properly protected from abrasion. In exposed areas make sure that the tubing is protected. If a stainless steel tube is used as protection make sure that the tube is drained and have access to be rinsed with fresh water. The tubing can easily be bent by hand and the minimum radius should be 2,5 cm. If a part of the tubing needs to be more flexible, you can obtain that by making an extra large loop on the tubing, preferably with a diameter of 20 cm or more.

The tubing must be properly mounted and secured against wind, waves and other weather conditions. Vibrations and wind may cause fatigue or damage to the tubing.

Cut the stainless steel tubing with a tube cutter and finish it off with an end part tool. This will ensure a tight connection. If these tools are not available, make sure that the cut is perpendicular, clean and free from burr.

The Vacuum pump must be placed with the red handle pointing downwards to avoid water ingress via the handle. If the pump is placed in a position, with no risk of rain or water, it can be positioned in another direction. The pump needs 300 mm free operating space below the pump (measured from the lower screw holes in the pump base).

Bend the stainless steel tubing before assembly to the pump, not afterwards, and make sure that the end is cylindrical, clean and free from burr.

Before connecting the system, make sure that the tubing is cleaned with compressed air.

Push the tubing into the coupling as far as it stops. Turn the nut 1,5 turns, and then slightly slacken off the nut again to relieve stresses. Finally tighten the nut again ¼ turn (max torque 5Nm).

Note: The front of the pump is not designed to hold the nut in place when tightening. The nut on the pump must be held in position with a spanner, when connecting the stainless steel tubing to the pump.

Install the Hammar Remote Release Unit (MRU) or a dual assembly unit on the outboard side of the liferaft. This side is preferred to ensure that the lashing is easily releasing the liferaft.

Note: In all liferaft systems it is important to ensure free float function in all conditions and as the liferafts must be connected to the ship via its painter line and a strong point (such as the deck), it is necessary to have a standard Hammar H2O hydrostatic release arrangement as well. This could be a separate unit or in combination with the remote release unit (dual assembly). Further information can always be obtained from CM Hammar AB.

Make sure that all the Hammar units in the release arrangement are properly marked with two year expiry date upon installation onboard. The Hammar H2O units require no annual service, but must be replaced after two years of service.

TESTING THE SYSTEM

Use a vacuum gauge to test the system and attach this to the free end of the U-console.

A few slow pulls of the pump will give enough vacuum to release. Please note that due to the small bore diameter of the stainless steel tubing, the vacuum may take a few seconds to build up if the distance from the pump is 20 metres or more. The reading should be at least minus 0,6 Bar (- 600 millibar) or minus 8,7 PSI. In a properly installed system the vacuum will be kept for hours.

FINAL ASSEMBLY

After successful testing of the system connect the black nylon tubing from the Remote Release Unit (MRU) to the nipple of the U-console and lock the tube with the nylon sleeve hose. A second sleeve hose is supplied on the nylon tube for intermediate testing. If the nylon tube is too tight to connect to the nipple it might be gently heated.



TECHNICAL SUPPORT

If you have a problem with your MRRS system or if the system needs to be upgraded for another number of liferafts, please contact the company who performed the installation or contact CM Hammar AB directly.

LEADING THE WAY FOR MORE THAN 150 YEARS

Everything we think, do and say comes from one single belief – that our mission is to save lives at sea.

We lead the technical development to produce life-saving products that improve safety on ships worldwide. Whether you are a ship owner, designer, builder or onboard safety officer, we make it easier for you to take responsibility for the crew and passengers on board. We have done so for more than 150 years, and we will continue doing so as long as ships sail the oceans of the world. That is our promise to you.

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THE HAMMAR REMOTE RELEASE SYSTEMS

Hammar Remote Release Systems are designed to release life rafts, evacuation systems and other lifesaving equipment on board vessels of all types, with the least possible effort. Whether you are a ship owner, designer, builder or onboard safety officer, Hammar Remote Release Systems offer flexible solutions with many decisive advantages – for both safety and economy.

With a remote release system, lifesaving equipment can be released from the bridge or other strategic locations on board. This means that in an emergency situation, you can save precious time. Furthermore, the release mechanism can be deployed irrespective of factors such as weather, smoke or fire, without the crew having to take any unnecessary risks. The systems can also be used for many other purposes. Closing doors and air intakes in case of fire, releasing heavy loads or maintenance equipment at remote or exposed locations onboard the ship.

Remote release systems not only improve safety on board, they also represent a sound economic investment. Life rafts can be positioned in remote locations on board and valuable deck space can be freed for passengers or cargo. You get a head start by planning for a remote release system from the initial design stage, but the systems can also be retrofitted. Since Hammar remote release systems are easy to handle, you can also minimize both crew and training costs.

Hammar Remote Release Systems require a minimum of maintenance and annual service. Follow the maintenance instructions and you will have a reliable safety system which can be depended on under critical and harsh situations.



Do you need help to choose your Remote Release System?

The Hammar Interactive Guide will help you to choose the right Hammar remote release system. The guide will lead you through a few essential questions. In the end it will give you a suggestion of which system to choose and which components to order.

