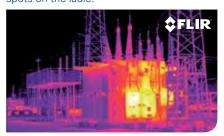


Thermal imaging cameras can detect hot spots on the ladle.



A transformer showing an excessive temperature.

# FLIR A310 f

## Fixed Mount Thermal Imaging Camera for Condition Monitoring and Fire Prevention

FLIR A310 f thermal cameras can be installed almost anywhere to monitor the condition of your critical equipment and other valuable assets. Designed to help safeguard your plant and measure temperature differences, they allow you to see problems before they become costly failures -- preventing downtime and enhancing worker safety.

FLIR A310 f is ideal for various applications that require temperature measurement capabilities including: substation, transformer, waste bunker, and coal pile monitoring.

### **EXCELLENT IMAGE QUALITY**

FLIR A310 f contains an uncooled Vanadium Oxide (VOx) microbolometer detector, producing crisp, 320 x 240 resolution thermal images and making small temperature differences clearly visible. The camera features a built-in lens with motorized focus, the ability to stream video over Ethernet to view live images on a PC, communication and power over Ethernet cable, and can be controlled remotely over the Web and TCP/IP protocol.

#### **BUILT-IN ANALYSIS AND ALARM FUNCTIONS**

FLIR A310 f comes standard with built-in analysis functions like spot, area measurement, and temperature difference. Alarms can be set to go off as function of analysis, internal temperature or digital input. The camera automatically sends analysis results, IR images, and more as an e-mail on schedule or at alarm. Autonomous dispatch of files or e-mails, acting as an FTP- or SMTP-client is possible. Since FLIR A310 f is Ethernet/IP and Modbus TCP compliant, analysis and alarm results can easily be shared to a PLC. Digital inputs/outputs (are available for alarms and control of external equipment. An image masking function allows you to select only the relevant part of the image for your analysis.

#### **DESIGNED FOR USE IN HARSH ENVIRONMENTS**

A310 f is an extremely rugged system that meets IP66 requirements, protecting the camera from dust and water.



