TELEDYNE FLIR

CONDITION MONITORING



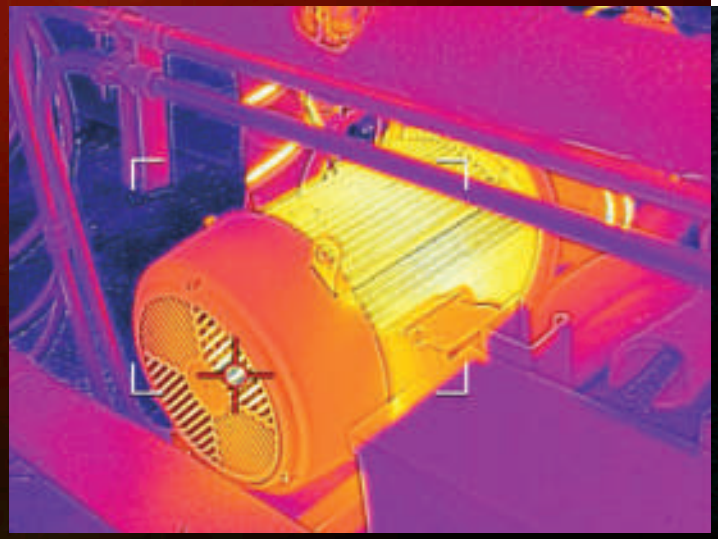
ADVANCED THERMAL IMAGING

FOR ACCURATE, REAL-TIME DECISION MAKING

FLIR Exx-Series™


E96
36 °C
52
30
FLIR
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BRILLIANCE AT WORK



