



# TECHNICAL PRODUCT INFORMATION

## HM-0461

### LAD SYSTEM

List Angle Detection



# PRODUCT INFORMATION

The Hammar LAD - List Angle Detection system is especially suited for vessels with increased risk of capsizing due to working conditions such as fishing vessels and 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.

The List Angle Detection (LAD) can automatically release liferafts and Epirbs 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.

## 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.

## IN-AND OUTPUTS

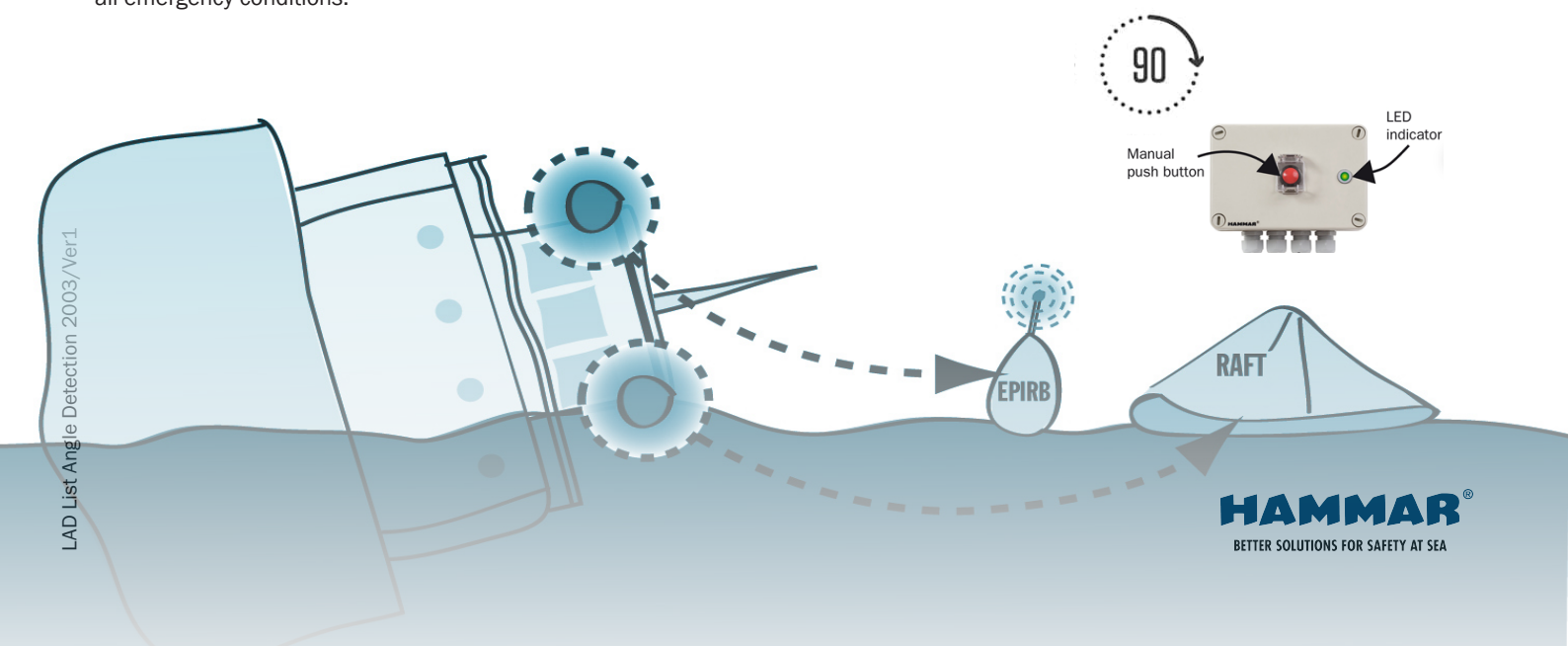
ERRS LAD can be controlled from several remote release positions or automatically by a HPS (Hydrostatic Pressure Switch) or a water sensor. Output number two is activated automatically 2 seconds after output number one has been activated as a standard configuration. For activation of relay outputs the 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.