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SAFETY

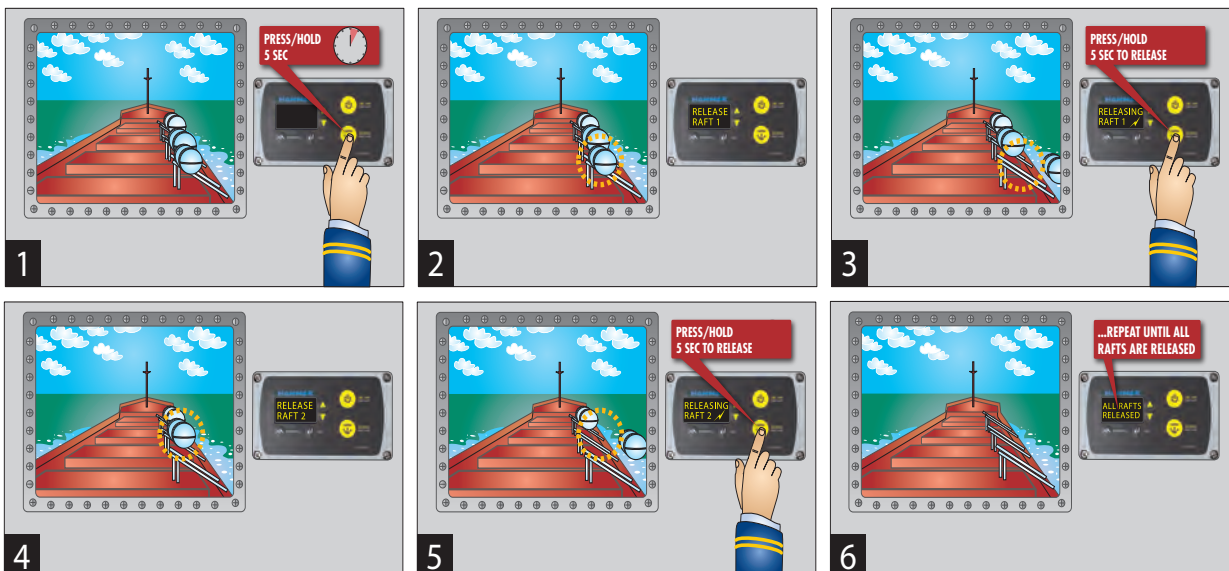
- The release mechanism can be deployed irrespective of parameters such as weather, smoke, fire or degree of list without the crew having to take unnecessary risks.
- With HAMMAR ERRS, lifesaving equipment can be launched more effectively and rapidly from remote positions on deck or from the bridge. This is an important safety aspect when time is crucial for the outcome of the situation.

ECONOMY

- Since the system is easy to handle and more efficiently can launch safety equipment and managing fast evacuation of passengers you can minimize both crew and training costs.
- Liferafts and other systems for safety, emergency and evacuation can be hidden or positioned in remote located areas on board to free valuable deck surface for passengers or cargo to increase profitability

PERFORMANCE

- By planning for the HAMMAR ERRS at an early stage, naval architects and designers can optimize the ship in terms of safety aspects, performance and design.
- To meet specific needs, most of the HAMMAR ERRS systems can be customized configured before delivery.
- Most of the HAMMAR ERRS can have several remote positions on the ship for releasing lifesaving appliances
- To guarantee functionality and reliability under all conditions most of the HAMMAR ERRS runs error detection programs and are equipped with a back-up battery if the ship's own emergency power supply goes down.



ERRS - ELECTRONIC REMOTE RELEASE SYSTEM



GENERAL INFORMATION

Remote operated

Most of the HAMMAR ERRS can be operated from several remote release positions by adding one or more remote push buttons.

These units can activate H2O ERU (Electric Remote Unit) or relay outputs (depending on configuration). It is thus a very flexible system for the management of safety appliances on board.

System checks

Most HAMMAR ERRS units automatically perform system checks; which monitors internal battery, emergency power voltage, ERU circuits and the wiring to external activation

switches. If the system check detects an error, an alarm message will appear on a display or on the LED indicator (depending on unit) and an alarm output is activated.

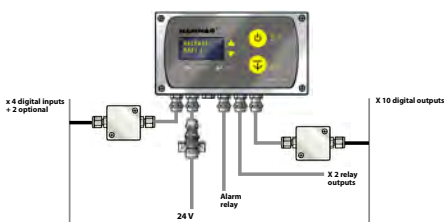
Power supply

The ERRS system (excluding ERRS BO) is powered by the ship's 24 VDC emergency power supply. Each ERRS unit is also equipped with a back-up battery to enable operation even if the ship's power supply is down.

The systems are designed to be user friendly, require a minimum of maintenance and easy to install, even for retrofit.