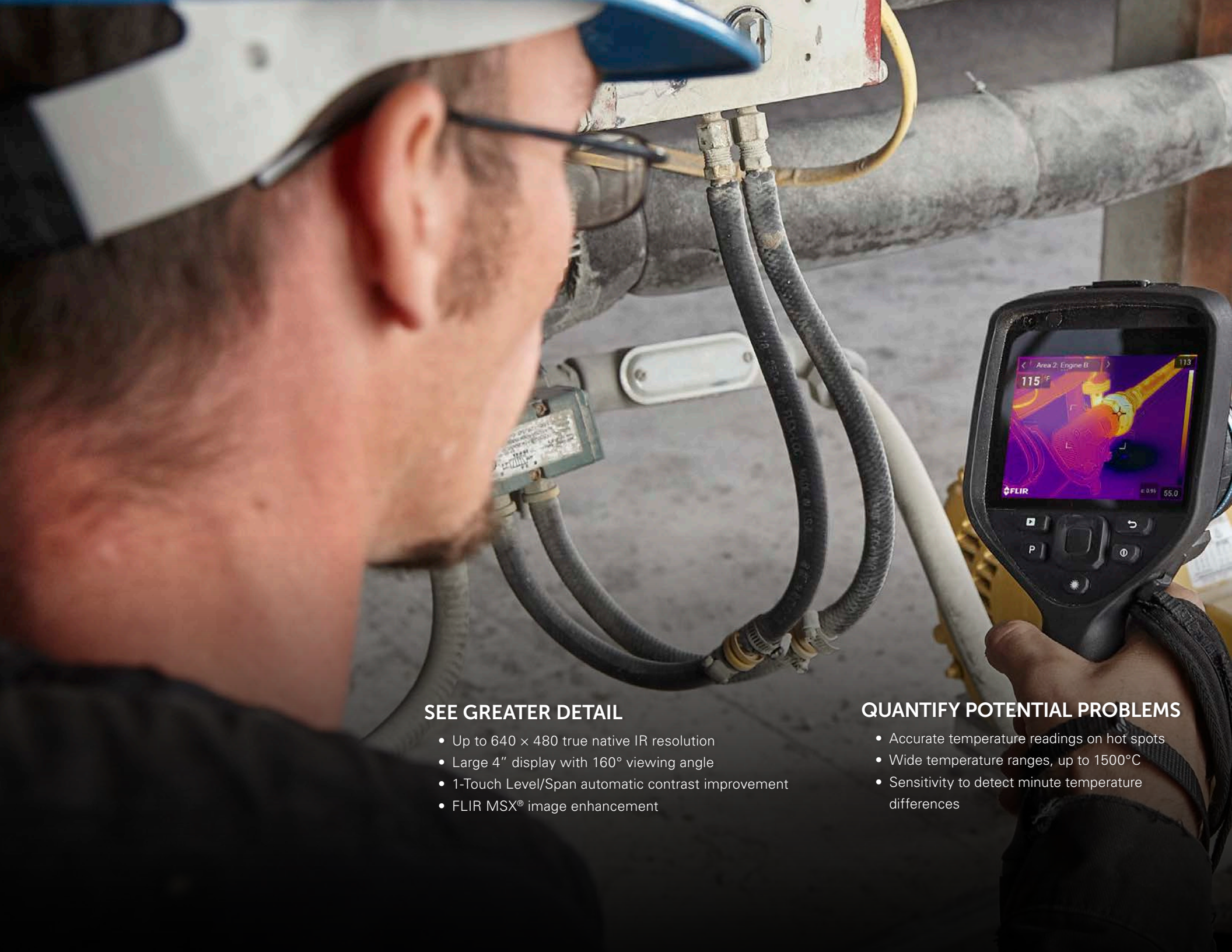


For inspection and maintenance professionals, the most valuable tools are the ones that help them identify problems, improve reliability, and avoid unexpected downtime. Routine facility-wide surveys with a rugged, handheld Exx-Series camera can ensure inspectors spot overheating equipment early, so they can diagnose the issue and begin repairs before equipment fails.

FLIR EXX-SERIES CAMERAS OFFER:

- Up to 640 × 480 thermal resolution so inspectors can work a safe distance from potentially hazardous targets
- Laser distance meter* for measurement information and crisp, accurate focus
- Onboard inspection routing that runs preset survey plans, so you can work more efficiently and keep data organized
- Instant connection to the FLIR Ignite Cloud for direct image uploads and sharing
- Brilliant, easy-to-interpret imagery thanks to our best MSX® image enhancement and the power of UltraMax® image processing
- Compatibility with FLIR Thermal Studio Suite reporting software

* E76, E86, E96 only.



