

SeaBeacon 2

System 6 Racon

SeaBeacon® 2 System 6, a frequency agile radar beacon (RACON), provides dependable service to all marine radars including those with modern narrow band receivers. SeaBeacon® 2 System 6 is unequalled in frequency matching accuracy, consistency pulse-by-pulse response and advanced sidelobe suppression.



CHARACTERISTICS

- **GREATER OPERATIONAL RANGE**

- SeaBeacon® 2 System 6 provides improvements in receiver dynamic range, receiver sensitivity, power consumption and transmitter power. Better receiver sensitivity and higher gain antennas give superior range performance with solid-state radars.

- **AVAILABLE WITH OR WITHOUT PRESSURISATION**

- The GMU version of SeaBeacon® 2 System 6 is available with or without pressurisation. Pressurising racons with nitrogen provides added protection against the corrosive marine environment, seasonal variations in ambient temperature, pressure fluctuations, condensation and accidental submergence.

- **DUAL-TOKEN SIDELOBE SUPPRESSION**

- Radars are identified accurately by measuring frequency and pulsewidth. Amplitude values are used to block responses to sidelobes.

- **USER SELECTIONS**

- Operating parameters such as quiescent periods, trace length, active period, extended quiescent and standard response code (per IALA recommendations) can be programmed in the field using an optional hand-held keypad or laptop.

- **INTELLIGENT POWER MANAGEMENT**

- Users may program quiescent and active time intervals to match performance and power consumption requirements. To further reduce power consumption, if no local radar is detected, the racon automatically returns to its quiescent state after a four second active period. Extended quiescent state for low traffic areas and seasonal inhibit further reduce power consumption. Periodic quiescent periods allow the radar operator to view the radar screen ensuring that no targets have been obscured by a racon response.

- **PROPORTIONAL SCALING**

- Ensures length of racon trace appearing on the radar screen is generally uniform on all range settings.

- **MONITORING**

- SeaBeacon® 2 System 6 racons can be linked, via Tideland's NavLink®, to a manned base station for remote monitor and control functions.

- **HAZARDOUS USE RATING**

- Available for General Marine Use (GMU), NEC Class 1 Division 2 (not pressurized), IECEx/ATEX Category 2 (Zone 1) or ATEX Category 3 (Zone 2) for hazardous areas.

- **COMPLIANT TO**

- IALA Recommendation R-101 on Marine Radar Beacons (RACONS) Edition 2 December 2004.



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Frequency of Operations	
X-Band	9.3 to 9.5GHz
S-Band	2.9 to 3.1GHz
Frequency Matching Accuracy – Long/Short Radar Pulses	±1MHz
Output Power to Antenna	1.0W (30dBm)
Pulsewidth Response	
Minimum	50 nanoseconds
Maximum	2000 nanoseconds
RACON Response Length	4-80 microseconds
RACON Response Display Scaling	
Pulsewidth (±50 ns typical)	RACON Response (±5 µsec typical)
800 nanoseconds to 2000 nanoseconds	Selected value
450 nanoseconds to 800 nanoseconds	75% of selected value
215 nanoseconds to 450 nanoseconds	50% of selected value
50 nanoseconds to 215 nanoseconds	25% of selected value
System Sensitivity	
X-Band	-50dBm
S-Band	50dBm
Response Rate – Maximum (either band)	10KHz
Response Delay – Maximum (100 metres)	667 nanoseconds
Response Recovery Time – Maximum	20 microseconds
Response Code	AZ, D-9, NW, NE, SW, SE
Radar Blanking	External Blanking control ports available
Built-in System Test Monitor	
Built-in System Test Monitor	Audible Beeper
External A	Isolated Transistor Switch for Go-No Go
External B	RS-232C Communications Port for monitor, control and field programming features
Power Supply Input Voltage	
GMU	9-36 nominal 12VDC
Ex	18-32 nominal 24VDC
Lighting Protection – Surge Protection	1 minisecond at 300 volts
Quiescent Power Consumption	0.24W
Nominal Power Consumption	
Light Traffic	0.75W
Heavy Traffic	1.0W (30dBm)
Quiescent Period	Programmable 0 to 60 seconds
Extended Quiescent	Programmable/Selectable
Active Period	Programmable 4 to 60 seconds
Seasonal Inhibit	Programmable/Selectable
Antenna Specifications	
X-Band Gain	6dBi
Polarisation	Horizontal
Vertical Divergence	22 degrees
Effective Radiated Power	4.0W
S-Band Gain	6dBi
Polarisation	Horizontal
Vertical Divergence	22 degrees
Effective Radiated Power	4.0W
S-Band Dual Polarisation Gain	1dBi (Horizontal); 0dBi (Vertical)
Polarisation	Horizontal and Vertical
Vertical Divergence	22 degrees
Effective Radiated Power	1.0 to 1.3W
IP Rating	IP68
Submersion Capability – Maximum Depth	10 metres (35ft)
Positive pressurisation	GMU version available with or without
Dimensions	
Diameter	353mm (13.9in)
Height	807mm (31.8in)
Weight (includes 4.5 metre external cable and all stainless steel mounting hardware) – GMU	13.6kg (30lbs)*
Base Housing	Aluminum
Operating Temperature	
GMU and ATEX Category 3	-40° C to +70° C
IECEX/ATEX Category 2	-40° C to +48° C
NEC/CSA Class 1, Division 2	-40° C to +70° C
Certification Details	IECEX ETL22.0018X
	ITS16ATEX18410X
	ITS21UKEX0391X
	Ex db eb pxb IIC T4 Gb
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