

# FH-Series ID

## Multispectral Fixed Camera for Perimeter Security

The FLIR FH-Series ID are ruggedized, multispectral fixed cameras that integrate industry-leading thermal imaging with 4K visible imaging to provide reliable intruder-detection capabilities for perimeter security. Built-in convolutional neural network (CNN) analytics accurately detect and classify human and vehicle threats moving at high or low speeds, minimizing false alarms and daily operations costs. Custom scheduling enables security operators to set intrusion analytics to run on visible streams during the day and on thermal streams throughout the night, establishing optimized coverage for any lighting condition.

**PERIMETER PROTECTION**  
**INTRUSION DETECTION**  
**TARGET GEOLOCATION**  
**OBJECT CLASSIFICATION WITH CNN**  
**ANALYTICS 24/7 SITUATIONAL AWARENESS**  
**CYBERSECURITY HARDENED**  
**SEAMLESS INTEGRATION WITH VMS**



### ALWAYS READY, ALWAYS WORKING

Integrates high-resolution thermal imaging and a visible sensor into a single camera for optimal performance in any environment or lighting condition

- Gain 24/7 situational awareness in the most challenging perimeters with the 640 × 512 thermal imager and market-leading <30 mK thermal sensitivity
- Assess threats in real time and see forensic detail with the 4K visible camera
- Combines a two-camera installation in one physical connection for a cost-efficient solution
- 10-year thermal sensor warranty

### HIGH-ACCURACY INTRUSION DETECTION

Features CNN-based decision support, allowing on-camera video analytics to run on both the visible and thermal spectrum for robust intrusion detection customized for each installation

- Minimize false alarms and the cost of daily operations by detecting and classifying threats (human and vehicle) with high accuracy
- 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
- Clearly detect intruders in challenging poses — even when they're only in partial view of the camera or moving at high or low speeds

### EASY INTEGRATION

Deploy this camera 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 to S/G/T profiles

## FH-SERIES ID

|                                      |                                                                                                                                                                                                                                                                                              |             |              |           |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------|-----------|
| Thermal Sensor & Optics              |                                                                                                                                                                                                                                                                                              |             |              |           |
| Array Format (NTSC)                  | 640 × 512                                                                                                                                                                                                                                                                                    |             |              |           |
| 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/#       |
|                                      | 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      |
|                                      | 612                                                                                                                                                                                                                                                                                          | 12° × 10°   | 50 mm        | F1.2      |
|                                      | 610                                                                                                                                                                                                                                                                                          | 10° × 8.2°  | 60 mm        | F1.2      |
|                                      | 608                                                                                                                                                                                                                                                                                          | 8.6° × 6.6° | 75 mm        | F1.1      |
| Spectral Range                       | 7.5 μm to 13.5 μm                                                                                                                                                                                                                                                                            |             |              |           |
| Sensitivity (NEΔT)                   | <30 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/#       |
|                                      | 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 |
|                                      | 612                                                                                                                                                                                                                                                                                          | 17° × 10°   | 13-55 mm     | 1.6 - 2.2 |
|                                      | 610                                                                                                                                                                                                                                                                                          | 14° × 8°    | 13-55 mm     | 1.6 - 2.2 |
|                                      | 608                                                                                                                                                                                                                                                                                          | 11° × 6°    | 13-55 mm     | 1.6 - 2.2 |
| Video                                |                                                                                                                                                                                                                                                                                              |             |              |           |
| Video Type                           | IP or analog video                                                                                                                                                                                                                                                                           |             |              |           |
| Sensitivity                          | Color: 0.25 Lux (@ f1.6 AGC On, 30 fps)<br>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:<br>Thermal: VGA (640 × 512), QVGA (320 × 256)<br>Visible: 4K (3840 × 2160), 1080p (1920 × 1080), 720p (1280 × 720) & VGA (640 × 480)<br>Secondary stream:<br>Thermal: VGA (640 × 512), QVGA (320 × 256)<br>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 ensure 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<br>NEXUS® CGI<br>ONVIF Profile S, G, T                                                                                                                                                                                                                                            |             |              |           |
| Digital I/O                          | Input: two dry alarm contacts<br>Output: two relay contacts 1 A max at 24 VAC/30 VDC<br>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%)<br>24 VDC (±10%)<br>24 VAC (±10%)<br>802.3 bt                               |
| Power Consumption                        | Nominal: 15 W<br>Heaters enabled, 12 VDC: 48 W<br>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                    |                                                                                           |