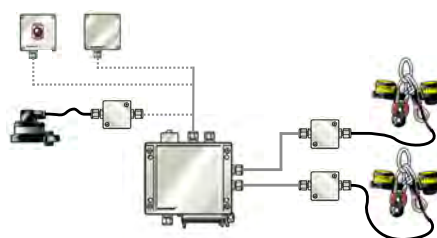
Control Panel 2

Flexible system with several in- and outputs for safety appliances



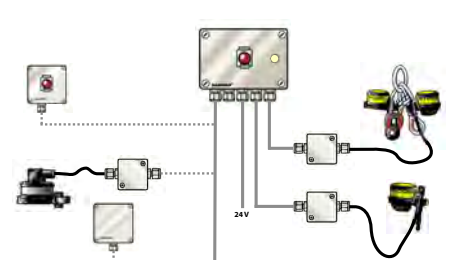
Battery operated system - BO

No external power supply is needed



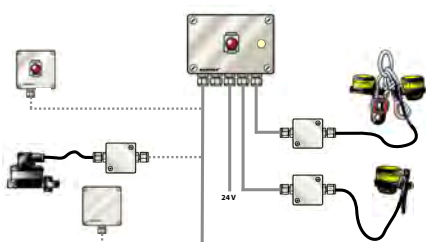
List Angle Detection - LAD

List angle activation of liferafts



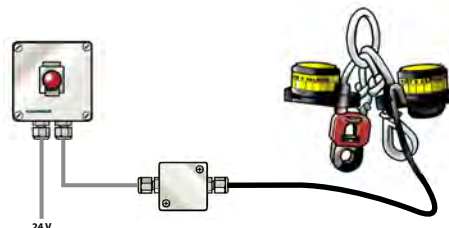
Local release system - LRS

Remote release system for few liferafts

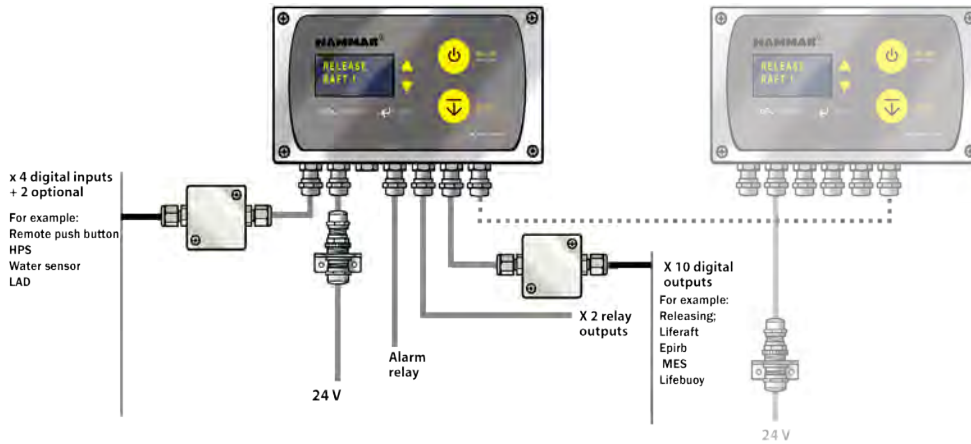


Release switch - RS

Remote release system for one liferaft



ERRS CONTROL PANEL 2



HM-0710
 Outputs: 10 digital + 2 relays
 Inputs: 4 + 2 optional
 Backup-battery: Rechargeable, up to 20 hours operating time

Features

- Customized configuration before delivery
- Several Electric Release Units or relay outputs can release lifesaving appliances in pre-programmed sequences or by manual selection.
- Sensors, switches and push buttons connected to the ERRS Control Panel 2 inputs can initiate activation on the outputs.

Especially suitable for

For ships and vessels demanding a very flexible system with customized solutions for activation of several lifesaving appliances, evacuations systems or loads.

System set-up

The configuration of the ERRS Control panel 2 is very flexible and each installation has its own configuration parameters. The system is operated from one or several ERRS Control Panels in a network. The panels can activate outputs to release ERU’s (Electric Release Units) for launching liferafts, evacuation systems, Epirbs and other safety equipment. The relay outputs can also be used for closing doors and air intakes in case of fire, set an alarm or release heavy loads. Activation of these outputs can also be controlled from other remote positions by using pushbuttons and remote switches connected to the

network via the inputs. The performance of the system is defined by the customized configuration of the ERRS Control Panel 2. Due to how it is programmed, the system can meet specific requirements for each installation.

Outputs

Outputs can be activated from one or several ERRS Control Panel 2 or from added devices connected to the panels' inputs. The system can be configured to activate in forced manual sequence, forced automatic sequence, combination of these or by manual selection of available outputs or groups of outputs. Each panel has 10 outputs for releasing H2O ERU (Electronic release unit), 2 relay outputs and 1 alarm relay output.

Inputs

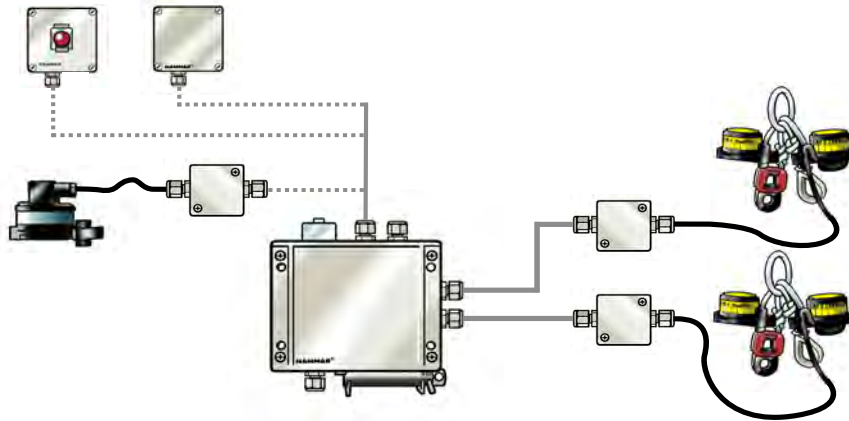
Every ERRS Control Panel 2 has 4 inputs (closing contact) with possibility to have broken wire detection and 2 optional isolated inputs. Different types of sensors, remote push buttons and switches can be connected to the inputs. When an input is activated, the Control Panel 2 can activate outputs or relays for initiate an action or a sequence of actions, for example launching liferafts, activate a MES or set an alarm.

System check

ERRS Control Panel 2 continuously runs system check to detect errors in the system. The system check monitors the internal back-up battery and emergency power voltage, ERU circuits and communication between panels in the network. If the system check detects an error, an alarm message will appear on the display. A LED will indicate 24 VDC emergency power failure.

Products		External power supply	Backup battery	Inputs	Outputs	Alarm output	Activation sequence between outputs	System check
Part no.	Part							
HM-0710	Control Panel 2	Emergency power 24V	Yes	4+2	10+2	Yes	Configured at delivery	Continuously
HM-0460	BO	No	Yes	1	2	No	Different configuration available	Manual
HM-0461	LAD	Emergency power 24V	Yes	1	2	Yes	Different configuration available	Once every hour
HM-0462	LRS	Emergency power 24V	Yes	1	2	Yes	Different configuration available	Once every hour
HM-0450	RS	Emergency power 24V	No	0	1	No	No	No

ERRS BO - BATTERY OPERATED SYSTEM



HM-0460

Outputs: 2

Inputs: 1

Backup-battery: Up to 24 hours operating time

Features

- ERRS BO is powered by the integrated battery, therefore it operates without external power supply from the ship
- The standard configuration is set to release the two units (liferafts, EPIRBS) at the same time. Different configurations are available.

Especially suitable for

Solutions demanding electronic remote system with no access to external power supply.

The system has an integrated Lithium battery pack with 5 years lifetime. The ERRS BO system is normally in a sleeping mode to save battery and the system needs to be waked up before use by removing an activation bar. ERRS is powered by the integrated battery and can be used for installations up to 150 meters in cable length.