# **Imaging Specifications**

Thermal sensitivity/NETD  Thermal sensitivit	Occident Occident	FLID AD40 f
Field of view (FOV)	System Overview  IB resolution	FLIR A310 f
FLIR A310f 15°: 15° × 11.25° FLIR A310f 45°: 45° × 33.8° FLIR A310f 45°: 45° × 33.8° FLIR A310f 45°: 45° × 33.8° FLIR A310f 96°: 90° × 45° FLIR A310f 15°: 10° × 10°, 393 ft) FLIR A310f 15°: 10° × 10°, 393 ft) FLIR A310f 15°: 10° × 10°, 393 ft) FLIR A310f 15°: 0.4 m (1.31 ft) FLIR A310f 45°: 0.2 m (0.06 ft) FLIR A310f 6° ° 6° × 4.5° FLIR A310f 90°: 20 m (0.06 ft) FLIR A310f 6° ° 6° × 4.5° FLIR A310f 6° ° 6° × 4.5° FLIR A310f 6° ° 6° × 4.5° FLIR A310f 5° · 10° × 10°, 30°	Thermal sensitivity/NETD	
Field of view (FOV)  FLIR A310f 45°: 45° × 33.8° FLIR A310f 90°: 90° × 73° FLIR A310f 90°: 90° × 73° FLIR A310f 25°: 0.4 m (1.31 ft.) FLIR A310f 6°: 0° × 4.5° FLIR A310f 6°: 0° × 10 m (0.79 in.) FLIR A310f 15°: 0.38 mm (1.2 in.) FLIR A310f 6°: 3.03 8 mm (1.2 in.) FLIR A310f 6°: 3.03 8 mm (1.2 in.) FLIR A310f 6°: 3.36 mm (3.0 in.) FLIR A310f 6°: 3.36 mm (0.15° in.) FLIR A310f 6°: 3.36 mm (0.15° in.) FLIR A310f 6°: 3.36 mm (0.15° in.) FLIR A310f 6°: 0.33 mm ad FLIR A310f 6°: 0.35 mm ad FLIR A310f 6°:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
FLIR A310f 190°: 90° × 73° x 73°		
FLIR A310f 99°.90° x 72°	Field of view (FOV)	
FLIR A310f 15°: 12 m (3.93 ft.)		
FLIR A310f 25°: 0.4 m (1.31 ft.)		
Minimum focus distance    FLIR A310f 45° 0.20 m (0.66 ft.)		
FLIR A310f 90°: 20 mm (0.79 in.) FLIR A310f 15°: 30.38 mm (1.2 in.) FLIR A310f 45°: 9.66 mm (0.38 in.) FLIR A310f 60°: 76 mm (3.0 in.) FLIR A310f 90°: 4 mm (0.15° in.) FLIR A310f 15°: 0.28 mm (0.79 in.) FLIR A310f 10°: 1.28 mm (0.79 in.) FLIR A310f 10°: 1.28 mm (0.79 in.) FLIR A310f 10°: 1.28 mm (0.79 in.) FLIR A10f 10°: 1.28 mm (0.79 in.) FLIR A10f 10°: 1.28 mm (	Minimum focus distance	
FLIR A310f 15°: 30.38 mm (1 2 in.) FILR A310f 45°: 9.66 mm (0.78 in.) FLIR A310f 45°: 9.66 mm (0.78 in.) FLIR A310f 45°: 9.66 mm (0.78 in.) FLIR A310f 45°: 9.68 mm (3.0 in.) FLIR A310f 59°: 0.82 mrad FLIR A310f 59°: 0.82 mrad FLIR A310f 59°: 0.82 mrad FLIR A310f 59°: 0.83 mrad FLIR A310f 59°: 0.83 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 80°: 0.38 m		
FLIR A310f 25°: 18 mm (0.7 in.) FLIR A310f 25°: 9.66 mm (0.38 in.) FLIR A310f 6°: 76 mm (3.0 in.) FLIR A310f 15°: 0.38 mrad FLIR A310f 15°: 0.38 mrad FLIR A310f 25°: 1.36 mrad FLIR A310f 25°: 1.36 mrad FLIR A310f 25°: 0.33 mrad FLIR A310f 25°: 0.35 mra		
Focal length  FLIR A310f 45°: 9.66 mm (0.38 in.)  FLIR A310f 6°: 76 mm (3.0 in.)  FLIR A310f 5°: 0.82 mrad  FLIR A310f 5°: 0.82 mrad  FLIR A310f 5°: 0.33 mrad  FLIR A310f 9°: 6.3 mrad  Lens identification  Automatic  F-number  1.3  Imaging and optical data Image frequency  John Automatic or manual (built in motor)  Zoom  Automatic or manual (built in motor)  Text continuous, digital, interpolating zooming on images  Detector data  Detector type  Focal Plane Array (FPA), uncooled microbolometer  Spectral range  7.5–13 µm  Detector pitch  Detector pitch  Detector pitch  Detector time constant  Typical 12 ms  Measurement  Object temperature range  Accuracy  ±4°C (±7.2°F) or ±4% of reading  Measurement analysis  Spotneter  10  Area  10 boxes with max./min./average/position  I with above/below/interval  Measurement Mask / Filter Schedule response: File  sending (ftp), email (SMTP)  Difference temperature  Atmospheric transmission  correction  Automatic, based on input of reflected temperature  External optics/  windows correction  Ferificated apparent  temperature correction  External optics/  windows correction  Alarm functions  Alarm  Alarm functions  FLIR A310f 6°: 76 mm (0.3 mrad  FLIR A310f 48°: 2.48 mrad  FLIR A310f 49°: 4.8 mrad  FLIR A310f 48°: 4.8 mrad  FLIR A310f 49°: 4.8 mrad		
FLIR A310f 90°: 4 mm (0.157 in.) FLIR A310f 19°: 0.82 mrad FLIR A310f 19°: 0.82 mrad FLIR A310f 19°: 0.83 mrad FLIR A310f 19°: 0.33 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 80°: 0.3 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 80°: 0.3 mrad FLIR A310f 80°: 3.3 mrad FLIR A10mratic Flows	Focal length	
Spatial resolution (IFOV)  FLIR A310f 19°: 4 mm (0.187 in.)  FLIR A310f 15°: 0.32 mrad FLIR A310f 45°: 2.45 mrad FLIR A310f 45°: 2.45 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 45°: 2.45 mrad FLIR A310f	i ocarierigui	
Spatial resolution (IFOV)  FLIR A310f 45°: 2.45 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 90°: 6.		
Spatial resolution (IFOV)  FLIR A310f 45°: 2.45 mrad FLIR A310f 59°: 6.3 mrad FLIR A310f 59°: 6.3 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 60°: 0.3 mrad FLIR A310f 80°; 0.3 hrad FLIR A310f 80°; 0.		
FLIR A310f 6°: 0.33 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 6°: 0.33 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 6°: 0.33 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 6°: 0.33 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 6°: 0.33 mrad FLIR A310f 90°: 6.3 mrad FLIR A310f 6°: 6.3 mraul (built in motor) FLIP A40° FLIP A40° FLIP A40° FLIP		
FLIR A310f 90°: 6.3 mrad	Spatial resolution (IFOV)	
Lens identification F-number Inaging and optical data Image frequency Focus Automatic or manual (built in motor) 1-8x continuous, digital, interpolating zooming on images  Detector data Detector type Spectral range Detector pitch Detector ime constant Measurement Object temperature range Object temperature range Object temperature analysis Spotmeter Area Isotherm Indicators or reference temperature  Reference temperature Atmospheric transmission correction Reflected apparent temperature corrections Reflected apparent temperature Measurement correction Reflected apparent temperature Measurement corrections Ralarm Alarm functions  Link data Automatic, based on input of reflected temperature ment function on any selected measurement function, Digital In, Camera temperature ment function, Digital In, Camera temperature ment function, Digital In, Camera temperature in Capital Source, So		
Imaging and optical data   Image frequency   South	Lens identification	
Imaging and optical data   Image frequency   South Street   Focus   Automatic or manual (built in motor)		
Magage frequency   Automatic or manual (built in motor)		
Teleprotector data	Image frequency	
Detector data Detector type Focal Plane Array (FPA), uncooled microbolometer Spectral range 7.5–13 µm Detector pitch Detector pitch Detector time constant  Measurement Object temperature range Accuracy Measurement analysis Spotmeter Measurement option Difference temperature  Atmospheric transmission correction Emissivity correction External optics/ windows correction Alarm functions Alarm functions Alarm output  Detector time constant Typical 12 ms  Focal Plane Array (FPA), uncooled microbolometer T.5–13 µm T.5–14 place T.5–13 µm T.5–13 µm T.5–13 µm T.5–14 place T.5–13 µm T.5–13 µm T.5–13 µm T.5–13 µm T.5–13 µm T.5–13 µm T.5–14 place T.5–13 µm T.5–13 µm T.5–13 µm T.5–13 µm T.5–13 µm T.5–14 place T.5–13 µm T	Focus	
Detector data  Detector type Spectral range Detector pitch Detecto	Zoom	
Detector type	Detector date	interpolating zooming on images
