FLIR MTMS

Marine Thermal
Monitoring System

Gain an entirely new view of your vessel's mechanical system with the FLIR MTMS thermal monitoring camera. Combining thermal and visible cameras in a small, affordable package, the MTMS integrates with Garmin and Raymarine chartplotters and network PCs. For peace of mind, the MTMS sends audible and visual alerts when the temperature of machine parts rises above preset thresholds.

Keep a watchful eye on such critical equipment as engines, exhaust manifolds, and shaft bearings and spot problems before they leave you stranded on the water. FLIR's exclusive MSX® imaging blends visible and thermal images for more detailed imagery that is easier to understand.

FLIR MTMS

Spot Potential Problems Before They Happen

- State-of-the-art thermal monitoring of engines and onboard machinery
- Powered by Lepton, FLIR's most advanced micro thermal camera
- Exclusive Multi-Spectral Dynamic Imaging (MSX®) for easy-to-understand thermal imagery.

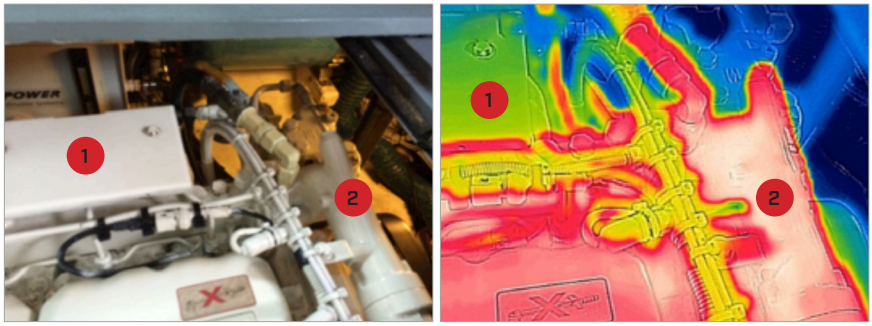
On Board Thermal Alarming and Visual Analysis

- Stream live thermal video of exhaust manifolds, propeller shafts, electrical panels, and other machinery
- Program specific areas to generate automated spot alarms when temperatures exceed pre-set thresholds
- Evaluate ongoing temperature trends
- Help avoid costly repairs and unwanted breakdowns

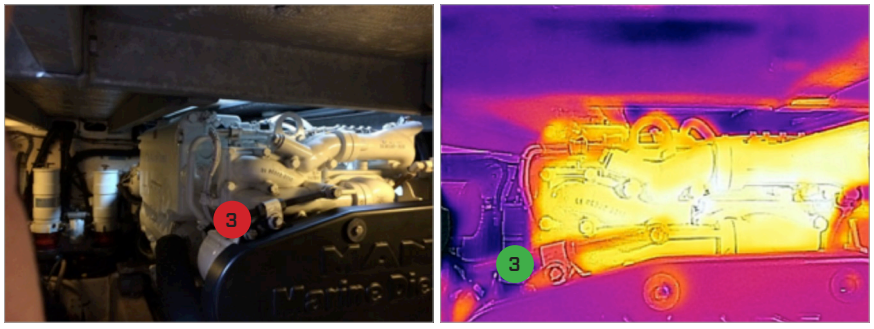
Network Integration

- View thermal, visible, and MSX video imagery on networked PCs or Garmin and Raymarine chartplotters
- Continuous thermal monitoring with audible and visual alarms across the network
- Connect up to eight MTMS cameras using Ethernet
- Easy setup and alarm programming with a PC and web browser

Digital Image | Thermal Image



(1) Engine Rocker cover (2) Engine exhaust manifold

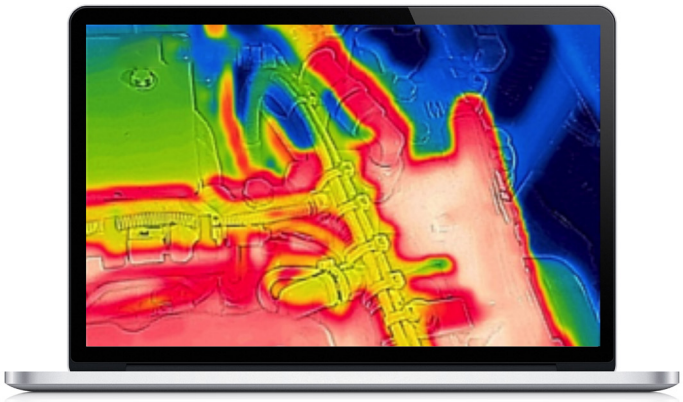


(3) Fuel line

Integrate the FLIR MTMS with Garmin and Raymarine chartplotters

MTMS Design and Installation

1) Visible and thermal cameras and LED illumination
2) Compact housing 54mm (w) x 25mm (d) x 79mm (h) excluding connectors
3) Waterproof connectors
4) Cooling/Mounting Plate
5) One-Joint Ball Mount Bracket
6) Two-Joint Ball Mount Bracket



