



FLIR X8580-HS INSB™

High Definition MWIR
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
- Radiometry
- Non-destructive testing
- Stress mapping
- Target signature

www.FLIR.com/X8580HS

SPECIFICATIONS

	X8580HS	X8581HS	X8582HS	X8583HS
Part #	29760-280	29760-281	29760-282	29760-283
Detector				
Detector Type	FLIR Indium Antimonide (InSb)			
Spectral Range	1.5 – 5.0 μm	3.0 – 5.0 μm	1.5 – 5.0 μm	3.0 – 5.0 μm
Camera f/#	f/2.5	f/2.5	f/4.1	f/4.1
Resolution	1280 × 1024			
Detector Pitch	12 μm			
Thermal Sensitivity/ NETD, typical	30 mK typical			
Operability	≥99.5% (≥99.9% 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 ~Full Frame			
Pixel Clock	355.2 MHz			
Frame Rate (Full Window)	Programmable; approx. 0.5 Hz to 181 Hz			
Subwindow Mode	Flexible windowing down to 64 × 4 (steps of 64 columns, 2 rows)			
Dynamic Range	14-bit			

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

©2024 Teledyne FLIR, LLC. All rights reserved.

Revised 04/15/24
FLIR_FLIR X8580-HS_INSB_US



FLIR X8580-HS INSB™

High Definition MWIR
Science-Grade Camera

SPECIFICATIONS, CONT.

X8580HS		X8581HS		X8582HS		X8583HS	
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 Full, 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, 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		-20°C to 350°C (-4°F to 662°F)		-20°C to 350°C (-4°F to 662°F), -10°C for microscopes	
Optional Temperature Range (with band matched optics)	45°C to 600°C (ND1) 250°C to 2000°C (ND2) 500°C to 3000°C (ND3)						
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 (broadband): 25 mm, 50 mm, 100 mm Motorized (broadband): 25 mm, 50 mm, 100 mm	Manual (3.0 – 5.0 µm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm, Macro Motorized (3.0 – 5.0 µm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm		Manual (broadband): 25 mm, 50 mm, 100 mm Motorized (broadband): 25 mm, 50 mm, 100 mm		Manual (3.0 – 5.0 µm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm, 50mm Macro Motorized (3.0 – 5.0 µm): 17 mm, 25 mm, 50 mm, 100 mm, 200 mm	
Close-up Lenses/Microscopes	No microscopes available	1x, 3x		No microscopes available		1x, 3x, 5x, 1 × 20 cm LWD	
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)						

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

Specifications subject to change. For the most up-to-date specifications, please visit [flir.com](https://www.flir.com).

For more information and to find your local support number, visit:
[FLIR.com/contact/instruments-support](https://www.flir.com/contact/instruments-support)
www.flir.com

This product is subject to United States export regulations and may require US authorization prior to export, reexport, or transfer to non-US persons or parties. Diversion contrary to US law is prohibited.

For assistance with confirming the Jurisdiction & Classification of Teledyne FLIR, LLC products, please contact exportquestions@flir.com. ©2024 Teledyne FLIR, LLC. All rights reserved.

Revised 04/15/24
FLIR_FLIR X8580-HS_INSB_US
(24-0023-INS)