



FLIR X8580-HS SLS™

High Definition LWIR
Science-Grade Camera



Key Features:

- **Full Frame Rate Streaming** Experience unmatched image clarity and speed with 10 GigE, CXP 2.1, and CameraLink Full high-speed interfaces.
- **Extended SSD Recording** Capture more than two hours of detailed thermal events directly to a removable 4 TB SSD with zero dropped frames.
- **Seamless Data Integration** Effortlessly transfer full recordings from SSD to computer, ensuring your thermal data is always ready for analysis.
- **Precise Timing System** Proprietary triggering, synchronization, and accurate IRIG time stamping system that ensures precise, on-time recording.

Main Applications:

- PCB and electronic component testing
- Non-destructive testing
- Target signature
- Radiometry
- Stress mapping

www.FLIR.com/X8580HS-SLS

SPECIFICATIONS

| | X8581HS SLS | X8583HS SLS |
|-----------------------------------|---|--|
| Part # | 29761-281 | 29761-283 |
| Detector | | |
| Detector Type | Strained-Layer Superlattice | |
| Spectral Range | 7.5 μm (lower), 11.5 – 12.5 μm (upper) | 7.5 μm (lower), 11.5 – 12.5 μm (upper) |
| Camera f/# | f/2.5 | f/4.0 |
| Resolution | 1280 × 1024 | |
| Detector Pitch | 12 μm | |
| Thermal Sensitivity/NETD, typical | 40 mK typical | |
| Operability | ≥98% (≥99% typical) | |
| Sensor Cooling | Linear Sterling Cooler | |
| Electronics | | |
| Readout Type | Snapshot | |
| Readout Modes | Asynchronous Integrate While Read; Asynchronous Integrate Then Read | |
| Synchronization Modes | Sync In, Sync Out, Tri-Level Sync, Video Sync | |
| Image Time Stamp | Internal precision timestamp. IRIG-B AM decoder, TSPI accurate, Free wheel if sync signal is lost | |
| Trigger Modes | Trigger In, Software generated, Time generated | |
| Integration Time | 270 ns to approx.Full Frame | |
| Pixel Clock | 355.2 MHz | |
| Frame Rate (Full Window) | Programmable; -0.5 Hz to 181 Hz | |
| Subwindow Mode | Flexible windowing down to 64 × 4 (steps of 64 columns, 4 rows) | |
| Dynamic Range | 14-bit | |

For more information and to find your local support number, visit:
FLIR.com/contact/instruments-support
www.FLIR.com

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FLIR X8580-HS SLS™

High-Speed MWIR
Science-Grade Camera

SPECIFICATIONS, CONT.

| | X8581HS SLS | X8583HS SLS |
|---|---|---|
| Electronics Continued | | |
| Direct to SSD Recording | Yes, removable 4 TB NVMe SSD included, approx. 2 hours of zero dropped frames record time | |
| On-Camera Image Storage | RAM (volatile): 64 GB, up to 23,000 frames full frame NVMe U.2 SSD (user-removable/non-volatile): 4 TB U.2 SSD included, up to 1.4 M frames full frame | |
| Download of On-Camera RAM/SSD Recordings | Transfer from SSD through 10 GigE, CXP, or CL to Research Studio | |
| Radiometric Data Streaming | Simultaneous 10 Gigabit Ethernet (GigE Vision), Camera Link, CoaXPress (CXP 2.1) Single link @ 10 Gbps or Dual Link @ 5 Gbps | |
| Standard Video | HDMI, SDI | |
| Command and Control | GigE, USB, RS-232, Camera Link Full, CXP (GenICam protocol supported over GigE or CXP) | |
| Temperature Measurement | | |
| Standard Temperature Range (with band matched optics) | -20°C to 300°C (-4°F to 572°F) | -20°C to 350°C (-4°F to 662°F), -10°C for microscopes |
| Optional Temperature Range (with band matched optics) | 250°C to 1500°C (ND1) 500°C to 3000°C (ND2) | |
| Accuracy | ≤ 100°C ±2°C (±1°C typical), > 100°C ±2% of reading (±1% typical) | |
| Ambient Drift Compensation (with factory cal) | Yes | |
| Optics | | |
| Available Lenses | Manual (7.5 – 12 μm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm Motorized (7.5 – 12 μm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm | |
| Close-up Lenses/Microscopes | 1× | |
| Lens Interface | FLIR FPO-M (4-tab bayonet, motorized) | |
| Focus | Motorized (compatible w/ manual) | |
| Filtering | 4-position motorized filter wheel, standard 1-inch filters, user swappable | |
| Image/Video Presentation | | |
| Palettes | Selectable 8-bit | |
| Automatic Gain Control | Manual, Linear, Plateau equalization, DDE | |
| Overlay | Customizable with the ability to toggle off | |
| Video Modes | HD-SDI: 720p@50/59.9 Hz, 1080p@25/29.9 Hz, 1080p@60 Hz SD-SDI: 480i@60 Hz, 576i@50 Hz | |
| Digital Zoom | 1x, Auto (best fit) | |
| General | | |
| Operating Temperature Range | -20°C to 50°C (-4°F to 122°F) | |
| Power | 24 VDC (< 50 W steady state) | |
| Weight w/o Lens | 6.35 kg (14 lbs) | |
| Size (L × W × H) w/o Lens | 249 mm × 157 mm × 147 mm (9.8 in × 6.2 in × 5.8 in) | |
| Mounting | 2 × ¼ in. -20, 1 × 3/8 in. -16, 4 × #10 -24, Side: 3 × ¼ in. -20 (each side) | |

| | |
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Specifications subject to change. For the most up-to-date specifications, please visit flir.com.

- 1 NVMe U.2 Solid State Drive (SSD)
- 2 10 GigE Vision (RJ45)
- 3 Camera Link Full (Dual MDR)
- 4 Record Start (BNC)
- 5 CoaXpress 2.1 (BNC)
- 6 Sync In (BNC)
- 7 Trigger In (BNC)
- 8 SDI Video Out (BNC)
- 9 Sync Out (BNC)
- 10 Tri-Level Sync (BNC)
- 11 IRIG Sync Input (BNC)
- 12 Auxiliary (DB-26)
- 13 DC Power



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上海彩萤科技有限公司
咨询热线: 18612117394
邮箱: contact@colour-fly.com
www.colour-fly.com

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