

## Aids to Navigations system

### LMV XXI-HEKLEO • RADAR NAVAL BEACON



The LMV XXI-HEKLEO radar naval beacon is a receiver/transmitter device that enhances the detection and identification of radar echoes by responding with a radar signal Morse coded.

It operates on both X and S bands, providing a reliable, all weather guidance to the sailor such as range bearing and leading line.

#### Features

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- High transmitter power and great receiver sensitivity give a long service range.
- Dual token (frequency-pulse width) side-lobe suppression (SLS).
- Precise measuring main lobe of radar antenna gives a leading line.
- Built-out adjusting the codes, variable code's length with radar pulse width.
- Extremely low power consumption.
- Light weight/size for easy use and installation.
- Serial port for monitorization system.
- External equipment for programmation.

#### Applications

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- Turning point of channel.
- Separation Zone or Line.
- Isolated dangers and hazardous areas warning.
- Landfall identification.
- Indication of navigable spans under bridges.
- Leading Ramark.

#### Options

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- Service range: short or long range.
- Azimuth response: 60°, 90°, 180°, 360° (only in X-band).
- Optional leading line.

## Technical specifications

Frequency	X band (9300-9500 MHz)
	S band (2900-3100 MHz)
Pulse width detected	70 to 2000 ns
System sensitivity	-40 dBm, X band -35 dBm, S band
Response delay	Typical 670 ns and < 700 ns
Frequency response accuracy	< +/- 3.5 MHz (< 200 ns), < +/- 1.5 MHz (> 200 ns)
Transmitted Power	1 W typical.
Response code	Programmable: 13 letters of Morse code, others upon request.
Response scaling	Set by user (6 to 60 $\mu$ s)
Voltage	10 to 32 V
Average consumption	3 W typical
Communications Port	RS232 Serial link for programming and diagnosis
Outputs	3 open collector outputs, X fault, S fault and power supply fault
Logic input	Beacon Inhibition for VTS ( <i>Vessel Traffic Service</i> )
Polarization	Horizontal and vertical in S band Vertical in X band
Azimuth diagram	360° ( $\pm$ 2 dB in X and $\pm$ 0.5 dB in S)
Angle of elevation diagram	$\pm$ 15°(+/-3 dB, X and S)
Suppression of response to radar side lobes	Independent SLS in X band and S
Operating temperature	-20 °C to + 60 °C
Level of protection	IP-67 per EN 60529
Vibrations	$\pm$ 1mm to 13.2 Hz, 7 g to 100Hz (EN60945)
Overall dimensions	Diameter : 280 mm ; height: 740 mm
Weight	9 kg
Materials	Polyethylene body and aluminium base-plate