In- and outputs

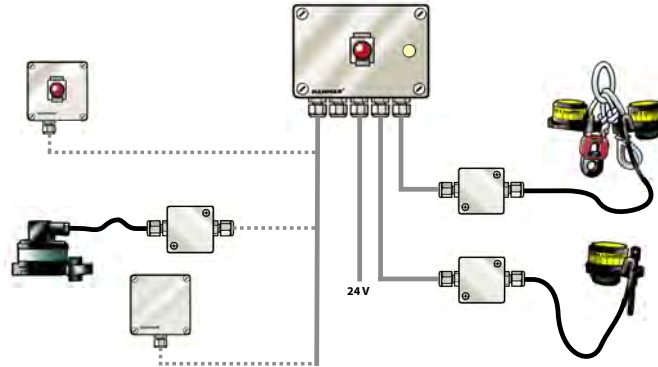
It is operated by a remote push button, a water sensor or by a HPS Hydrostatic Pressure Switch that activates one or two electric Hammar H2O Electric Remote Unit's. ERRS BO can be controlled from several remote release positions by adding one or more remote push buttons.

System check

ERRS performs a system check when the test push button is pressed. The system check monitors battery, ERU circuits and the wiring to an external activation switch. If the system check detects a deviation an alarm message will appear on the LED indicator.

Products		External power supply	Backup battery	Inputs	Outputs	Alarm output	Activation sequence between outputs	System check
Part no.	Part							
HM-0710	Control Panel 2	Emergency power 24V	Yes	4+2	10+2	Yes	Configured at delivery	Continuously
HM-0460	BO	No	Yes	1	2	No	Different configuration available	Manual
HM-0461	LAD	Emergency power 24V	Yes	1	2	Yes	Different configuration available	Once every hour
HM-0462	LRS	Emergency power 24V	Yes	1	2	Yes	Different configuration available	Once every hour
HM-0450	RS	Emergency power 24V	No	0	1	No	No	No

ERRS LAD - LIST ANGLE DETECTION



HM-0461

Outputs: 2

Inputs: 1

Backup-battery: Up to 12 hours operating time

Features:

- Automatically release of units at a specified degree of list
- Different configuration of the list angle and different activation sequences of outputs are available.
- Can also release units manually by local or remote push button

Especially suited for

Vessels with increased risk of capsize due to working conditions such as fishing vessels, workboats.

With current float-free release systems on the market, safety equipment is released first when it reaches a depth of 1,5 to 4 metres. When a ship or a vessel capsizes without sinking, there is therefore a risk that liferafts and Epirbs are trapped under the vessel, or never released at all if not submerged to a sufficient water depth.

With List Angle Detection (LAD) liferafts and Epirbs can be automatically released at a specified degree of list when a vessel capsizes. The released safety units reach the surface before the ship flips around, significantly reducing the risk for it to be trapped or entangled in constructions on deck.

In- and outputs

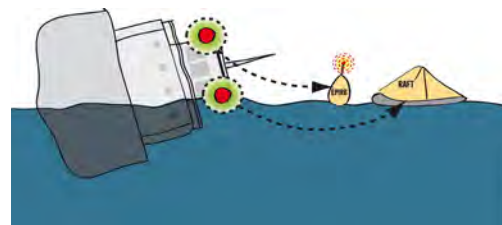
ERRS LAD can be controlled from several remote release positions or automatically by a HPS (Hydrostatic Pressure Switch) or a water sensor. Output number two is activated automatically 2 seconds after output number one has been activated as a standard configuration. For activation of relay outputs the unit has to be configured for this function and an ERRS Addon modul (HM-0464) is needed.

System check

ERRS LAD automatically performs a system check once every hour. The system check monitors battery, emergency power voltage, ERU circuits and the wiring to an external activation switch. The battery condition is checked every 24 hours. If the system check detects a deviation an alarm message will appear on the LED indicator and the alarm output is activated. It is possible to initiate a manual system check which is useful at raft service.

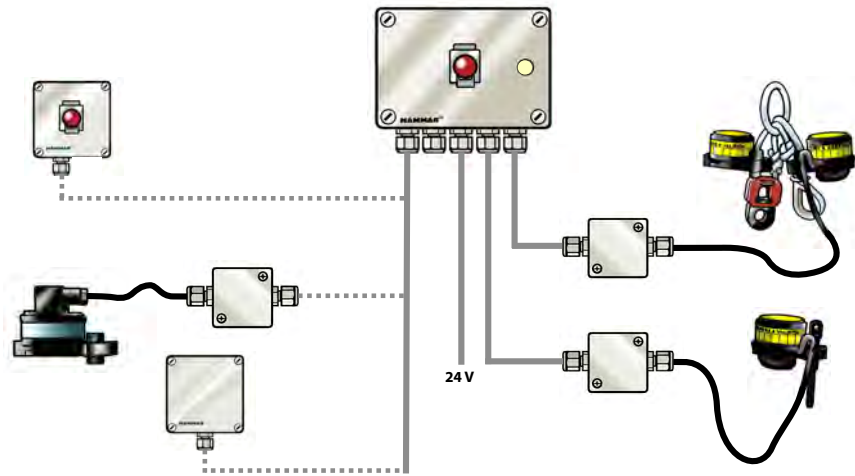
Power supply

ERRS is powered by the ship's emergency power supply. Each control panel is also equipped with a back-up battery to ensure operation in all emergency conditions.



Products		External power supply	Backup battery	Inputs	Outputs	Alarm output	Activation sequence between outputs	System check
Part no.	Part							
HM-0710	Control Panel 2	Emergency power 24V	Yes	4+2	10+2	Yes	Configured at delivery	Continuously
HM-0460	BO	No	Yes	1	2	No	Different configuration available	Manual
HM-0461	LAD	Emergency power 24V	Yes	1	2	Yes	Different configuration available	Once every hour
HM-0462	LRS	Emergency power 24V	Yes	1	2	Yes	Different configuration available	Once every hour
HM-0450	RS	Emergency power 24V	No	0	1	No	No	No

ERRS LRS - LOCAL RELEASE SYSTEM



HM-0462

Outputs: 2

Inputs: 1

Backup-battery: Up to 24 hours operating time

Features

- Release system for two units with adjustable time delay
- Possible to release units both manually by push button or automatically by a HPS

Especially suitable for

Optimized for installation with few liferafts and/or EPIRBS.

