FLIR Thermal imaging cameras

ADVANCED THERMAL IMAGING SOLUTIONS






	A50 & A70 Streaming (GigE)	A50 & A70 Smart sensor	A500 & A700 Streaming (GigE)	A500 & A700 Smart sensor	A38 & A68 (GigE)	A6751 (GigE)
IR Resolution	464 x 348 (A50, A500); 640 x 480 (A70, A700)				320 x 240 (A38), 640 x 480 (A68)	640 x 512
Thermal resolution	A70: 29°: <45 mK, 51°: <45 mK, 95°: <60 mK; A50: 29°: <35 mK, 51°: <35 mK, 95°: <45 mK		<30 mK, 42° @ +30°C;	<40 mK, 24° @ +30°C; <50 mK, 14° @ +30°C	< 50 mK @ 25°C ambient	≤ 20 mK
Visual resolution	1280 x 960 pixels (optional)				-	-
Focus	Fixed, adjustable with included focus tool		Auto-focus, One-shot	contrast, Motorized, Manual	Fixed, adjustable	Manual
FOV Option	29°, 51°, 95°		14°, 24°, 42°		24°, 42°	17 mm, 25 mm, 50 mm, 100 mm, 200 mm
Spectral Range	7.5–14.0 µm					3.0 - 5.0 µm
Frame rate	30 Hz				60 Hz(A38), 30 Hz (A68)	Programmable; 0.0015 Hz to 125Hz
Measurement						
Object temperature range	A50: -20°C to 175°C, 175°C to 1000°C | A70: -20°C to 175°C, -20°C to 250°C, 175°C to 1000°C		A500: -20°C to 120°C, 0°C to 650°C, 300°C to 1500°C	A700: -20°C to 120°C, 0°C to 650°C, 300°C to 2000°C	Non-radiometric	Standard: -20°C to 350°C; with optic: 45°C to 600°C (ND1) 250°C to 2000°C (ND2) 500°C to 3000°C (ND3)
Accuracy	±2°C or ±2% of reading, for ambient temperature 15°C to 35°C and object temperature above 0°C		±2°C or ±2% of reading, for ambient temp-	erature 15°C to 35°C and object temperature above 0°C	Non-radiometric	≤ 100°C ±2°C (±1°C typical), > 100°C ±2% of reading (±1% typical)
Measurement Analysis (Smart functions)						
Smart Functions (Advanced configuration)	-	10 Spotmeters, 10 Boxes or Polygons, 3 Deltas (difference any value/reference/external lock), 2 Isotherm (above/below/ interval), 2 Iso-coverage, 2 Lines, 1 Polyline, 1 Reference temperature	-	10 Spotmeters, 10 Boxes or Polygons, 3 Deltas (difference any value/reference/external lock), 2 Isotherm (above/below/ interval), 2 Iso-coverage, 2 Lines, 1 Polyline, 1 Reference temperature	-	-
Measurement Frequency	-	Up to 10 Hz	-	Up to 10 Hz	-	-
Measurement Result Read-out (Advanced configuration)	-	Ethernet/IP (poll), Modbus TCP server/client (poll/push), MQTT (push), REST API (read/write), Measurements and Still image, Web interface	-	Ethernet/IP (poll), Modbus TCP server/client (poll/push), MQTT (push), REST API (read/write), Measurements and Still image, Web interface	-	-
Alarm						
Alarm Output (Advanced configuration)	-	Digital out, e-mail (SMTP) (push), Ethernet/IP (pull), file transfer (FTP) (push), Modbus TCP server/ client (poll/push), MQTT (push), RESTful API (pull), and store image or video	-	Digital out, e-mail (SMTP) (push), Ethernet/IP (pull), file transfer (FTP) (push), Modbus TCP server/ client (poll/push), MQTT (push), RESTful API (pull), and store image or video	-	-
Video streaming						
