FH-Series R

Multispectral Fixed Camera for Early Fire Detection

The FLIR FH-Series R are ruggedized, multispectral fixed cameras that integrate industry-leading thermal imaging with 4K visible imaging to provide rapid visual verification of hot spots in early fire detection applications. When a hot spot or temperature change is detected, the contactless temperature measurement is sent to the operator through a connected Video Management System (VMS) for instantaneous assessment and deployment of response tactics. Custom scheduling provides security personnel the flexibility to enable and disable alarms depending on business hours and seasonality. Combining the power of thermal hot-spot detection with intelligent vehicle detection, false alarms from hot exhaust pipes can be dramatically reduced.

HOT SPOT DETECTION

IGNORE FALSE ALARMS FROM VEHICLE EXHAUST PIPES

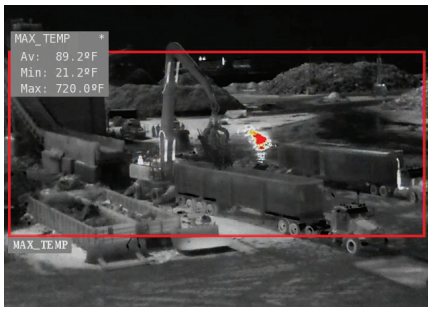
DUAL USE PERIMETER PROTECTION

OBJECT CLASSIFICATION WITH CNN ANALYTICS

24/7 SITUATIONAL AWARENESS

CYBERSECURITY HARDENED

SEAMLESS INTEGRATION WITH VMS



RAPID DETECTION AND VISUAL VERIFICATION

Integrates a high-resolution thermal and visible sensor for hot-spot detection and visual verification from a single device

- Detect hot spots instantly with FH-Series R camera models that feature up to 640 × 512 thermal resolution and <35 mK thermal sensitivity
- See smoke and immediately verify threats with the 4K visible camera
- Combines a two-camera installation in one physical connection for a cost-efficient solution
- 10-year thermal sensor warranty

INTELLIGENT ALARMS

Detect hot spots and intruders with one camera

- Detect threats from intruders as well as hot spots with on-board video analytics
- Eliminate false temperature alarms from hot exhaust pipes with 'vehicle exclusion mode'
- Make detections based on time of day, business hours, and seasonality with the on-board scheduling tool, which allows the operator to select either visible or thermal analytics

EASY INTEGRATION

Deploy the FH-Series R as part of a Teledyne FLIR end-to-end solution or in combination with preferred third-party solutions

- Strengthen end-to-end systems with on-board NEXUS® technology, which enables network connections to FLIR edge devices
- Tightly integrated with FLIR United VMS and major third-party VMS
- ONVIF® Conformant S/G/T profiles
- Receive radiometric alarms through compatible VMS platforms