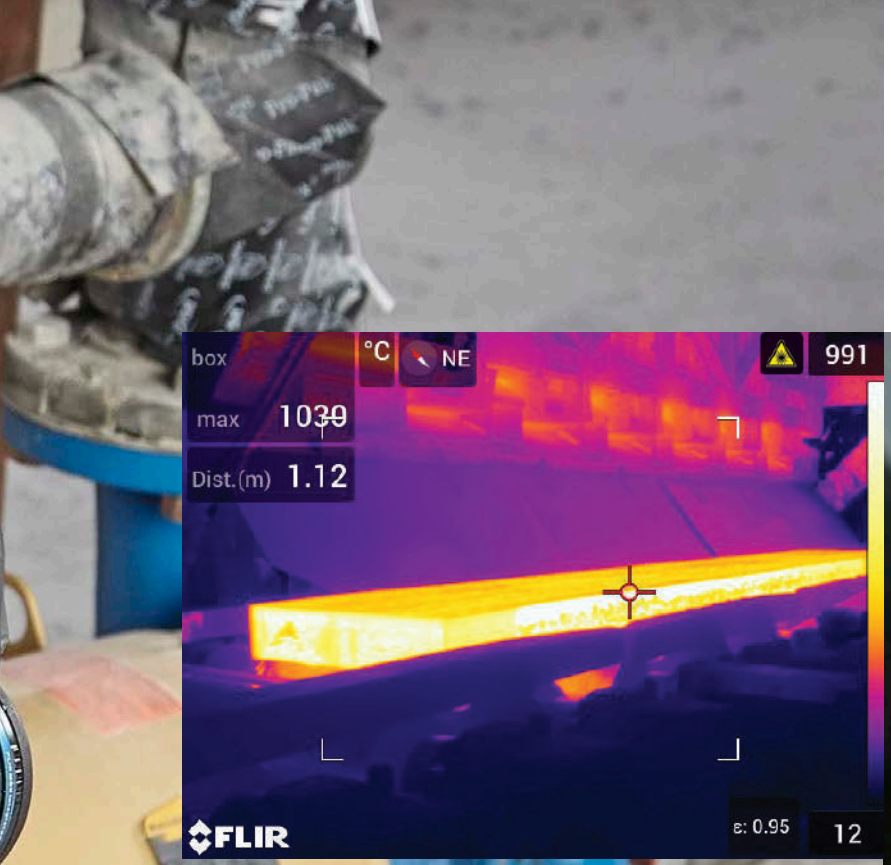
SEE GREATER DETAIL

- Up to 640 × 480 true native IR resolution
- Large 4″ display with 160° viewing angle
- 1-Touch Level/Span automatic contrast improvement
- FLIR MSX® image enhancement

QUANTIFY POTENTIAL PROBLEMS

- Accurate temperature readings on hot spots
- Wide temperature ranges, up to 1500°C
- Sensitivity to detect minute temperature differences

UNPARALLELED PERFORMANCE





FOCUS ACCURATELY

- Laser-assisted autofocus responds quickly, improves measurement accuracy*
- Superior spot-size performance for measurement of small, distant targets
- Interchangeable lenses provide coverage for any target in any scene*

* E76, E86, E96 only.

The Exx-Series is packed with the high performance features you need to quickly find and report hidden hot spots: razor-sharp focus, a rapid response user interface, and easy connection to Wi-Fi so you can upload, organize, and share images directly from the camera.



NAVIGATE SCREENS EASIER

- Quick response capacitive touchscreen
- The latest FLIR user interface with improved flow and feedback
- Logical navigation on screen and in menus

REPORT PROBLEMS QUICKLY

- FLIR Ignite™ Cloud allows you to upload and maintain images in one safe, easily-accessible location
- Pre-planned inspection routes—run from the camera—ensure no wasted time during a full day of surveying
- FLIR Thermal Studio Software provides enhanced image analysis and reporting



FLIR Exx-Series™

E54 | E76 | E86 | E96



HARD-WORKING DESIGN FOR HARD-WORKING PROFESSIONALS

This sleek design isn't just window dressing. From the rubberized, water-tight chassis to the scratch-resistant Dragontrail™ cover glass LCD, the Exx-Series is made for your tough work environment with models fit for every budget.

* E76, E86, E96 only.


40
FLIR

IMPROVE ACCURACY AND EFFICIENCY





THE BEST LENSES NEED THE BEST AUTOFOCUS*

Teledyne FLIR took its cue from the digital camera industry when re-engineering the Exx-Series focus system. Whether you choose autofocus or continuous focus, the camera's precise laser-assisted focus and FLIR's innovative lenses ensure you get crisp results, for the most accurate temperature readings.

* E76, E86, E96 only.

MULTIPLE TARGETS, ONE SOLUTION

Not every target is large enough or close enough for proper measurement with a single lens. That's why FLIR designed the Exx-Series with interchangeable* 24°, 42°, and 14° lenses—so you can use the same camera for every target you survey. The camera auto-calibrates with each new lens to ensure it produces high-quality images and precise thermal measurements.

TAILORED TO YOUR SYSTEMS

Exx-Series cameras produce standard radiometric JPEGs that can be opened and viewed without proprietary software. These images can be viewed and edited in FLIR Thermal Studio Suite, and are supported by FLIR's Software Development Kit (ATLAS SDK). This allows companies to use their own Computerized Maintenance Monitoring Systems (CMMS) and still support read-out of thermal measurements, METERLiNK® data, GPS, compass, and other important parameters embedded within the image.