Spectral range Detector pitch Detector time constant  Measurement Object temperature range Accuracy  Measurement analysis Spotmeter Area  In 10 boxes with max./min./average/position In with above/below/interval Measurement option  Difference temperature  Reference temperature  Atmospheric transmission Correction  Atmospheric transmission correction  Emissivity correction  External optics/ windows correction  Measurement correction  Alarm  Alarm  Alarm  Alarm output  Deta temperature and relative humidity Automatic, based on input of optics/window transmission and temperature  Automatic, based on input of optics/window transmission and temperature  Automatic, based on input of optics/window transmission and temperature  Automatic, based on input of optics/window transmission and temperature.  Alarm output  Ethernet  Ethernet Ethernet Ethernet, connector type Ethernet, connector type Ethernet, image streaming Ethernet, protocols  ATT, E-13 µm  Application Typical 12 ms  Action 17 yicial 12 ms  Action 4720 C (-4 to +248°F) 0 to +120°C		Eggal Plana Array (EPA) unagolad migrahalamatar
Detector pitch         25 μm           Detector time constant         Typical 12 ms           Measurement         Typical 12 ms           Object temperature range         −20 to +120°C (−4 to +248°F) 0 to +350°C (+32 to +662°F) 0 to +360°C (+32 to +662°F) 0 to +350°C (+32 to +662°F) 0 to +350°C (+32 to +662°F) 0 to +350°C (+32 to +662°F) 0 to +460°C (+32 to +662°F)		7.5–13 um
Measurement         −20 to +120°C (−4 to +248°F)           Object temperature range         0 to +350°C (+32 to +662°F)           Accuracy         ±4°C (±7.2°F) or ±4% of reading           Measurement analysis         10           Spotmeter         10 boxes with max./min./average/position           Isotherm         1 with above/below/interval           Measurement option         Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)           Difference temperature         Delta temperature between measurement functions or reference temperature           Reference temperature         Manually set or captured from any measurement function           Atmospheric transmission correction         Automatic, based on inputs for distance, atmospheric temperature and relative humidity           Optics transmission correction         Automatic, based on signals from internal sensors           Emissivity correction         Variable from 0.01 to 1.0           Reflected apparent temperature correction         Automatic, based on input of reflected temperature           External optics/ windows correction         Automatic, based on input of optics/window transmission and temperature           Measurement corrections         Global and individual object parameters           Alarm         Alarm functions           6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer		
Cobject temperature range	Detector time constant	Typical 12 ms
Object temperature range  Accuracy  #4°C (±7.2°F) or ±4% of reading  Measurement analysis  Spotmeter  Area  10 boxes with max./min./average/position  I with above/below/interval  Measurement option  Difference temperature  Reference temperature  Atmospheric transmission  Correction  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals from internal sensors  Emissivity correction  External optics/ windows corrections  Alarm  Alarm functions  Alarm output  Ethernet  Ethernet  Ethernet  Ethernet  Ethernet, connector type  Ethernet, comeunication  Ethernet, protocols  Ethernet, protocols  Ethernet, protocols  Automatic, based on input of perics/windew individual stopics and image in the proprietary  Alary (SMTP), notification  ### Alary (SMTP)  ### Alar	Measurement	
Accuracy ±4°C (±7.2°F) or ±4% of reading  Measurement analysis  Spotmeter 10 boxes with max./min./average/position  I with above/below/interval  Measurement option 1 with above/below/interval  Measurement option 2 below filter Schedule response: File sending (ftp), email (SMTP)  Difference temperature 4 between measurement functions or reference temperature between measurement function or reference temperature and relative humidity  Automatic, based on inputs for distance, atmospheric transmission correction 4 automatic, based on signals from internal sensors variable from 0.01 to 1.0  Reflected apparent temperature correction External optics/ Automatic, based on input of reflected temperature Measurement correction 5 datumatic, based on input of optics/window transmission and temperature in functions 6 automatic, based on input of optics/window transmission and temperature in function, Digital In, Camera temperature, timer Digital Out, log, store image, file sending (ftp), email (SMTP), notification 6 automatic, the sending file proprietary 100 Mbps 100 Mbp	Object temperature range	
Measurement analysis   Spotmeter   10	,	
Spotmeter	Vcontaon	+1°C (+7.2°E) or +1% of reading
Area 10 boxes with max./min./average/position 1 with above/below/interval Measurement option Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Difference temperature Determine Fig. 2 between measurement functions or reference temperature or any measurement function Atmospheric transmission correction Automatic, based on inputs for distance, atmospheric temperature and relative humidity Automatic, based on signals from internal sensors  Emissivity correction Variable from 0.01 to 1.0  Reflected apparent temperature correction External optics/ Automatic, based on input of reflected temperature temperature correction External optics/ Automatic, based on input of optics/window transmission and temperature measurement corrections Global and individual object parameters  Alarm Alarm output Digital In, Camera temperature, timer Digital Out, log, store image, file sending (ftp), email (SMTP), notification Ethernet, type 100 Mbps  Ethernet Control, result and image Ethernet, type 100 Mbps  Ethernet, connector type RJ-45  Ethernet, connector type RJ-45  Ethernet, connector type RJ-45  Ethernet, communication TCP/IP socket-based FLIR proprietary Ethernet, video streaming MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5  Ethernet, Image streaming Teherity, Modbus TCP, TCP, UDP, SNTP, RTSP, Ethernet, protocols RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS), RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),		±4°C (±7.2°F) or ±4% of reading
Measurement option  Difference temperature  Reference temperature  Reference temperature  Reference temperature  Reference temperature  Atmospheric transmission correction  Optics transmission correction  Emissivity correction  External optics/ Windows correction  Alarm  Alarm functions  Alarm output  Ethernet  Ethernet  Ethernet  Ethernet, connector type Ethernet, connector type Ethernet, companies  Ethernet, companies  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP), notification  Polita temperature between measurement functions on reference temperature  Automatic, based on input for distance, atmospheric temperature and relative humidity  Automatic, based on signals  from internal sensors  Variable from 0.01 to 1.0  Automatic, based on input of reflected temperature  Automatic, based on input of optics/window transmission and temperature  Global and individual object parameters  Alarm  Gautomatic alarms on any selected measurement function, Digital In, Camera temperature, timer  Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Ethernet  Control, result and image  Ethernet, type  100 Mbps  Ethernet, connector type  Ethernet, connector type  Ethernet, communication  TCP/IP socket-based FLIR proprietary  Ethernet, image streaming  MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5  Ethernet, power  Power over Ethernet, PoE IEEE 802.33 class 0  Ethernet/IP, Modbus TCP, TCP, UDP, SNTP, RTSP, Ethernet, protocols  RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis	±4°C (±7.2°F) or ±4% of reading
Sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Reference temperature  Reference temperature  Alarm output  Ethernet  Ethernet  Ethernet  Ethernet, connector type Ethernet, companication  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals  from internal sensors  Mariable from 0.01 to 1.0  Automatic, based on input of reflected temperature emperature correction  External optics/  Automatic, based on input of optics/window transmission and temperature  Global and individual object parameters  Alarm  Alarm functions  Gautomatic alarms on any selected measurement function, Digital In, Camera temperature, timer  Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Ethernet  Control, result and image  Ethernet, type  100 Mbps  Ethernet, type  Ton Mbps  Ethernet, connector type  Ethernet, communication  TCP/IP socket-based FLIR proprietary  Ethernet, image streaming  MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5  Ethernet, image streaming  Dever over Ethernet, PoE IEEE 802.3a class 0  Ethernet/IP, Modbus TCP, TCP, UDP, SNTP, RTSP, Ethernet, protocols  Ethernet, IP, Modbus TCP, TCP, UDP, SNTP, RTSP, Ethernet, protocols  Ethernet, IP, Modbus TCP, TCP, UDP, SNTP, RTSP, Ethernet, protocols	Measurement analysis Spotmeter	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position
Delta temperature between measurement functions or reference temperature  Reference temperature  Atmospheric transmission correction  Emissivity correction  External optics/ windows corrections  Alarm functions  Alarm output  Ethernet  Ethernet  Ethernet  Ethernet, connector type  Ethernet, connector type  Ethernet, communication  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals from internal sensors  Variable from 0.01 to 1.0  Automatic, based on input of reflected temperature temperature correction  Automatic, based on input of optics/window transmission and temperature  Global and individual object parameters  Alarm output  Ethernet  Control, result and image  Ethernet, connector type  Ethernet, connector type  Ethernet, connector type  Ethernet, conductor type  Ethernet, conductor type  Ethernet, wideo streaming  MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5  Ethernet, power  Power over Ethernet, PoE IEEE 802.3a class 0  Ethernet/IP, Modbus TCP, TCP, UDP, SNTP, RTSP, Ethernet, protocols  RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position 1 with above/below/interval
Reference temperature  Reference temperature  Atmospheric transmission Correction  Optics transmission correction  Emissivity correction  Reflected apparent temperature correction  External optics/ windows corrections  Alarm functions  Alarm functions  Alarm output  Ethernet  Ethernet  Ethernet  Ethernet  Ethernet, connector type Ethernet, connector type Ethernet, connector type Ethernet, connector type Ethernet, power  Ethernet, protocols  Reflected temperature  functions or reference temperature Manually set or captured from any measurement function Automatic, based on inputs of reflected temperature Automatic, based on input of reflected temperature  Automatic, based on input of optics/window transmission and temperature  Global and individual object parameters  Alarm output  Ethernet  Control, result and image Ethernet, connector type  RJ-45  Ethernet, connector type  Ethernet, connector type  Ethernet, consecution  TCP/IP socket-based FLIR proprietary Ethernet, mage streaming  MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5  Ethernet, power  Power over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoE IEEE 802.5a fclass 0  Ethernet,	Measurement analysis Spotmeter Area Isotherm	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position  1 with above/below/interval  Measurement Mask / Filter Schedule response: File
Reference temperature  Atmospheric transmission correction  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals from internal sensors  Emissivity correction  Emissivity correction  Emissivity correction  External optics/ windows correction  Automatic, based on signals from internal sensors  Automatic, based on input of to 1.0  Automatic, based on input of reflected temperature temperature correction  External optics/ windows correction  Automatic, based on input of optics/window transmission and temperature  Global and individual object parameters  Alarm  Alarm functions  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer  Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Ethernet  Ethernet  Ethernet, type  100 Mbps  Ethernet, type  100 Mbps  Ethernet, connector type  Ethernet, connector type  Ethernet, communication  TCP/IP socket-based FLIR proprietary  Ethernet, mage streaming  MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5  Ethernet, mage streaming  Ethernet, Power  Power over Ethernet, PoE IEEE 802.33 class 0  Ethernet, PoSNTP, RTSP, Ethernet, Protocols  Ethernet, PoMBobus TCP, TCP, UDP, SNTP, RTSP, Ethernet, protocols  RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area Isotherm	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)
Atmospheric transmission correction  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals from internal sensors  Emissivity correction  Reflected apparent temperature correction External optics/ windows correction  Automatic, based on input of reflected temperature External optics/ windows correction  Automatic, based on input of optics/window transmission and temperature  Global and individual object parameters  Alarm  Alarm functions  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer  Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Ethernet  Ethernet  Ethernet, compunication  Ethernet, connector type Ethernet, communication  TCP/IP socket-based FLIR proprietary Ethernet, image streaming Ethernet, power  Power over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoB IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ether	Measurement analysis Spotmeter Area Isotherm Measurement option	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement
correction atmospheric temperature and relative humidity Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Alarm Alarm Alarm functions Alarm output Ethernet Ethernet Ethernet Ethernet Ethernet Ethernet, connector type Ethernet, connector type Ethernet, communication Ethernet, power Ethernet, power Ethernet, power Ethernet, protocols Ethernet, protocols  Automatic, based on input of reflected temperature Automatic, based on input of optics/window transmission and temperature Global and individual object parameters  Alarm output  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Ethernet Ethernet Control, result and image Ethernet, type 100 Mbps Ethernet, connector type RJ-45 Ethernet, connector type FRJ-45 Ethernet, protocols Ethernet, power Power over Ethernet, PoE IEEE 802.3af class 0	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature
Optics transmission correction  Emissivity correction  Emissivity correction  Englected apparent temperature correction  External optics/ windows correction  Automatic, based on input of reflected temperature transmission and temperature Transmission and temperature Global and individual object parameters  Alarm  Alarm functions  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Ethernet  Ethernet  Ethernet, type  100 Mbps Ethernet, type 100 Mbps Ethernet, connector type Ethernet, connector type Ethernet, communication Ethernet, video streaming Ethernet, image streaming Ethernet, power  Power over Ethernet, PoE IEEE 802.3af class 0  Ethernet, PoB IEEE 802.3af class 0  Ethernet, Madobus TCP, TCP, UDP, SNTP, RTSP, Ethernet, protocols  RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from
