HEKLEO-2 XS
Frequency Agile Racon

Description

The HEKLEO-2 XS racon is an upgraded version of our very successful HEKLEO XS. This version, as its predecessor, was developed to fulfil the French Lighthouses and Navigation Authorities (CEREMA) requirements to equip the French coasts with new and efficient navigation aids. With more than 5500 Km of coastline, France is one of the countries in the EU with the highest number of navigation equipment.

LATEST TECHNOLOGIES
This equipment benefits from the latest technologies such as field programmable arrays and programmable timers, making it a performing and lightweight product.

LOW CONSUMPTION DESIGN
The HEKLEO-2 XS racon has been designed for low-power requirements. It implements a power saving strategy by having different functioning periods. So, in addition to low-power consumption during the active period, it observes idle periods which enable the navigator to check the presence of echoes unintentionally hidden by the racon response and to save energy. Additionally, if no radar is detected in the vicinity, it enters into a quiescent period where only the waking circuits are on duty.

OPERATION
This racon answers to all active radars in the vicinity with a user programmed Morse code which identify its location by appearing in the radar display. The HEKLEO-2 XS is fitted with a Side Lobe Suppression system to better discriminate the genuine pulses to be responded. The length of the Morse code response matches the display range setting by programming the duration of the answer according to the pulse length.

COMPLIANCE
Compliant with IMO/IALA regulations, the HEKLEO-2 XS operates on both S and X bands, providing an indispensable service in all weather conditions.

EASY INSTALLATION AND PROGRAMMING
The HEKLEO-2 XS is fitted with a standard common user interface that can be accessed and used without any dedicated terminal. A standard laptop can be connected to the user port to check and reprogram the racon. In addition, the racon it is fitted with a built-in test which permanently scans the system. An automatic calibration is performed periodically to ensure the device is working in its nominal conditions.
The HEKLEO-2 XS is delivered with a RS232 programming cable and a USB/RS232 converter, a set of connectors to use for power supply and a user manual.

MAINTENANCE-FREE
The HEKLEO-2 XS is very easy to install and to program. Its set up interface is user-friendly and does not require any specific tools or training to be used. The programming software provided is Windows compatible.

RADAR RESPONDING BEACON

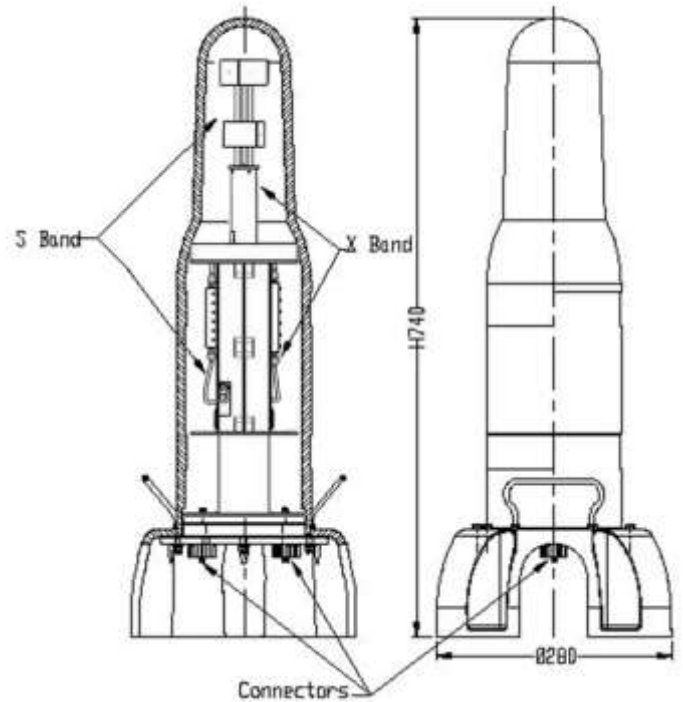**AID TO MARITIME NAVIGATION COMPLIANT WITH IALA RECOMMENDATIONS**
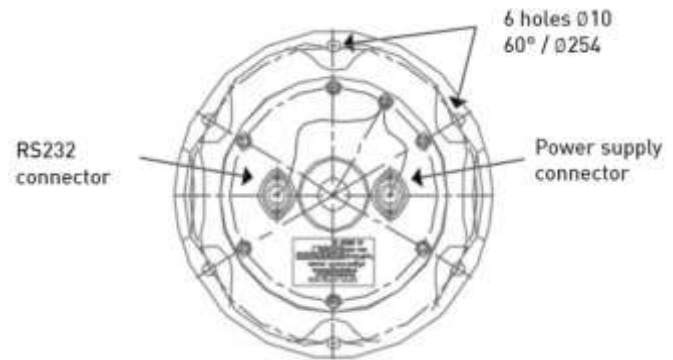
S BAND: 2.9 – 3.1 GHz
X BAND: 9.3 – 9.5 GHz

RACON – Radar beaCON

HEKLEO-2 XS Racon

Features

FREQUENCY	X band (9300 – 9500 MHz)
	S band (2900 -3100 MHz
RECEPTION	S and X bands
Detected pulse widths	50 to 2000 ns
Receiver sensitivity	-50 dBm, X band (adjustable)
	-50 dBm , S band (adjustable)
Response delay	670 ns and < 700 ns typical

EMISSION	S and X bands
Emitted power	X band 1W typical
	S band 1W typical
Emitted frequency	
Pulse width over 150ns	± 2MHz
Pulse width under 150ns	± 1MHz
Response encoding	Programmable: A-Z, 0-9, SW-SE-NE-NW of Morse code.
	Compliant with IMO A 530
Response duration	Selected by user according to interrogation pulse width (6 to 60 µsec)
	Auto – adjusted according pulse width

POWER SUPPLY	
Voltage	9 to 36V
Standby current	8 mA (12 Vdc with two band operation selected)
Listening current	120 mA (12 Vdc)
Operating current	700 mA max (12 Vdc) per band in saturation, 100% duty cycle

COMMUNICATIONS	
User port	RS232 serial link for programming and testing
	USB/RS232 converter provided
Logical outputs	3 dry contacts: default X,
	Default S, default power supply
Logical input	Inhibition for local radars

ANTENNAS	
Polarisation	Horizontal and vertical in S band
	Horizontal in X band
Horizontal diagram	5 dBi in X band over 360°
	2 dBi in S band over 360°
Vertical diagram	±3 dB X band over ±13°
	±3 dB S band over ±17°

FUNCTIONALITY
- Response to several interlaced radars.
- Suppression of side lobes interrogations (SLS) in X and S bands (according pulse width and frequency)
- Programming of active and idle periods. Cycle time programmable: active from 0 to 60 sec. and idle from 0 to 60 sec. Quiescent cycle when no interrogation.
- Automatic self-test

ENVIRONMENTAL CHARACTERISTICS
| Operation temperature | - 40°C at +70°C |
| Housing | IP67 |

LIGHTNING PROTECTION
3000V during 1ms, 1000A 8/20µs

MECHANICAL CHARACTERISTICS
Dimensions	Diameter 28 cm, height 74 cm
Weight	8.2 Kg
Material	Polyethylene body anti UV
ACCESSORIES	RS232 programming cable,
	Connector for power supply
	Internal buzzer
	User manual
	Windows® programming software

Mechanical characteristics

Mounting

Disclaimer

AMG Microwave reserves the right to modify any of the above specifications without notice.

Photos are not contractual