Dual Video Streams	ONVIF/RTSP (Adv. config), Not in GigE stream but switching between visual and IR possible	ONVIF/RTSP (Adv. config)	ONVIF/RTSP (Adv. config), Not in GigE stream but switching between visual and IR possible	ONVIF/RTSP (Adv. config)	-	-
Camera configuration						
Web Interface	Yes (only stream and camera settings)	Yes with smart features	Yes (only stream and camera settings)	Yes with smart features	-	-
Ethernet						
Ethernet Communication	GigE Vision, GenICam (SFNC 2.4)	TCP/IP socket-based FLIR proprietary	GigE Vision, GenICam (SFNC 2.4)	TCP/IP socket-based FLIR proprietary	GigE Vision, GenICam	GigE Vision, GenICam
Ethernet Interface	Wired, Wi-Fi (optional)				Wired	Wired
Ethernet Power	Power over Ethernet, PoE IEEE 802.3af class 3				PoE	-
Ethernet Protocols	IEEE 1588, SNMP, TCP, UDP, SNTP, RTSP, RTP, HTTP, ICMP, IGMP, sftp (server), FTP (client), SMTP, DHCP, MDNS (Bonjour), uPnP	EtherNet/IP, IEEE 1588, Modbus TCP Client, Modbus TCP Server, MQTT, ONVIF-S, SNMP, TCP, UDP, SNTP, RTSP, RTP, HTTP, HTTPS, ICMP, IGMP, sftp (server), FTP (client), SMTP, DHCP, MDNS (Bonjour), uPnP	IEEE 1588, SNMP, TCP, UDP, SNTP, RTSP, RTP, HTTP, ICMP, IGMP, sftp (server), FTP (client), SMTP, DHCP, MDNS (Bonjour), uPnP	EtherNet/IP, IEEE 1588, Modbus TCP Client, Modbus TCP Server, MQTT, ONVIF-S, SNMP, TCP, UDP, SNTP, RTSP, RTP, HTTP, HTTPS, ICMP, IGMP, sftp (server), FTP (client), SMTP, DHCP, MDNS (Bonjour), uPnP	GigE Vision	GigE Vision
Ethernet Type	1000 Mbps					
Digital Input/Output						
Digital Input	2x opto-isolated, Vin (low) = 0 to 1.5 V, Vin (high) = 3 to 25 V				1x General purpose Input	Sync-in, Trigger-in
Digital Output	3x opto-isolated, 0 to 48 V DC, max. 350 mA (derated to 200 mA at 60°C). Solid-state opto relay,			1x dedicated as fault output (NC)	1x General purpose Output	Sync-out
Power						
Power Consumption (typical)	7.5 W at 24 V DC, 7.8 W at 48 V DC, 8.1 W at 48 V PoE		7.5 W at 24 V DC, 7.8 W at	48 V DC, 8.1 W at 48 V PoE	2.8 W at 12V DC, 2.8 W at 24V DC, 3.5 W at 48 V DC PoE	< 24 W steady state
External Power Operation	24/48 V DC 8 W max				12/24V DC	24 VDC
External Voltage	Allowed range 18 V to 56 V DC				min 9V, max 57V DC	24 VDC
Environmental data						
Operating temperature range	With cooling plates on at least three sides: -20 to 50°C; No cooling plates: -20 to 35°C		-20 to 50°C, Cooling plate is needed in temp-	eratures above 40°C, Maximum camera case temperature: 65°C	-35°C to 60°C	-20°C to 50°C
Encapsulation	IEC 60529, IP66		IEC 60529, IP 54,	IP66 with accessory	-	-
Shock	IEC 60068-2-27, 25 g				See user Manual	-
Vibration	IEC 60068-2-6, 0.15 mm at 10–58 Hz and 2 g at 58–500 Hz, sinusoidal; IEC 61373 Cat 1 (Railway)				See user Manual	-
Physical data						
Weight (including lens)	0.52 kg		0.82 kg	0.82 kg	0.07 Kg	2.3 kg
Size (L x W x H)	107 x 67 x 57 mm		123 x 77 x 77 mm	123 x 77 x 77 mm	29 x 36 x 59 mm	226 x 102 x 109 mm
Export regulation	-					EAR 15 C.F.R. Sections 730-774