ERRS LRS is easy to operate and install, saves space and is very flexible, thus providing effective management for fast evacuation of a large number of passengers. ERRS LRS can be used for installations up to 150 meters in cable length.

In - and outputs

ERRS LRS is operated by a push button on the electronic control panel that activates one or two electric Hammar H20 Electric Remote Unit´s or relay outputs. Output number two is activated automatically 2 seconds after output number one has been activated as a standard configuration. The time delay can be adjusted to meet specific requirements. For activation of relay outputs an ERRS Addon modul (HM-0464) is needed and the unit has to be configured for this function.

The system can be controlled from several remote release positions by adding one or more remote push buttons. It is thus a very flexible system for the management of safety appliances on board.

Power supply

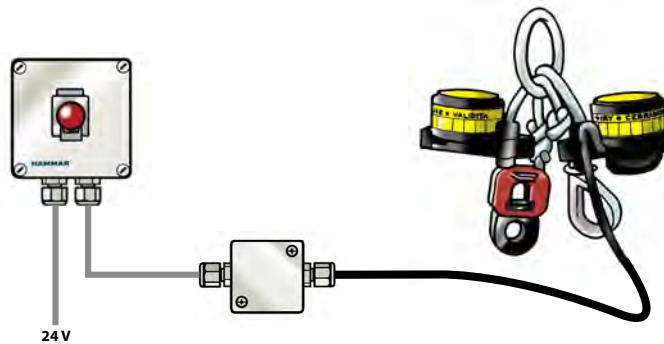
ERRS is powered by the ship's emergency power supply. Each control panel is also equipped with a back-up battery to ensure operation in all emergency conditions. The system can run on battery for 24 hours if the ship's emergency power supply is interrupted.

System check

ERRS automatically performs a system check once every hour. The system check monitors battery, emergency power voltage, ERU circuits and the wiring to an external activation switch. The battery voltage is checked every 24 hours. If the system check detects a deviation an alarm message will appear on the LED indicator and the alarm output is activated. It is possible to initiate a manual system check which is useful at raft service.

Products		External power supply	Backup battery	Inputs	Outputs	Alarm output	Activation sequence between outputs	System check
Part no.	Part							
HM-0710	Control Panel 2	Emergency power 24V	Yes	4+2	10+2	Yes	Configured at delivery	Continuously
HM-0460	BO	No	Yes	1	2	No	Different configuration available	Manual
HM-0461	LAD	Emergency power 24V	Yes	1	2	Yes	Different configuration available	Once every hour
HM-0462	LRS	Emergency power 24V	Yes	1	2	Yes	Different configuration available	Once every hour
HM-0450	RS	Emergency power 24V	No	0	1	No	No	No

ERRS RS - RELEASE SWITCH



HM-0450

Outputs: 1
Inputs: 0
Backup-battery: None

HM-0451

Outputs: 1
Inputs: 0
Backup-battery: None
For flush mounting, consist of a push button module and an electronic switch module

HM-0453

Outputs: 1
Inputs: 0
Backup-battery: None
Parallell connection with HM-0460, HM-0461, HM-0462

Features:

- Release system for one unit, such as liferaft, Epirb, lifebuoy
- Easy to operate and install

Especially suitable for:

Optimized for release of one liferaft, Epirb, lifebuoy or other objects secured on deck.

This is the simplest HAMMAR ERRS system with the capacity to release one ERU with the pushbutton on the Electric Release Switch.

The unit is powered by the ship's 24 V emergency power. There is no backup battery.

Products		External power supply	Backup battery	Inputs	Outputs	Alarm output	Activation sequence between outputs	System check
Part no.	Part							
HM-0710	Control Panel 2	Emergency power 24V	Yes	4+2	10+2	Yes	Configured at delivery	Continuously
HM-0460	BO	No	Yes	1	2	No	Different configuration available	Manual
HM-0461	LAD	Emergency power 24V	Yes	1	2	Yes	Different configuration available	Once every hour
HM-0462	LRS	Emergency power 24V	Yes	1	2	Yes	Different configuration available	Once every hour
HM-0450	RS	Emergency power 24V	No	0	1	No	No	No

MAINTENANCE

ERRS CONTROL PANEL 2

ERRS Control Panel 2

ERRS Control Panel requires a minimum of maintenance: If the battery control test indicates insufficient battery capacity, replace the battery.

Change H20 ERU

The H20 ERU is a disposable unit, it has to be changed to a new one every second year (see the expiry date on the H20 ERU).

MAKE SURE THE LIFERAFTS ARE SECURED BEFORE ANY WORK WITH THE RELEASE UNITS TAKE PLACE!!

System status check

The ERRS Control Panel 2 control shall be visually inspected on a regular basis to make sure that the systems status is OK. We recommend that the alarm output is connected to a siren, a light or to the ship general alarm system.

BO, LAD, LRS

Control box

The Control box requires a minimum of maintenance: replacing the backup battery every 5 years or when it has been in use or if a low battery voltage alarm is shown.

Change H20 ERU

The H20 ERU is a disposable unit, it has to be changed to a new one every second year (see the expiry date on the H20 ERU).

MAKE SURE THE LIFERAFTS ARE SECURED BEFORE ANY WORK WITH THE RELEASE UNITS TAKE PLACE!!

System status check

The System status check automatically checks the function of the system. The system status is shown on a LED indicator and the control boxes shall be visually inspected on a regular basis to make sure that the systems status is ok. We recommend that the alarm output is connected to a siren, a light or to the ship general alarm system.

ERRS SYSTEM COMPONENTS

ERRS SYSTEM

Part no.

