

# **M-Series**

Premium Maritime Thermal Night Vision System



## See At Night -Better than ever before

If you boat at night, or even if you think you'd like to someday, then you need M-Series: FLIR's new line of premium thermal night vision systems.

FLIR thermal imagers use the latest technologies available to help you see clearly in total darkness. In fact, they're the best commercial maritime thermal night vision systems you can find outside of the Pentagon. It's no wonder, coming from the world leader in commercial thermal imaging systems – FLIR.

#### M-Series cameras feature:

- Clearer, most detailed thermal imagery M-Series cameras deliver up to four-times the resolution of other systems, giving you clear, sharp images with detail you never thought possible in such an affordable thermal night vision system.
- More than double the detection range The new M-series systems use the latest generation
  of thermal imagers from FLIR. Featuring the highest sensitivity, and more than double the range
  performance of current systems, M-Series cameras let you see more and see farther even in the
  dead of night. M-Series systems are offered with either standard resolution or high resolution thermal
  imagers.
- Optional Lowlight TV camera Provides enhanced navigational abilities during twilight hours, when operating along intracoastal waterways, and near harbor entrances. Anywhere you can see a little, the lowlight camera will help you see more.
- Color on-screen symbology Part of FLIR's exclusive Accu-Point control and display technology, M-Series cameras have detailed, 3D color on-screen symbology that gives you instant access to system status, position, and configuration.

For additional technical information, or to see a demonstration of this revolutionary new system, contact a FLIR representative today. You can also visit www.flir.com to watch product videos and see how thermal imaging can keep you on the water, night and day.