Emissivity correction Reflected apparent temperature correction External optics/ windows correction Alarm Alarm functions Alarm output  Ethernet Ethernet Ethernet Ethernet Ethernet, connector type Ethernet, conmounication Ethernet, image streaming Ethernet, image streaming Ethernet, protocols  Emissivity correction Variable from 0.01 to 1.0  Automatic, based on input of reflected temperature Automatic, based on input of optics/window transmission and temperature  Automatic, based on input of optics/window transmission and temperature  Automatic, based on input of optics/window transmission and temperature  Global and individual object parameters  Alarm output  Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Ethernet  Control, result and image  IEEE 802.3 Ethernet, connector type Ethernet, communication  TCP/IP socket-based FLIR proprietary  Ethernet, video streaming  MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5  Ethernet, image streaming  Dever over Ethernet, PoE IEEE 802.33 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.33 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.33 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.33 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.33 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.33 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.33 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.33 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.38 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.38 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.38 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.38 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.38 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.38 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.38 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.38 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.38 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.38 class 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.38 class 0  Ethernet PoWer	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function  Automatic, based on inputs for distance,
Emissivity correction Reflected apparent temperature correction External optics/ windows correction  Automatic, based on input of reflected temperature transmission and temperature Measurement corrections  Alarm  Alarm  Alarm output  Ethernet Ethernet Ethernet Ethernet, type Ethernet, type Ethernet, connector type Ethernet, communication Ethernet, video streaming Ethernet, image streaming Ethernet, image streaming Ethernet, power  Ethernet, protocols  Ethernet, protocols  Ethernet, protocols  Automatic, based on input of optics/window transmission and temperature  Global and individual object parameters  Alarm on any selected measurement function, Digital In, Camera temperature, timer Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Ethernet  Control, result and image 100 Mbps 100	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function  Automatic, based on inputs for distance, atmospheric temperature and relative humidity
Reflected apparent temperature correction  External optics/ windows correction  Measurement corrections  Alarm  Alarm  Alarm functions  Alarm output  Ethernet  Ethernet  Ethernet, type  Ethernet, connector type  Ethernet, communication  Ethernet, video streaming  Ethernet, video streaming  Ethernet, image streaming  Ethernet, image streaming  Ethernet, image streaming  Ethernet, video streaming  Ethernet, power  Ethernet, protocols  Automatic, based on input of reflected temperature  transmission and temperature  Bautomatic, based on input of reflected temperature  Education  Falson and temperature	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals
temperature correction  External optics/ windows correction  Alarm  Alarm  Alarm functions  Alarm output  Ethernet  Ethernet  Ethernet, type  Ethernet, connector type  Ethernet, connector type  Ethernet, communication  Ethernet, video streaming  Ethernet, image streaming  Ethernet, image streaming  Ethernet, power  Ethernet, power  Ethernet, protocols  Alarm output  Alarm output  Alarm output  Alarm output  Alarm output  Ethernet  Control, result and image  Ethernet, type  100 Mbps  Ethernet, syne  RJ-45  Ethernet, connector type  Ethernet, connector type  Ethernet, communication  Ethernet, video streaming  Ethernet, mage streaming  Alarm output  Alarm output  Control, result and image  Ethernet, type  100 Mbps  Ethernet, type  100 Mbps  Ethernet, type  100 Mbps  Ethernet, syne  RJ-45  Ethernet, connector type  Ethernet, connector type  Ethernet, communication  TCP/IP socket-based FLIR proprietary  Ethernet, pixeles  Ethernet, image streaming  Appecad, ISO/IEC 14496-1 MPEG-4 ASP@L5  Ethernet, power  Power over Ethernet, PoE IEEE 802.38 class 0  Ethernet/IP, Modbus TCP, TCP, UDP, SNTP, RTSP,  Ethernet, protocols  RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals from internal sensors
External optics/ windows correction  Measurement corrections  Alarm  Alarm functions  Alarm output  Ethernet  Ethernet  Ethernet, type  Ethernet, connector type  Ethernet, conmounication  Ethernet, video streaming  Ethernet, image streaming  Ethernet, mage streaming  Ethernet, mage streaming  Ethernet, power  Ethernet, protocols  Automatic, based on input of optics/window transmission and temperature  function, Digital In, Camera temperature, timer  Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Ethernet, type  100 Mbps  Ethernet, standard  Ethernet, standard  Ethernet, connector type  Ethernet, communication  Ethernet, prover  Ethernet, prover  Power over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoB IEEE 802.3 ichernet, prover Power over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoWer Over Ethernet, PoE IEEE 802.3a fclass 0  Ethernet, PoB IEEE 802.3a fclass 0	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals from internal sensors  Variable from 0.01 to 1.0
Measurement corrections  Alarm  Alarm functions  Alarm functions  Alarm output  Bethernet  Ethernet  Ethernet  Ethernet, type  Ethernet, standard  Ethernet, connector type  Ethernet, communication  Ethernet, communication  Ethernet, communication  Ethernet, pedesore, fine services of the first of the fi	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals from internal sensors  Variable from 0.01 to 1.0
Alarm Alarm functions  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Ethernet Ethernet Ethernet Control, result and image Ethernet, type 100 Mbps Ethernet, type 100 Mbps Ethernet, connector type RJ-45 Ethernet, connector type RJ-45 Ethernet, communication TCP/IP socket-based FLIR proprietary Ethernet, video streaming MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5 Ethernet, image streaming 16-bit 320 × 240 pixels @ 7-8 Hz- Radiometric Ethernet, power Power over Ethernet, PoE IEEE 802.38 class 0 Ethernet/IP, Modbus TCP, TCP, UDP, SNTP, RTSP, Ethernet, protocols RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP) Delta temperature between measurement functions or reference temperature Manually set or captured from any measurement function Automatic, based on inputs for distance, atmospheric temperature and relative humidity Automatic, based on signals from internal sensors Variable from 0.01 to 1.0 Automatic, based on input of reflected temperature Automatic, based on input of optics/window