FLIR MTMS

MARINE THERMAL MONITORING SYSTEM

IMAGING & OPTICAL DATA	
IR resolution	80 × 60 pixels
Thermal sensitivity/NETD	< 0.10°C @ +30°C (+86°F) / 100 mK
Field of view (FOV)	48° × 37°
Focus	Fixed
DETECTOR DATA	
Detector type	Focal Plane Array (FPA),uncooled microbolometer
Spectral range	7.5–13 µm
VISUAL CAMERA	
Built-in digital camera	640 × 480
Digital camera, FOV	Adapts to the IR lens
Sensitivity	Minimum 10 Lux without illuminator
MEASUREMENT	
Object temperature range	–10°C to +150°C (14°F to 302°F)
Accuracy	±2°C (±3.6°F) or ±2% of reading (+10 to +100C@+10 to +35 amb)
MEASUREMENT ANALYSIS	
Spotmeter	6
Area	6 boxes with max./min./average
Automatic hot/ cold detection	Max/Min temp. value and position shown within box
Measurement presets	Yes
Atmospheric transmission correction	Automatic, based on inputs for distance, atmospheric temperature and relative humidity
Optics transmission correction	Automatic, based on signals from internal sensors
Emissivity correction	Variable from 0.01 to 1.0
Reflected apparent temperature correction	Automatic, based on input of reflected temperature
External optics/ windows correction	Automatic, based on input of optics/ window transmission and temperature
Measurement corrections	Global object parameters
ALARM	
Alarm functions	Automatic alarms on any selected measurement function. A maximum of 5 alarms can be set
Alarm output	Digital Out, store image, file sending (ftp), email (SMTP), notification
SET-UP	
Colour palettes	Colour palettes (BW, BW inv, Iron, Rain)
Set-up commands	Date/time, Temperature °C/°F
Web interface	Yes
STORAGE OF IMAGES	
Storage media	Built-in memory for image storage
Image storage mode	IR, visual, MSX
File formats	JPEG+FFF

ETHERNET	
Ethernet	Control, result and image
Ethernet, type	100 Mbps
Ethernet, standard	IEEE 802.3
Ethernet, connector type	M12 8-pin X-coded
Ethernet, video streaming	Yes
Ethernet, power	Power over Ethernet, PoE IEEE 802.3af class 0.
Ethernet, protocols	Ethernet/IP, Modbus TCP, TCP, UDP, SNTP, RTSP, RTP, HTTP, ICMP, IGMP, sftp, SMTP, SMB (CIFS), DHCP, MDNS (Bonjour)
MARINE ELECTRONICS INTERFACE	
Multifunction displays	Network compatible with networked PCs and Raymarine chartplotters
IMAGE STREAMING	
Image streaming formats	Motion JPEG, MPEG, H.264
Image streaming resolution	640 × 480
Image modes	Thermal, Visual, MSX (IR-image with enhanced detail presentation)
Automatic image adjustment	Continuous
POWER SYSTEM (POE INJECTOR)	
External power operation	12/24VDC, 2 W continuously/ 3.1 W absolute max
External power connector	Screw connection (12V/0V/Chassis)
Voltage Allowed range	9–36VDC
ENVIRONMENTAL DATA	
Operating temp. range	0°C to +50°C (32°F to +122°F)
Storage temp. range	–40°C to +70°C (–40°F to +158°F) IEC 68-2-1 and IEC 68-2-2
Humidity (operating and storage)	IEC 60068-2-30/24 h 95% relative humidity +25°C to +40°C (+77°F to +104°F)/ 2 cycles
EMC	EN 61000-6-2:2001 (Immunity) EN 61000-6-3:2001 (Emission) FCC 47 CFR Part 15 Class B (Emission) EN 60945: 2002
Encapsulation	IP67 (IEC 60529)
Bump	25 g (IEC 60068-2-29)
Vibration	2 g (IEC 60068-2-6) EN 60945:2002
Ignition Protection	EN 28845:1993
PHYSICAL DATA	
Camera size (L × W × H)	54 × 25 × 79 mm (2.1 x 1 x 3.1 in.) w/o connectors 54 × 25 × 95 mm (2.1 x 1 x 3.7 in.) w/ connectors
SHIPPING INFORMATION	
What's in the box	AX-8 camera with lens, printed documentation, user documentation CD-ROM, cooling/ mounting plate, FLIR DC PoE Injector, M12X to RJ45 Cable 2M, RayNet to RJ45 Cable 3M
ACCESSORIES	
Optional Mounting Accessories	One-Joint Ball Mount Bracket R70375 Two-Joint Ball Mount Bracket 261-2319-00

23-0948-MAR JUNE/2024

Teledyne FLIR
Marine House, Cartwright Drive, Fareham,
PO15 5RJ, UK
(+44) (0)1329 246 700

Teledyne FLIR Maritime US Inc.
110 Lowell Rd, Hudson
NH 03051, USA
PH: +1 603-324-7900