HM-0710 Control Panel 2 can handle up to 10 active outputs, two relay outputs, 4 active inputs and two optional inputs. OLED display. Each Control panel will be configured for each installation. Contains electronics, back-up battery and terminal block.



HM-0460 Control Box BO – battery operated. Two active outputs and one input for hydrostatic pressure switch – HPS or remote push button. Battery operated and 5 years lifetime. LED status feedback.



HM-0461 Control Box LAD – list angle detection system. Two active outputs and one input for hydrostatic pressure switch – HPS or remote push button. 24V emergency power. Battery backup with 5 years lifetime.



HM-0462 Control Box LRS – local release system. Two active outputs and one input for hydrostatic pressure switch – HPS or remote push button. 24V emergency power. Battery backup with 5 years lifetime.













HM-0450 Release switch for ERU. Can handle one active output. Powered by 24V emergency power.



ERRS INPUT COMPONENTS

Part no.

HM-0470	HPS – hydrostatic pressure switch. Activates at 1,2m water depth. Other release depth is available on request. Cable length is 1,5m.		HM-0451	Release switch for ERU for flush mounting. Supplied without protective enclosure.	
HM-0475	Protective enclosure for HPS switch		HM-0452	Intelligent remote push button IRPB, one active contact, input to HM-0710. IRPB is included in the Control Panel 2 system check.	
HM-0474	HPS – hydrostatic pressure switch. Activates at 1,2m water depth. 35cm cable with connector size 10. Other release depth is available on request.		HM-0453	Remote push button, one active contact, parallel connection with HM-0460, HM-0461 or HM-0462	
HM-0476	Protective enclosure, HPS switch with cable connector.				
HM-0478	Water sensor. Activates at the presence of bulk water and will not activate due to moisture or rain.				
HM-0479	Enclosure for water sensor. Protects the water sensor from abuse or splashes of water.				
HM-0450	Release switch RS, for ERU. Can handle one active output. Powered by 24V emergency power.				

ERRS OUTPUT COMPONENTS

Part no.

HM-0400 ERU – electric remote unit, electric activation only



HM-0493 Polar Box heated for two ERU



HM-0405 ERU – electric remote unit, electric/water activation, release depth 1,5 – 4,0 metres



HM-0408 ERU – electric remote unit, electric/water activation, release depth approx. 4 metres



HM-0403 ERU – electric remote unit, electric/water activation, release depth approx. 6 metres



HM-0409 ERU-electric remote unit, electric/water activation, release depth 1,5 – 4,0 metres, for EPIRB



HC-0402 H20/ERU dual assembly, Hammar type for rafts in MES system, weak link, electric activation only



HC-0403 H20/ERU dual assembly, Hammar type for rafts, standard weak link, electric/water activation, release depth 1,5 – 4,0 metres



ERRS INSTALLATION COMPONENTS

Part no.

HM-0464

ERRS Addon modul to HM-0461 and HM-0462 – offers connection in parallel between several Control Boxes plus offers the possibility for relay output.



HM-0735

Ground connection device M25 cable dia 12 – 18mm, shall be used with HM-0710



HM-0430

ERU connector box, plastic



HM-0457

ERRS simulator for ERRS Control System



HM-0420

ERU connector box, metal



HM-0426

ERU connector box, plastic, for two ERU's



HM-0458

ERRS simulator for ERRS BO Control System



HM-0434

Cable between control panels, marine approved, screened 2x2x0,5 mm²



HM-0446

Dummy for battery Control Panel HM-0410 (bild senare)



HM-0436

Cable from control panel to release switch, marine approved screened 4x0,75 mm²



HM-0467

ERU emulator for ERRS, test device for installation of ERRS systems



HM-0440

Cable from control panel to connector box, marine approved, screened 2x0,75 mm²



HM-0730

Ground connection device M20 cable dia 6 – 12mm, shall be used with HM-0710



ERRS SPARE PARTS

Part no.

HM-0415 Control panel, toplid only



HM-0445 HM-0445 Battery pack, backup, 12V lithium, for Panel System HM-0410



HM-0495 Battery pack, backup, 12V Lithium, for HM-0460, HM-0461, HM-0462



HM-0448 External battery pack for ERRS Control Panel (old version) HM-0410



HM-0442 Earth cable, for HM-0410



HM-0725 Rechargeable battery pack for Control Panel 2, HM-0710



HM-0486 Magnetic activation bar for Control Box BO



TECHNICAL SPECIFICATIONS

ERRS CONTROL PANEL 2 - HM-0710

TEMPERATURE RANGE

ERRS Control Panel 2 operates between -30 C to +65 C

INTERNATIONAL PROTECTION RATING

Control panel: IP 66

Connector boxes for H2O ERU: IP 66

Colour: Steel grey

WEIGHT

ERRS control panel 2: 2800 gram

Connector box for H2O ERU: 150 gram

DIMENSIONS

L x H x D: 222 x 125 x 84 mm

POWER SUPPLY

Main source: 24 VDC max 0,5 A (16-36 VDC)

Rechargeable back up battery: Pb, 6 VDC

I/O

Inputs: 4 (closing contacts) with broken wire detection

Isolated Inputs: 2

Outputs: 10 (for H2O ERU release units)

Relay outputs: 2

Alarm relay output: 1 (normally closed when system ok)

USER INTERFACE

Display: OLED display - size 63x33 mm

Membrane switch: 6 buttons

CABLES

Cable for communication between Control Panels – HM-0434

2 x 2 x 0,5mm², diameter 12mm

Cable from Control Panel to Release Switch – HM-0436

2 x 2 x 0,75mm², diameter 10mm

Cable from Control Panel to connector box – HM-0440

1 x 2 x 0,75mm², diameter 8mm

General specification: Marine approved, screened. If the cable is sourced locally it is important that the same quality and dimensions are used. Use of larger diameter cable will not fit the cable glands.

Note: Check electric wiring drawing.