Alarm functions  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer  Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Ethernet  Ethernet  Ethernet, type  Ethernet, type  100 Mbps  Ethernet, type  100 Mbps  Ethernet, connector type  Ethernet, connector type  RJ-45  Ethernet, communication  TCP/IP socket-based FLIR proprietary  Ethernet, video streaming  MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5  Ethernet, image streaming  Ethernet, power  Power over Ethernet, PoE IEEE 802.38 class 0  Ethernet, PoWer STP, RTSP, BTP, RTSP, BTP, RTSP, RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals from internal sensors  Variable from 0.01 to 1.0  Automatic, based on input of reflected temperature  Automatic, based on input of optics/window transmission and temperature
Alarm output  Ethernet  Ethernet  Ethernet  Ethernet, type  Ethernet, connector type  Ethernet, conductor type  Ethernet, video streaming  Ethernet, image streaming  Ethernet, mage streaming  Ethernet, power  Ethernet, power  Ethernet, communication  Ethernet, communication  Ethernet, romector type  Ethernet, communication  Ethernet, romector type  Ethernet, romector type  Ethernet, video streaming  Ethernet, protector type  Ethernet, prover  Ethernet, prover  Ethernet, prover  Power over Ethernet, poel EIEEE 802.3a class 0  Ethernet, protocols  Ethernet, protocols  Ethernet, protocols  Ethernet, protocols  Ethernet, protocols	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals from internal sensors  Variable from 0.01 to 1.0  Automatic, based on input of reflected temperature  Automatic, based on input of optics/window transmission and temperature
Alarm output  Ethernet  Ethernet  Ethernet  Ethernet, type  Ethernet, standard  Ethernet, connector type  Ethernet, communication  Ethernet, video streaming  Ethernet, video streaming  Ethernet, power  Ethernet, power, power ower Ethernet, poe IEEE 802.3af class 0  Ethernet, protocols  Ethernet, protocols	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections Alarm	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals from internal sensors  Variable from 0.01 to 1.0  Automatic, based on input of reflected temperature  Automatic, based on input of optics/window transmission and temperature  Global and individual object parameters
Ethernet  Ethernet  Ethernet, type  Ethernet, standard  Ethernet, standard  Ethernet, connector type  Ethernet, communication  Ethernet, video streaming  Ethernet, image streaming  Ethernet, mage streaming  Ethernet, power  Ethernet, power  Ethernet, protocols	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections Alarm	10 10 boxes with max./min./average/position 1 with above/below/interval Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP) Delta temperature between measurement functions or reference temperature Manually set or captured from any measurement function Automatic, based on inputs for distance, atmospheric temperature and relative humidity Automatic, based on signals from internal sensors Variable from 0.01 to 1.0 Automatic, based on input of reflected temperature Automatic, based on input of optics/window transmission and temperature Global and individual object parameters 6 automatic alarms on any selected measurement
Ethernet, type 100 Mbps Ethernet, standard IEEE 802.3 Ethernet, connector type RJ-45 Ethernet, communication TCP/IP socket-based FLIR proprietary Ethernet, video streaming MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5 Ethernet, image streaming 16-bit 320 × 240 pixels @ 7-8 Hz- Radiometric Ethernet, power Power over Ethernet, PoE IEEE 802.3af class 0 Ethernet, protocols RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections Alarm Alarm functions	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP) Delta temperature between measurement functions or reference temperature Manually set or captured from any measurement function Automatic, based on inputs for distance, atmospheric temperature and relative humidity Automatic, based on signals from internal sensors Variable from 0.01 to 1.0 Automatic, based on input of reflected temperature Automatic, based on input of potics/window transmission and temperature Global and individual object parameters  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer Digital Out, log, store image, file sending (ftp), email
Ethernet, type 100 Mbps Ethernet, standard IEEE 802.3 Ethernet, connector type Ethernet, communication Ethernet, video streaming Ethernet, image streaming Ethernet, image streaming Ethernet, power Ethernet, power  Power over Ethernet, PoE IEEE 802.3 Ethernet, image Streaming Ethernet, protocols	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections Alarm Alarm functions Alarm output	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function Automatic, based on inputs for distance, atmospheric temperature and relative humidity Automatic, based on signals from internal sensors  Variable from 0.01 to 1.0  Automatic, based on input of reflected temperature  Automatic, based on input of optics/window transmission and temperature  Global and individual object parameters  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer  Digital Out, log, store image, file sending (ftp), email
Ethernet, standard IEEE 802.3 Ethernet, connector type RJ-45 Ethernet, communication TCP/IP socket-based FLIR proprietary Ethernet, video streaming MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5 Ethernet, image streaming 16-bit 320 × 240 pixels @ 7-8 Hz- Radiometric Ethernet, power Power ethernet, PoE IEEE 802.3af class 0 Ethernet/IP, Modbus TCP, TCP, UDP, SNTP, RTSP, Ethernet, protocols RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections Alarm Alarm functions Alarm output Ethernet	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position  1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals from internal sensors  Variable from 0.01 to 1.0  Automatic, based on input of reflected temperature  Automatic, based on input of optics/window transmission and temperature  Global and individual object parameters  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer  Digital Out, log, store image, file sending (ftp), email (SMTP), notification
Ethernet, communication  TCP/IP socket-based FLIR proprietary  Ethernet, video streaming  MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5  Ethernet, image streaming  16-bit 320 × 240 pixels @ 7-8 Hz- Radiometric  Ethernet, power  Power over Ethernet, PoE IEEE 802.3af class 0  Ethernet, IP, Modbus TCP, TCP, UDP, SNTP, RTSP,  Ethernet, protocols  RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections Alarm Alarm functions Alarm output Ethernet Ethernet	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position 1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals from internal sensors  Variable from 0.01 to 1.0  Automatic, based on input of reflected temperature  Automatic, based on input of optics/window transmission and temperature  Global and individual object parameters  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer  Digital Out, log, store image, file sending (ftp), email (SMTP), notification
Ethernet, video streaming MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5 Ethernet, image streaming 16-bit 320 × 240 pixels @ 7-8 Hz- Radiometric Ethernet, power Power over Ethernet, PoE IEEE 802.3af class 0 Ethernet/IP, Modbus TCP, TCP, UDP, SNTP, RTSP, Ethernet, protocols RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections Alarm Alarm functions Alarm output Ethernet Ethernet Ethernet Ethernet, type	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP) Delta temperature between measurement functions or reference temperature Manually set or captured from any measurement function Automatic, based on inputs for distance, atmospheric temperature and relative humidity Automatic, based on signals from internal sensors Variable from 0.01 to 1.0 Automatic, based on input of optics/window transmission and temperature Global and individual object parameters  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Control, result and image 100 Mbps IEEE 802.3