### M-Series

Sensor Type	Thermal Imaging Specifications	M-324XP	M-324L	M-625XP	M-625L	M-612L
Total Length	Sensor Type	320 × 240 VOx Microbolometer		640 × 480 VOx Microbolometer		meter
Table   Processing   Part	FOV	24° × 18° (NTSC)		25° × 20° (NTSC)		12° × 9° (NTSC)
Table   Tabl	Focal Length	19 mm		25 mm		50 mm
Detector Type	E-Zoom	2×		2× & 4×		
Detector Type	Image Processing			FLIR DDE		
Transfer Lowlight CCD   T68 (H) × 494 (V)   T68 (H) × 494 (V)   T68 (H) × 494 (V)   T00 µlux (® f/1.4)   T00 µl	Daylight Imaging Specifications					
Minimum Illumination   FOV   Matched to IR   Matched to IR   Matched to IR	Detector Type	N/A	Transfer Lowlight	N/A	1/2" Interline Trar	nsfer Lowlight CCD
Matched to IR	Lines of Resolution		768 (H) × 494 (V)		768 (H) :	× 494 (V)
System Specifications   Size	Minimum Illumination	100 μlux (@ f/1.4) 100 μlux (@ f/1.4)			[@ f/1.4]	
Size	FOV		Matched to IR		Matche	ed to IR
Weight	System Specifications					
Pan/Tilt Coverage	Size	7" (D) × 11.2" (H)				
Y/-90° Tilt	Weight					
Connector Types	Pan/Tilt Coverage					
Power Requirements	Video Output	NTSC or PAL				
Power Consumption   25 W Nominal; 50 W Max	Connector Types	BNC with BNC-to-RCA Adapter Included for Video Out				
Environmental	Power Requirements	12 VDC to 24 VDC (-10%/+30%)				
Operating temperature range         -25°C to +55°C           Storage temperature range         -40°C to +85°C           Automatic Window defrost         Standard           Sand/dust         Mil-Std-810E           Water Ingress         IPx6           Shock         15 g Vertical, 9 g Horizontal           Vibration         IEC 60945; MIL-STD-810E           Lightening Protection         Standard           Salt Mist         IEC60945           Wind         100 knot (115.2 mph)           EMI         IEC 60945           Standard Package         Camera Head with 18-inch Cables for Power, Analog Video, and Ethernet; Joystick Control Unit; Operator Manual           Warranty         2 Year           Accessories         Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables; Top-down Mounting Riser           Range Performance†         Detect Man (1.8 m × 0.5 m)         ~1,500' (450 m)         ~2,700' (820 m)         ~4,900' (1.5 km)	Power Consumption	25 W Nominal; 50 W Max				
Storage temperature range         -40°C to +85°C           Automatic Window defrost         Standard           Sand/dust         Mil-Std-810E           Water Ingress         IPx6           Shock         15 g Vertical, 9 g Horizontal           Vibration         IEC 60945; MIL-STD-810E           Lightening Protection         Standard           Salt Mist         IEC 60945           Wind         100 knot (115.2 mph)           EMI         IEC 60945           Standard Package         Camera Head with 18-inch Cables for Power, Analog Video, and Ethernet; Joystick Control Unit; Operator Manual           Warranty         2 Year           Accessories         Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables; Top-down Mounting Riser           Range Performance!         Detect Man (1.8 m x 0.5 m)         ~1,500' (450 m)         ~2,700' (820 m)         ~4,900' (1.5 km)	Environmental					
Automatic Window defrost         Standard           Sand/dust         Mil-Std-810E           Water Ingress         IPx6           Shock         15 g Vertical, 9 g Horizontal           Vibration         IEC 60945; MIL-STD-810E           Lightening Protection         Standard           Salt Mist         JEC60945           Wind         100 knot (115.2 mph)           EMI         IEC 60945           Standard Package         Camera Head with 18-inch Cables for Power, Analog Video, and Ethernet; Joystick Control Unit; Operator Manual           Warranty         2 Year           Accessories         Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables; Top-down Mounting Riser           Range Performance†         Detect Man (1.8 m x 0.5 m)         ~1,500' (450 m)         ~2,700' (820 m)         ~4,900' (1.5 km)						
Sand/dust         Mil-Std-810E           Water Ingress         IPx6           Shock         15 g Vertical, 9 g Horizontal           Vibration         IEC 60945; MIL-STD-810E           Lightening Protection         Standard           Salt Mist         IEC60945           Wind         100 knot (115.2 mph)           EMI         IEC 60945           Standard Package         Camera Head with 18-inch Cables for Power, Analog Video, and Ethernet; Joystick Control Unit; Operator Manual           Warranty         2 Year           Accessories         Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables; Top-down Mounting Riser           Range Performance¹         Detect Man (1.8 m × 0.5 m)         ~4,900' (4.50 m)         ~2,700' (820 m)         ~4,900' (1.5 km)	Storage temperature range	-40°C to +85°C				