CABLE GLANDS

Standard Equipped

16 x M16 metal EMC Cable Glands for cable diameter 5,0 -10,0 mm, screen diameter 3,5-8,0 mm

2 x M20 metal EMC Cable Gland for cable diameter 7,5 – 14,0 mm, screen diameter 5,5-11,0 mm

Optional cable glands

6 x M16 x 1,5 Cable Gland for cable diameter 8,0 – 15,0 mm, screen diameter 7,5-10,0 mm

4 x M16 EMC Cable Gland for cable diameter 6,0 – 10,5 mm, screen diameter 4,5-8,0 mm

2 x M20 x 1,5 EMC Cable Gland for cable diameter 8,0 – 15,0 mm, screen diameter 7,5-12,0 mm

1 x M20 EMC Cable Gland for cable diameter 12,5 – 20,5 mm, screen diameter 10,0-16,0 mm

CONFIGURATION

N° of release objects (liferrafts). Display text/language/sequence.

All parameters are programmed into the system by C M Hammar upon delivery. There are several possibilities to further adapt the system. Please consult us for special requirements.

CONNECTION TERMINALS

Max. wire area 2,5 mm²

ERRS CONTROL PANEL 2 SPECIFICATION

The maximum wire length between each control panels is 1000 meters.

The maximum wire length between a control panel and its connected H2O ERU is 150 meter.

Up to 8 control panels can be connected in a network giving a maximum of 80 H2O ERU outputs, 16 relay outputs and 48 inputs for the complete network.

Note: Check electric wiring drawing.

SYSTEM TEST

The system continuously runs a system check for battery, power supply, H2O ERU, cables and for the panel communication.

An error relay output can be connected to any external alarm system.

System error is shown on the display or by the led indicator.

DOCUMENTATION

Product leaflet, Technical Product Information & Installation Manual

GROUND CONNECTION DEVICE

The device is designed to ensure a good permanent electrical connection between the ERRS Control Panel 2 system and to the ships ground. Each ERRS Control Panel 2 has to be connected to ships ground.

The Ground Connection Device is available in two sizes for different cable diameters.

Ground connection device M20 for cables diameter of 6 -12 mm, screen diam. 4,5 – 10 mm. Part no: HM-0730

Ground connection device M25 for cables diameter of 12 – 18 mm, screen diam. 7 – 14 mm. Part no: HM-0735

BO, LAD, LRS, RS

TEMPERATURE RANGE

System and its components: -30° C to +65° C

INTERNATIONAL PROTECTION RATING

IP66

Material: BO Alloy; LAD, LRS, RS glass fibre reinforced duroplastic polyester.

Colour: BO; Steel grey. LAD, LRS, RS beige/grey

Flammability: V0/self-extinguishing, UL 94

Toxity: Halogen free

WEIGHT

BO - 800gr

LAD - 1950gr

LRS - 1900gr

RS - 515gr

RS Flush mount - 125g

USER INTERFACE

Gives feedback from the system status check and feedback at activation by a three colored LED.

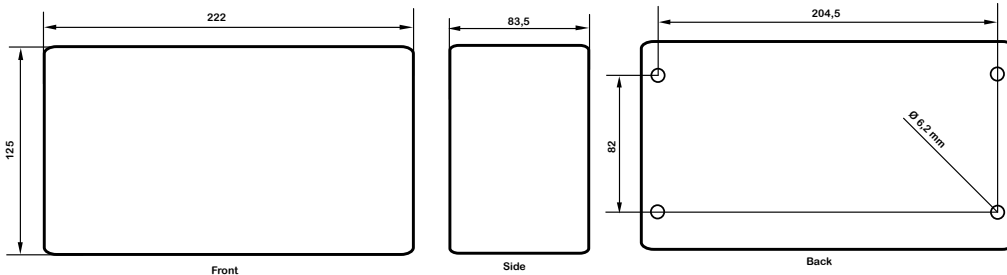
CABLES

Screened wires with a minimum wire area of 0.75 mm² shall be used. Maximum cable length 150 meters.

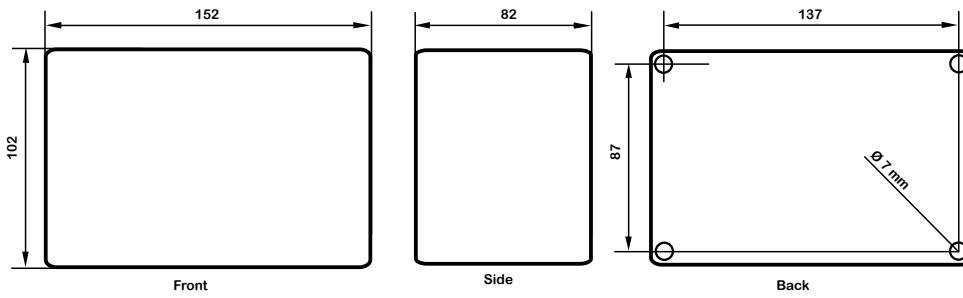
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HM-0450	RS	Emergency power 24V	No	0	1	No	No	No