Ethernet, image streaming  16-bit 320 × 240 pixels @ 7-8 Hz- Radiometric  Ethernet, power  Power over Ethernet, PoE IEEE 802.3af class 0  Ethernet/IP, Modbus TCP, TCP, UDP, SNTP, RTSP,  Ethernet, protocols  RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections Alarm Alarm functions Alarm output Ethernet Ethernet Ethernet, type Ethernet, standard Ethernet, connector type	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP) Delta temperature between measurement functions or reference temperature Manually set or captured from any measurement function Automatic, based on inputs for distance, atmospheric temperature and relative humidity Automatic, based on signals from internal sensors Variable from 0.01 to 1.0 Automatic, based on input of reflected temperature Automatic, based on input of optics/window transmission and temperature Global and individual object parameters 6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Control, result and image 100 Mbps IEEE 802.3 RJ-45
Ethernet, power Power over Ethernet, PoE IEEE 802.3af class 0  Ethernet/IP, Modbus TCP, TCP, UDP, SNTP, RTSP, Ethernet, protocols RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area Isotherm Measurement option  Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections Alarm Alarm functions  Alarm output Ethernet Ethernet Ethernet, standard Ethernet, connector type Ethernet, communication	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position 1 with above/below/interval Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP) Delta temperature between measurement functions or reference temperature Manually set or captured from any measurement function Automatic, based on inputs for distance, atmospheric temperature and relative humidity Automatic, based on signals from internal sensors Variable from 0.01 to 1.0 Automatic, based on input of reflected temperature Automatic, based on input of optics/window transmission and temperature Global and individual object parameters  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Control, result and image 100 Mbps IEEB 802.3 RJ-45 TCP/IP socket-based FLIR proprietary
Ethernet, Protocols Ethernet, Protocols Ethernet, Protocols Ethernet, Protocols RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections Alarm Alarm functions Alarm output Ethernet Ethernet Ethernet, standard Ethernet, connector type Ethernet, communication Ethernet, video streaming	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position 1 with above/below/interval Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP) Delta temperature between measurement functions or reference temperature Manually set or captured from any measurement function Automatic, based on inputs for distance, atmospheric temperature and relative humidity Automatic, based on signals from internal sensors Variable from 0.01 to 1.0  Automatic, based on input of reflected temperature Automatic, based on input of optics/window transmission and temperature Global and individual object parameters  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Control, result and image 100 Mbps IEEE 802.3 RJ-45 TCP/IP socket-based FLIR proprietary MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5
Ethernet, protocols RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS),	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections Alarm Alarm functions Alarm output Ethernet Ethernet Ethernet Ethernet, type Ethernet, connector type Ethernet, communication Ethernet, image streaming Ethernet, image streaming	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position  1 with above/below/interval  Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP)  Delta temperature between measurement functions or reference temperature  Manually set or captured from any measurement function  Automatic, based on inputs for distance, atmospheric temperature and relative humidity  Automatic, based on signals from internal sensors  Variable from 0.01 to 1.0  Automatic, based on input of optics/window transmission and temperature  Global and individual object parameters  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer  Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Control, result and image  100 Mbps  IEEE 802.3  RJ-45  TCP/IP socket-based FLIR proprietary  MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5  16-bit 320 × 240 pixels @ 7-8 Hz- Radiometric
	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections Alarm Alarm functions Alarm output Ethernet Ethernet Ethernet Ethernet, type Ethernet, connector type Ethernet, communication Ethernet, image streaming Ethernet, image streaming	±4°C (±7.2°F) or ±4% of reading  10 10 boxes with max./min./average/position 1 with above/below/interval Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP) Delta temperature between measurement functions or reference temperature Manually set or captured from any measurement function Automatic, based on inputs for distance, atmospheric temperature and relative humidity Automatic, based on signals from internal sensors Variable from 0.01 to 1.0 Automatic, based on input of reflected temperature Automatic, based on input of optics/window transmission and temperature Global and individual object parameters 6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Control, result and image 100 Mbps IEEE 802.3 RJ-45 TCP/IP socket-based FLIR proprietary MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5 16-bit 320 × 240 pixels @ 7-8 Hz- Radiometric Power over Ethernet, PoE IEEE 802.3af class 0
Brior, merio (Bonjour, al m	Measurement analysis Spotmeter Area Isotherm Measurement option Difference temperature Reference temperature Atmospheric transmission correction Optics transmission correction Emissivity correction Reflected apparent temperature correction External optics/ windows correction Measurement corrections Alarm Alarm functions Alarm output Ethernet Ethernet Ethernet, type Ethernet, connector type Ethernet, video streaming Ethernet, image streaming Ethernet, power	±4°C (±7.2°F) or ±4% of reading  10  10 boxes with max./min./average/position 1 with above/below/interval Measurement Mask / Filter Schedule response: File sending (ftp), email (SMTP) Delta temperature between measurement functions or reference temperature Manually set or captured from any measurement function Automatic, based on inputs for distance, atmospheric temperature and relative humidity Automatic, based on signals from internal sensors Variable from 0.01 to 1.0 Automatic, based on input of reflected temperature Automatic, based on input of optics/window transmission and temperature Global and individual object parameters  6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer Digital Out, log, store image, file sending (ftp), email (SMTP), notification  Control, result and image 100 Mbps IEEE 802.3 RJ-45 TCP/IP socket-based FLIR proprietary MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5 16-bit 320 × 240 pixels @ 7-8 Hz-Radiometric Power over Ethernet, PoE IEEE 802.3af class 0 Ethernet/IP, Modbus TCP, TCP, UDP, SNTP, RTSP,

