

M400/M400 XR /M500



- Thermal Optical zoom
- HD Zoom Color Camera
- LED Spotlight
- Video Tracking
- Stabilization
- NMEA integration
- InstAlert



Long Range Thermal Camera M400 M400XR

Easy identification of long range targets, day or night.

35-105mm optical zoom

18° to 6° Horizontal Field of View

Continuous e-zoom from 1X to 4X

Digital enhancement to 1.5° HFOV

High resolution thermal camera for crisp, detailed imagery.

Latest-generation FLIR Tau 2.7

640x480 resolution, 30Hz (NTSC)

640x512 resolution, 25 Hz (PAL)

Gyro stabilized to ensure steady viewing in heavy sea conditions.



HD Color Zoom Camera

Long range color daylight and low light viewing.

- High Definition
 - up to 1080/30p
- Low Light Sensitivity
 - > 0.5 lux at 50 IRE
 - .05 Lux in ICR Mode (black/white)
- 30x Optical Zoom
 - 129 mm to 4.3 mm Focal Length
 - 64° to 2.3° HFOV optical
 - 0.2 NFOV e-zoom



Integrated LED Spotlight

Enables camera operator to precisely illuminate objects of interest.

- Aligned to Thermal and Visible camera centers
- Ultra-tight spot-beam helps protect operator's night vision
 - 5° divergence angle



Video and Radar Tracking

M400 XR can automatically pan and tilt to follow designated targets of interest.

- Identify and follow specific radar returns.
 - Built-in NMEA0183 radar interface.
- Lock on and follow any thermal or visible object in the camera's field of view.
 - No external video processor required.



Gyro Stabilization

Provides steady, long-range viewing even in heavy sea conditions.

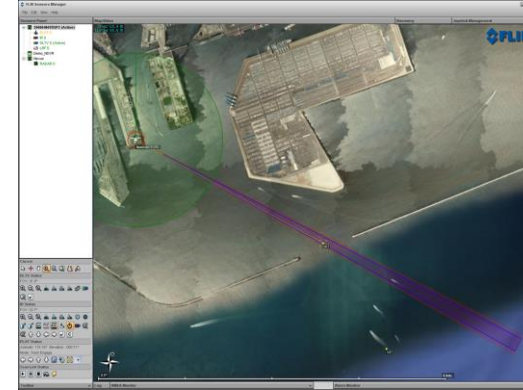
- 2-axis active stabilization virtually eliminates the effects of pitch, heave and yaw.
- Keeps the M400's long range cameras on-target, making target detection and identification, easier.



Controls and Outputs

Integrates seamlessly with onboard navigation and security systems.

- IP Control by FLIR Joystick, PC, and Web Browser
- Integration with leading Multifunction Navigation Displays (Nexus SDK)
- FLIR Sensors Manager Integration
- RS-485/422 Serial Control by Pelco D
- NMEA 0183 Serial Communications
 - Radar tracking



Multiple Video Outputs

- Dual, independent H.264 Network Video Streams
- ONVIF Compatible
- HD-SDI Lossless Digital Video Interface
 - High Definition Serial Data Interface
 - Broadcast-quality video output
 - Provides HD video over coax cable
- Switchable Composite Analog Video Outputs (SD)



- Cooled MWIR InSb 640x512
- Optical 28° x 21° WFOV to 2° x 1.5° NFOV
- 14 x optical zoom + 4x E-zoom
- Full HD Color camera with 30x Optical Zoom
- Stabilized
- NMEA integration
- LED Spotlight



- Cooled MWIR InSb 640x512, 3-5 μm
- Optical 28° x 21° WFOV to 2° x 1.5° NFOV
- 14 x optical zoom + 4x E-zoom



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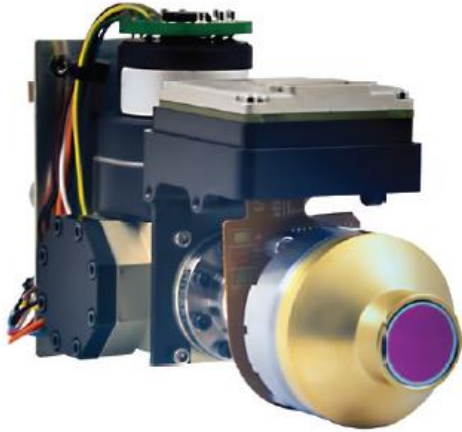
M500 Specification



M500 SERIES

DETECTOR	
Detector Type	Cooled MWR InSb 640x512 Focal Plane Array
NETD	<30mK
Spectral Response	3µm – 5µm
Array Format	640x512
Pixel Pitch	15µm
Frame Rate	25 Hz - PAL / 30 Hz – NTSC
IR OPTIC	
Optical Zoom	1X to 14X Continuous
Field of View Limits Optical	28° x 21° WFOV / 2° x 1.5° NFOV
Digital Zoom	1X to 4X
COLOR CAMERA	
Visible Sensor	1/2.8" CMOS
Array Format	1920x1080
Field of View Limits Optical	63.7° x 35.8° WFOV / 2.3° x 1.28° NFOV
Digital Zoom	1X to 12X
VIDEO PROCESSING	
Output Modes	Black hot, white hot, false color palettes
Contrast Enhancement	AGC or manual, histogram equalization, local contrast enhancement algorithms available
Sharpness Enhancement	Automatic, adjustable Digital Detail Enhancement
Overlays	Integrated graphics overlays to indicate azimuth, AGC, active camera and menu control
INTERFACES	
NMEA0183	TCP/IP, RS-422, NMEA 0183, Palco D
Video Formats	NTSC or PAL NTSC or PAL, 720p30, 1080p30
Video over Ethernet	2 channels of streaming MPEG-4, H.264 or M-JPEG
Video Interface	Analog video, HD-SDI
Power Consumption	250W (max w/heaters)
Input Voltage	12 VDC to 24 VDC (-10%+30% per IEC 60945)
Communications	TCP/IP, RS-422, Palco D
OPERATIONAL	
Operating temp	-25°C to +55°C
Storage temp	-50 °C to +80°C
PHYSICAL	

New Neutrino cooled detector



Key Features:

- 640 x 512 VGA resolution with 15 μ m pixel pitch
- NTSC or PAL analog video
- 8 or 14 bit digital data via: Camera Link, CMOS, BT-656
- Light weight: <16 oz (<450 gm)
- Easy Integration: Common software and accessories with Tau2 and Quark LWIR cameras
- Customizable AGC and DDE
- Interface with COTS IR optics

Range Detection M500

MU602 / M500 cooled 28-2 degree FOV			
Proba		Man 1.8x0.5	Boat 2.3x2.3
50%	D	9.2	15.5
	R	2.9	6
	I	1.2	3.3
90%	D	5.61	11.11
	R	0.84	3.28
	I	0.25	1.53