



# FLIR M232

COMPACT MARINE THERMAL VISION



The M232 marine thermal camera takes affordability and easy integration to a whole new level. Incorporating 320 x 240 thermal resolution, video over IP, and digital zoom, M232 is the smallest Teledyne FLIR marine pan and tilt camera system. The M232 improves navigation and safety by helping you see bridges, docks, buoys, and other vessels in total darkness. The M232 also helps boaters find people in the water faster than using spotlights and radar alone.



### Safer Navigation

- 320 x 240 thermal resolution for clear, detailed images
- 4x continuous E-Zoom magnifies distant targets for easy identification
- 360° pan and +/-90° tilt capability
- Rugged, waterproof gimbal enclosure with automatic window heaters for ice management



### Chartplotter Ready

- Simple Ethernet connectivity to MFD chartplotters from Furuno, Garmin, Simrad/B&G and Raymarine\*
- Enjoy touch screen pan, tilt and camera controls directly from your chartplotter display
- Optional joystick control unit available for dedicated camera control



### Intelligent Object Detection

- Combine M232 with a Raymarine Axiom display and navigate safer with ClearCruise™ object detection.\*
- Audible and visual alerts when "non-water" objects such as boats, obstacles, or markers are identified in the scene.
- A second set of eyes when navigating at night

SPECIFICATIONS	
M232	
<b>MAIN THERMAL CAMERA</b>	
Field of View	24° x 18°
Video Refresh Rate	9 Hz
Focal Length	19mm
Focus	Fixed 12ft (3.6m) to infinity
Optical Zoom	N/A
Digital Zoom	4x Continuous
Detector Type	320 x 240 VOx Microbolometer
<b>SYSTEM SPECIFICATIONS</b>	
ClearCruise Analytics	Yes, with select Raymarine Displays*
Pan/Tilt Adjustment Range	Pan: 360° (continuous), Tilt: +110°, -90°
Analog Video Connector Types	N/A
Network Video Output	Single H.264 Network Video Stream
Power Requirements	12 or 24 VDC
Power Consumption	15 W (typical) 18 W (max)
<b>ENVIRONMENTAL</b>	
Operating Temperature Range	-13°F to +131°F (-25°C to +55°C)
Storage Temperature Range	-22°F to +158°F (-30°C to +70°C)
Automatic Window Defrost	Standard at Power-Up
Water Ingress	IPX6
Shock	15 g vertical, 9 g horizontal
Vibration	IEC 60945; MIL-STD-810E
Lightning Protection	Near Strike at 2kV
Salt Mist	IEC60945
EMI	IEC60945
<b>PHYSICAL</b>	
Weight	6.0 lb (2.7 kg) w/o top-down riser 6.6 lb (3.0 kg) w/ top-down riser
Size	Without top-down riser; Diameter 6.3" (161.1mm), Height 9.0" (229.3mm) With top-down riser; Diameter 7.5" (190.0mm), Height 11.0" (279.0mm)
<b>CLEAR WEATHER RANGE PERFORMANCE</b>	
Detect a 30-foot Vessel	1.0nm (1850m)
NATO Target 2.3m x 2.3m @50%	0.7nm (1285m)
Detect Human Sized Target	0.3nm (560m)

\* Always check display manufacturer's website and technical documentation for the latest information regarding camera/display compatibility

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#### WARRANTY

FLIR's service commitment of outstanding warranty and technical support now offers you even more; by registering your system with FLIR at [www.teledyneflir.com](http://www.teledyneflir.com), the 2-Year Standard Limited Warranty is upgraded and replaced by the 3-Year Extended Limited Warranty for FREE.

For complete details on FLIR's industry-leading warranty please visit [www.teledyneflir.com/maritime](http://www.teledyneflir.com/maritime).

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