Set-up		
Color palettes	Color palettes (BW, BW inv, Iron, Rain)	
Set-up commands	Date/time, Temperature°C/°F	
Storage of images		
Storage media	Built-in memory for image storage	
File formats	Standard JPEG, 16-bit	
File formats	measurement data included	
Digital input/output		
Digital input, purpose	Image tag (start/stop/general), Input ext.	
Digital Iriput, purpose	device (programmatically read)	
Digital input	2 opto-isolated, 10–30 VDC	
Digital output, purpose	As function of ALARM, Output to ext. device (programmatically set)	
Digital output	2 opto-isolated, 10–30 VDC, max 100 mA	
Digital I/O, isolation voltage	500 VRMS	
Digital I/O, supply voltage	12/24 VDC, max 200 mA	
Digital I/O, connector type	6-pole jackable screw terminal	
Power system		
	The camera operates on 12/24 VDC, 9 W max.	
External power operation	(allowed range: 10-30 VDC) and heaters on 24 VDC,	
· ·	25 W max. In total: 34 W.	
External power, connector type	2-pole jackable screw terminal	
Voltage	Allowed range 10–30 VDC	
Environmental data		
Operating temperature range	-25°C to +50°C (-13°F to +122°F)	
Storage temperature range	-40°C to +70°C (-40°F to +158°F)	
Liveridity (aparetics and starses)	IEC 60068-2-30/24 h 95% relative humidity +25°C	
Humidity (operating and storage)	to +40°C (+77°F to +104°F)	
	• EN 61000-6-2 (Immunity)	
EMC	<ul> <li>EN 61000-6-3 (Emission)</li> </ul>	
	FCC 47 CFR Part 15 Class B (Emission)	
Encapsulation	IP 66 (IEC 60529)	
Bump	5 g, 11 ms (IEC 60068-2-27)	
Vibration	2 g (IEC 60068-2-6)	
Physical data		
Weight	5 kg (11.0 lb.)	
Size (L × W × H)	460 × 140 × 159 mm (18.1 × 5.5 × 6.3 in.)	
Base mounting	TBA	
Housing material	Aluminum	
System features		
External power operation (heater)	24 VDC, 25 W max.	
External power,	2-pole jackable screw terminal	
connector type (heater)	' '	
Voltage (heater)	Allowed range 21-30 VDC	
Automatic heaters	Clears window from ice	
Shipping information		
	Cardboard box, Infrared camera with lens and	
	environmental, housing, FLIR Sensors Manager	
List of contents	download card, FLIR Tools & Utilities CD-	
	ROM, Lens cap, Printed documentation, Small	
	accessories kit, User documentation CD-ROM	

