SEA.AI

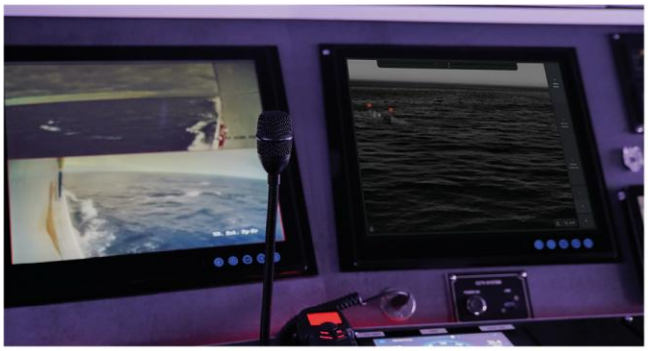
MACHINE VISION FOR SAFETY & SECURITY AT SEA



BRAIN

Brain unlocks the full potential of installed thermal cameras. By processing live imagery through SEA.AI's AI engine, trained on the largest proprietary database of annotated marine objects, Brain delivers automatic object detection, classification, and real-time alerts on any vessel, any platform. No sensor replacement required. Immediate AI uplift on existing infrastructure.





AI-Detected Targets

- Vessels, RIBs and small craft on collision course
- Persons in water and man overboard situations
- Floating hazards, debris, logs, and semi-submerged objects
- AIS-dark and AIS-spoofing vessels visually identified

Key Capabilities

- Compatible with FLIR M364C & M364C LR marine thermal cameras
- Industry-leading maritime AI trained on 25M+ marine objects
- On-device edge processing with no cloud dependency
- Cross-platform operator interface via IOS, Android, Windows and Mac

PRODUCT SPECIFICATIONS

SEA.AI Brain

AI processing unit that adds SEA.AI machine-vision object detection to FLIR M364C-series thermal camera.
Compact box — no cameras included.

CAMERA COMPATIBILITY

Brain does not include cameras. It connects to a customer's third-party FLIR M364C-series camera and runs AI object detection on its thermal and daylight video feeds. Other cameras on request.

Parameter	Specification
Compatible cameras	FLIR M364C · FLIR M364C LR
Camera payload used	Thermal (640 × 512) + daylight / low-light camera
Thermal sensor	1 × 640 × 512, ~50 mK (FLIR camera)
Thermal field of view	M364C: 24° HFOV · M364C LR: 18° HFOV
MFD compatibility	Raymarine Axiom Series

PROCESSING UNIT — MECHANICAL & ELECTRICAL

Parameter	Specification
Dimensions	185 × 190 × 61.8 mm (L × W × H)
Weight	1.60 kg
Power supply	12 V DC or 24 V DC | 25 W (min. 5 A @ 12 V / 2.5 A @ 24 V)
Circuit protection	6 A fast-acting fuse (in power harness); dedicated breaker recommended
Connections	2 × Ethernet RJ45 (E1 / E2) | Power in (J1) | NMEA 2000 (J3)

SYSTEM & AI

Parameter	Specification
Function	AI object detection on third-party FLIR thermal feed
Detection basis	Thermal stream Only
Vessel data input	NMEA 2000
User interface	SEA.AI WebApp (http://brain.local/) or SEA.AI APP on Raymarine Axiom

DETECTION RANGE PERFORMANCE (via FLIR camera optics & SEA.AI Sentry as reference)

Target	FLIR M364C	FLIR M364C LR	SEA.AI Sentry (for Reference)
RHIB / fast craft (6 × 2 m)	Up to 1,750 m	Up to 2,300 m	Up to 5,250 m
NATO target (2.3 × 2.3 m)	Up to 1,150 m	Up to 1,500 m	Up to 3,500 m
Person (1.8 × 0.5 m)	Up to 450 m	Up to 630 m	Up to 1,450 m
MOB / buoy (0.4 × 0,5 m)	Up to 200 m	Up to 290 m	Up to 700 m

*Theoretical detection range per 2D Johnson Criterion (3 pixels across the target), 85–90% probability (STANAG 4347). **Disclaimer: These are theoretical optical values. The actual achievable detection range is limited by the curvature of the earth and by atmospheric attenuation — under high humidity, rain or fog it can be reduced.

SYSTEM NOTES — GOOD TO KNOW

Topic	Note
Camera compatibility	FLIR M364C / M364C LR only
API	Not available – SEA.AI cameras only
Distance estimation	Not available — Brain has no passive ranging (only available for SEA.AI cameras)
RTSP video	No detection bounding boxes overlaid on the RTSP stream
IMU / target tracking	Not available

Note: SEA.AI Brain is a retrofit / integration product for existing FLIR M364C-series installations. For new installations, professional use or full collision-avoidance capability (passive ranging, chart targets, target tracking and comprehensive API for integration), SEA.AI Sentry or Watchkeeper are recommended.