ERRS ENCLOSURE DIMENSIONS

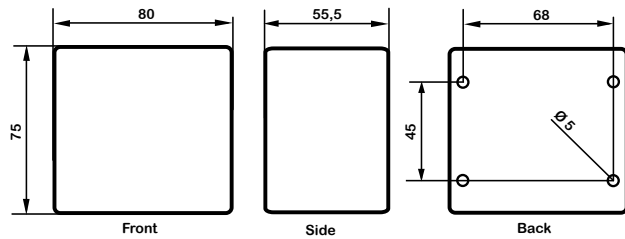
HM-0710 Control Panel 2



HM-0475 Protective enclosure for HPS switch

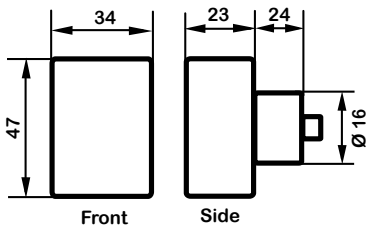


HM-0426 ERU connector box, plastic, for two ERU's

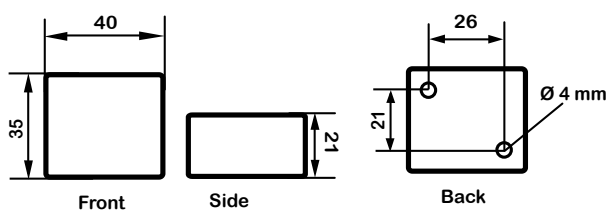


HM-0451 Release Switch for flush mounting

Push button module



Electronic module



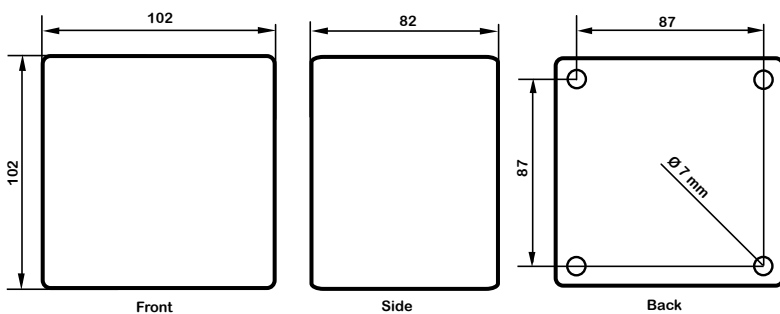
HM-0450 Release Switch

HM-0452 Intelligent Remote Push button

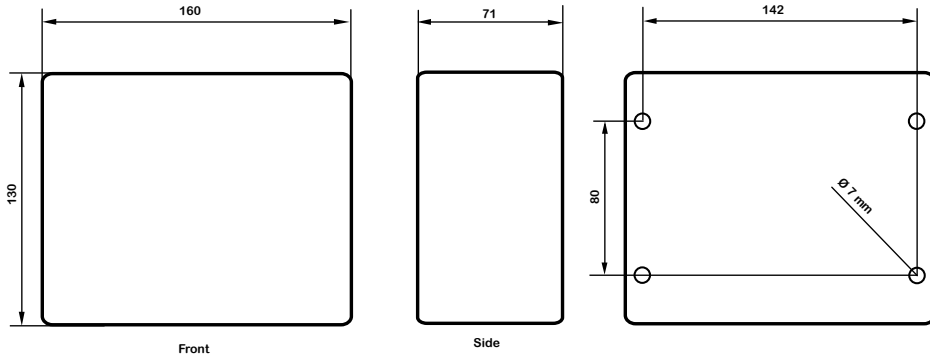
HM-0453 Remote push button

HM-0454 Remote push button, 2 glands

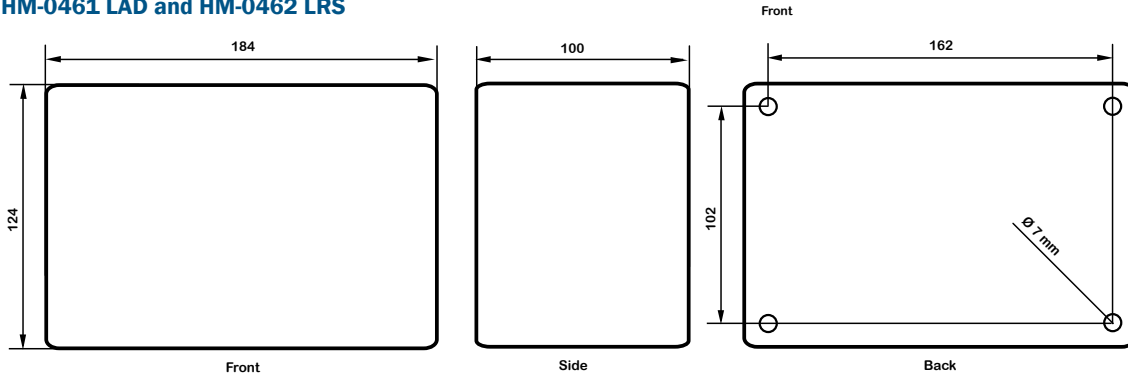
HM-0478 Water sensor



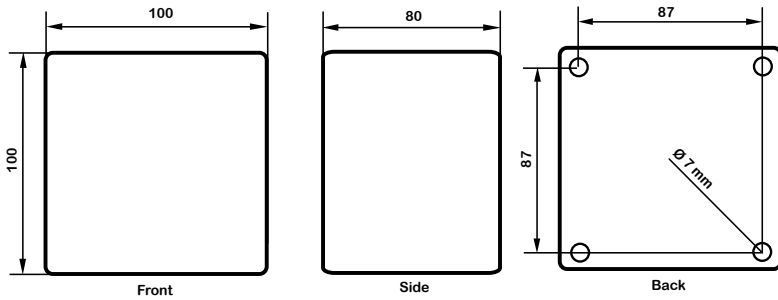
HM-0460 B0 Control box



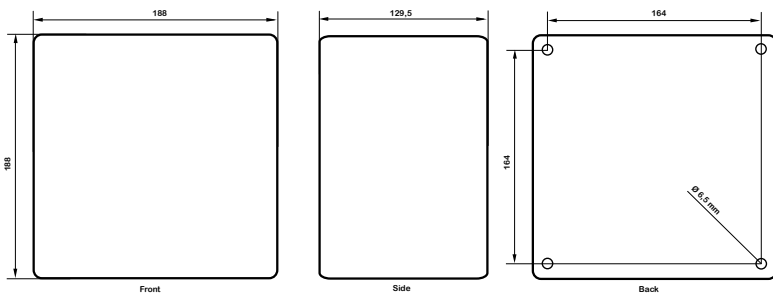
HM-0461 LAD and HM-0462 LRS



HM-0478 Water sensor



HM-0479 Enclosure for water sensor



HM-0420 ERU connector box metal and HM-0430 ERU connector box plastic