Water Ingress         IPx6           Shock         15 g Vertical, 9 g Horizontal           Vibration         IEC 60945; MIL-STD-810E           Lightening Protection         Standard           Salt Mist         IEC60945           Wind         100 knot (115.2 mph)           EMI         IEC 60945           Standard Package         Camera Head with 18-inch Cables for Power, Analog Video, and Ethernet; Joystick Control Unit; Operator Manual           Warranty         2 Year           Accessories         Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables; Top-down Mounting Riser           Range Performance†           Detect Man (1.8 m × 0.5 m)         ~1,500' (450 m)         ~2,700' (820 m)         ~4,900' (1.5 km)						
Shock         15 g Vertical, 9 g Horizontal           Vibration         IEC 60945; MIL-STD-810E           Lightening Protection         Standard           Salt Mist         IEC60945           Wind         100 knot (115.2 mph)           EMI         IEC 60945           Standard Package         Camera Head with 18-inch Cables for Power, Analog Video, and Ethernet; Joystick Control Unit; Operator Manual           Warranty         2 Year           Accessories         Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables; Top-down Mounting Riser           Range Performance†         Petect Man (1.8 m × 0.5 m)         ~1,500' (450 m)         ~2,700' (820 m)         ~4,900' (1.5 km)	Sand/dust					
Vibration         IEC 60945; MIL-STD-810E           Lightening Protection         Standard           Salt Mist         IEC60945           Wind         100 knot (115.2 mph)           EMI         IEC 60945           Standard Package         Camera Head with 18-inch Cables for Power, Analog Video, and Ethernet; Joystick Control Unit; Operator Manual           Warranty         2 Year           Accessories         Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables; Top-down Mounting Riser           Range Performance†         Detect Man (1.8 m × 0.5 m)         ~1,500' (450 m)         ~2,700' (820 m)         ~4,900' (1.5 km)						
Lightening Protection Salt Mist IEC60945 Wind 100 knot (115.2 mph) EMI EC 60945 Standard Package Camera Head with 18-inch Cables for Power, Analog Video, and Ethernet; Joystick Control Unit; Operator Manual Warranty Accessories Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables; Top-down Mounting Riser Range Performance† Detect Man (1.8 m × 0.5 m) -1,500' (450 m) -2,700' (820 m) -4,900' (1.5 km)	Shock					
Salt Mist  Wind  100 knot (115.2 mph)  EMI  EC 60945  Standard Package  Camera Head with 18-inch Cables for Power, Analog Video, and Ethernet; Joystick Control Unit; Operator Manual  Warranty  Accessories  Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables; Top-down Mounting Riser  Range Performance†  Detect Man (1.8 m × 0.5 m)  ~1,500' (450 m)  ~2,700' (820 m)  ~4,900' (1.5 km)	Vibration					
Wind  100 knot (115.2 mph)  EMI  EC 60945  Standard Package  Camera Head with 18-inch Cables for Power, Analog Video, and Ethernet; Joystick Control Unit; Operator Manual  Warranty  Accessories  Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables; Top-down Mounting Riser  Range Performance†  Detect Man (1.8 m × 0.5 m)  ~1,500' (450 m)  ~2,700' (820 m)  ~4,900' (1.5 km)	Lightening Protection					
EMI IEC 60945  Standard Package Camera Head with 18-inch Cables for Power, Analog Video, and Ethernet; Joystick Control Unit; Operator Manual  Warranty 2 Year  Accessories Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables; Top-down Mounting Riser  Range Performance†  Detect Man (1.8 m × 0.5 m) ~1,500' (450 m) ~2,700' (820 m) ~4,900' (1.5 km)	Salt Mist					
Standard Package  Camera Head with 18-inch Cables for Power, Analog Video, and Ethernet; Joystick Control Unit;  Operator Manual  Warranty  2 Year  Accessories  Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables;  Top-down Mounting Riser  Range Performance†  Detect Man (1.8 m × 0.5 m)  ~1,500' (450 m)  ~2,700' (820 m)  ~4,900' (1.5 km)	Wind	· ·				
Operator Manual           Warranty         2 Year           Accessories         Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables; Top-down Mounting Riser           Range Performance¹         Petect Man (1.8 m × 0.5 m)         ~1,500' (450 m)         ~2,700' (820 m)         ~4,900' (1.5 km)	EMI	IEC 60945				
Accessories  Dual Station JCU; Low Smoke, Zero Halogen Ethernet Cables; Standard cat 5e Ethernet Cables; Top-down Mounting Riser  Range Performance†  Detect Man (1.8 m × 0.5 m)  ~1,500' (450 m)  ~2,700' (820 m)  ~4,900' (1.5 km)	Standard Package					
Top-down Mounting Riser           Range Performance†         ~1,500' (450 m)         ~2,700' (820 m)         ~4,900' (1.5 km)	Warranty	2 Year				
Detect Man (1.8 m × 0.5 m)						
Detect Man (1.8 m × 0.5 m)	Range Performance <sup>†</sup>					
Detect Small Vessel (4 m x 1.5 m)		~1,500'	(450 m)	~2,700'	(820 m)	~4,900' (1.5 km)
	Detect Small Vessel (4 m x 1.5 m)	~4,200'	(1.3 km)	~1.4 mi (2	2.25 km)	~2.4 mi (3.9 km)

<sup>† =</sup> Actual object detection range performance may vary depending on camera set-up, environmental conditions, user experience, and type of display used. All specifications are subject to change without notice. Visit www.flir.com for the most up-to-date specifications.



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