TELEDYNE FLIR

FH-SERIES R

Thermal Sensor & Optics				
Array Format (NTSC)	640 × 512, 320 × 256			
Detector Type	Long-life, uncooled VOx microbolometer			
Pixel Pitch	17 µm			
Thermal Frame Rate	NTSC: 30 Hz or PAL: 25 Hz / 8.3 Hz			
Optical Characteristics	Model	FOV	Focal Length	F/#
	369	69° × 56°	9 mm	F1.4
	324	24° × 18°	13 mm	F1.0
	313	13° × 10°	25 mm	F1.1
	669	69° × 56°	9 mm	F1.4
	644	44° × 36°	13 mm	F1.0
	625	25° × 18°	25 mm	F1.1
	617	17° × 14°	35 mm	F1.1
Spectral Range	7.5 µm to 13.5 µm			
Sensitivity (NEdT)	<35 mK @ 25°C (77°F) F# 1.0			
Visible Light Camera				
Sensor Type	4K 2160p (3840 × 2160)			
Optical Characteristics	Model	Default FOV	Focal Length	F/#
	369	98° × 55°	3.6-10 mm	1.5 - 2.8
	324	34° × 19°	9-22 mm	1.4 - 1.7
	313	18° × 10°	13-55 mm	1.6 - 2.2
	669	98° × 55°	3.6-10 mm	1.5 - 2.8
	644	63° × 35°	3.6-10 mm	1.5 - 2.8
	625	36° × 20°	9-22 mm	1.4 - 1.7
	617	24° × 14°	13-55 mm	1.6 - 2.2
Temperature Measurement				
Measurement Accuracy	Target below 100°C (212°F): ± 5°C (±9°F) accuracy Target below 150°C (302°F): ± 5% accuracy Target above 150°C (302°F): ± 15% accuracy **Measured at 25°C (77°F) ambient temperature. Error may be greater at extreme temperatures.*			
Object Temperature Range	High Gain Mode: 0°C to 160°C (32°F to 320°F) Low Gain Mode: 0°C to 600°C (32°F to 1112°F)			
Video				
Video Type	IP or analog video			
Sensitivity	Color: 0.25 Lux (@ (f1.6 AGC On, 30 fps) B/W: 0.10 Lux (@ (f1.6 AGC On, 30 fps)			
Visible Frame Rate	30 Hz			
Video Compression	Two independent channels of H.264/H.265 or M-JPEG (except 4K) for visible and thermal			
Streaming Resolution	Primary stream: Thermal: VGA (640 × 512), QVGA (320 × 256) Visible: 4K (3840 × 2160), 1080p (1920 × 1080), 720p (1280 × 720) & VGA (640 × 480)			
	Secondary stream: Thermal: VGA (640 × 512), QVGA (320 × 256) Visible: 1080p (1920 × 1080), 720p (1280 × 720) & VGA (640 × 480)			
Thermal Image Settings	Auto AGC, Dynamic Detail Enhancement (DDE), Brightness, Contrast			
Thermal AGC Region of Interest (ROI)	Default, Presets and User definable to insure optimal image quality on subjects of interest			
Image Uniformity Optimization	Automatic Flat Field Correction (FFC) - Thermal and Temporal Triggers			

System Integration	
Ethernet	100/1000 Mbps
Network APIs	NEXUS® SDK NEXUS® CGI ONVIF Profile S, G, T
Digital I/O	Input: two dry alarm contacts Output: two relay contacts 1A max at 24 VAC/30 VDC Configurable between normally open and normally closed
Network	
Supported Protocols	IPV4, HTTP, HTTPS, UPnP, DNS, NTP, RTSP, TCP, UDP, ICMP, IGMP, DHCP, ARP, IEEE 802.1X
General	
Input Voltage	12 VDC (±10%) 24 VDC (±10%) 24 VAC (±10%) 802.3bt
Power Consumption	Nominal: 15 W Heaters enabled, 12 VDC: 48 W Heaters enabled, all other inputs: 70 W
Environmental	
IP Rating (Dust & Water Ingress)	IP66, IP67
Operating Temperature Range	-40°C to 70°C (-40°F to 158°F)
Storage Temperature Range	-55°C to 85°C (-67°F to 185°F)
Corrosion	MIL-STD 810G, 1000 hr salt spray
Humidity	0-95% relative
Shock	IEC 60068-2-27
Vibe	IEC 60068-2-64
Vandalism	IK10 (except Windows)
Surge Immunity on AC Power Lines	EN 50130- 4
Surge Immunity on Signal Lines	EN 50130- 4
Surge/Lightning Protection	TVS 6000 V lightning protection, surge protection, voltage transient protection

Compliance & Certifications

FCC Part 15 (Subpart B, class A)
CE Marked
RoHS
IP66
WEEE
IEC 62368
ONVIF Profile S, G, T

Video Analytics

Region entrance/Intrusion detection
Tampering
Loitering
CNN classifier

Cybersecurity

IEEE 802.1X
TLS/HTTPS
User authentication
Access control via firewall
User credentials with policy enforcement
Digest authentication