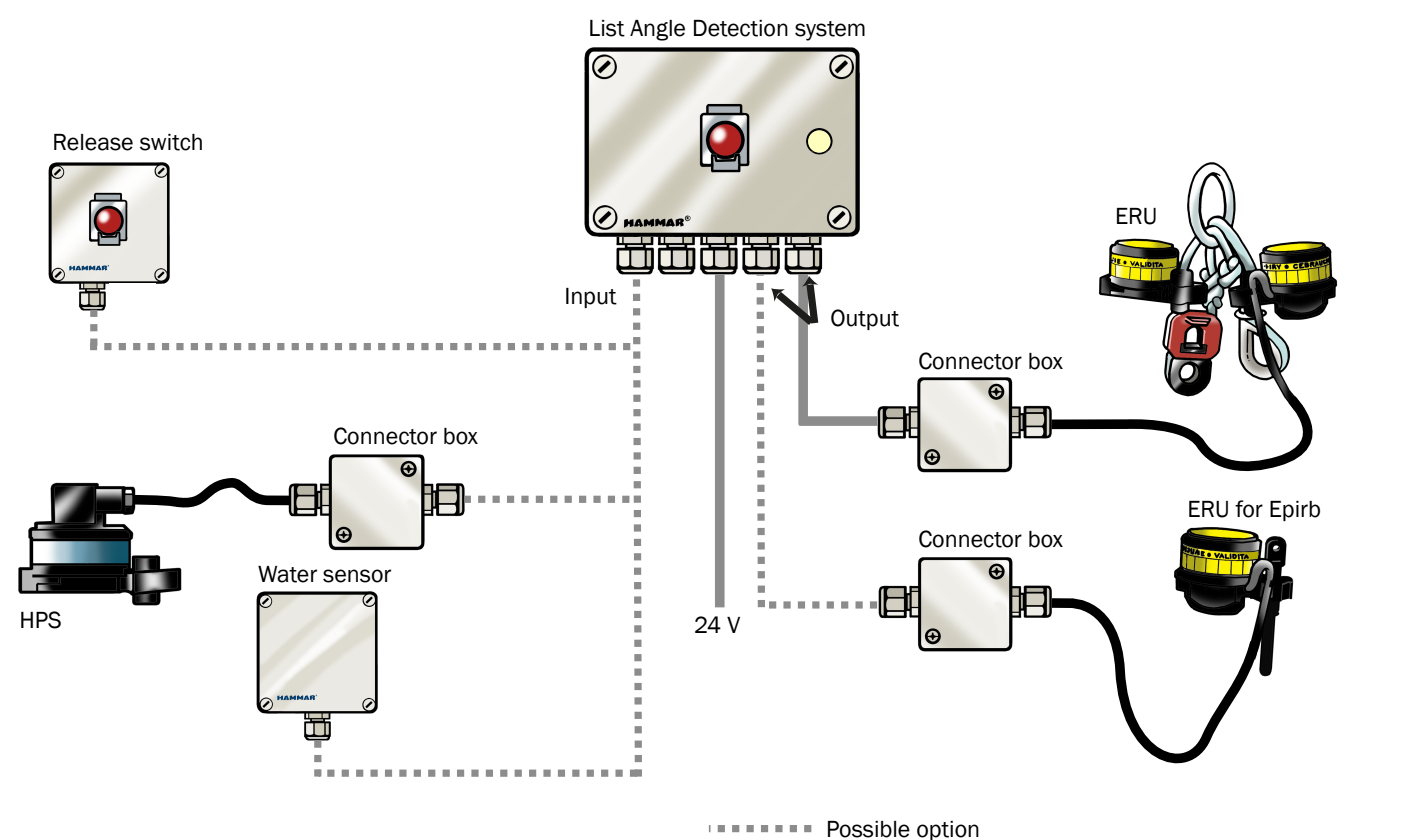
## POWER SUPPLY

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.





# TECHNICAL SPECIFICATIONS



## TECHNICAL SPECIFICATION LAD

Backup-battery:	Up to 12 hours operating time
External power supply:	Emergency power 24V
Outputs:	2
Inputs:	1
Temperature range:	-30 to +65°C
Alarm Output:	Yes
System check:	Once every hour
Activation angle:	~90 degree angle
Enclosure protection:	IP66
Weight:	1950 gram
Cables:	Screened wires with a minimum wire area of 0.75 mm <sup>2</sup> Maximum cable length 150 meters.

# MAINTENANCE

## 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 H2O ERU

The H2O ERU is a disposable unit, it has to be changed to a new one every second year, or otherwise stated on the product, from month of installation onboard.

**NOTE:** 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 in 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.

# ENCLOSURE DIMENSIONS

## LAD LIST ANGLE DETECTION, HM-0461