TECHNICAL SPECIFICATIONS

Features by Camera	E54	E76	E86	E96
Infrared Resolution	320 × 240 (76,800 pixels)		464 × 348 (161,472 pixels)	640 × 480 (307,200 pixels)
UltraMax®	No	307,200 pixels	645,888 pixels	1.2 Megapixels
Thermal Sensitivity/NETD	<40 mK @ 30°C (86°F)	<40 mK @ 30°C (86°F) for 24° lens		
Spatial Resolution (IFOV)	1.31 mrad/pixel		0.90 mrad/pixel	0.66 mrad/pixel
Object Temperature Range	-20°C to 120°C (-4°F to 248°F), 0°C to 650°C (32°F to 1202°F)	-20°C to 120°C (-4°F to 248°F), 0°C to 650°C (32°F to 1202°F); optional 300°C to 1000°C (572°F to 1832°F)	-20°C to 120°C (-4°F to 248°F), 0°C to 650°C (32°F to 1202°F), 300°C to 1500°C (572°F to 2732°F)	
Field of View	24° × 18°	Lens dependent		
Focal Length	17 mm (0.67 in.)	Lens dependent		
Focus	Manual	Continuous LDM, One-shot LDM, One-shot contrast, Manual		
Digital Zoom	1–4× continuous			1–8× continuous
Time-lapse (infrared)	No		10 seconds to 24 hours (infrared)	
Laser Alignment	NA	Position is automatically displayed on the infrared image		
Laser Area Measurement	NA		Yes	
Laser Distance Measurement	NA	Yes, on-screen		
Laser	Class 2 laser pointer	Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance		
Measurement Presets	No measurements, Center spot, Hot spot, Cold spot, 3 spots, Hot spot-spot	No measurements, Center spot, Hot spot, Cold spot, User preset 1, User preset 2		
Area Meter	1 in live mode	3 in live mode		
Picture-in-Picture	Centered infrared area on the visual image	Resizable and movable		

Common Features	
Detector Type and Pitch	Uncooled microbolometer/17 µm
Spectral Range	7.5–14 µm
Image Frequency	30 Hz
F-Number	f/1.3
Lens Identification	Automatic
Image Presentation and Modes	
Display	4", 640 × 480 pixel touchscreen LCD with auto-rotation
Resolution	5 MP, 53° × 41° FOV
Color Palettes	Arctic, White hot, Black hot, Iron, Lava, Rainbow, Rainbow HC
Image Modes	Infrared, visual, MSX®, Picture-in-picture
MSX®	Embosses visual details on full-resolution thermal image
Measurement and Analysis	
Accuracy	±2°C (±3.6°F) or ±2% of reading for ambient temperature 15°C to 35°C (59°F to 95°F) and object temperature above 0°C (32°F)
Spotmeter	3 in live mode
Alarms	Moisture, insulation, and measurement
Color Alarm (Isotherm)	Above/below/interval/condensation/insulation
Compass, GPS	Yes, automatic GPS image tagging
METERLiNK®	Yes, several readings
Inspection Mode and Software	
FLIR Inspection Route	Enabled in the camera
Compatible Analysis Software	FLIR Thermal Studio Suite, including FLIR Route Creator plug-in
Storage of images	
Storage Media	Removable memory: SD card (8 GB)
Cloud Storage	FLIR Ignite Cloud services
Image File Format	Standard JPEG with measurement data included
Video Recording and Streaming	
Radiometric IR Video Recording	Real-time radiometric recording (.csq)
Non-Radiometric IR or Visual Video	H.264 to memory card
Radiometric IR Video Streaming	Over UVC
Non-Radiometric IR Video Streaming	H.264 or MPEG4 over Wi-Fi; MJPEG over UVC or Wi-Fi
Additional Data	
Battery Type	Li-ion battery, charged in camera or on separate charger
Battery Operating Time	Approx. 2.5 hours at 25°C (77°F) and typical use
Operating Temperature Range	-15°C to 50°C (5°F to 122°F)
Shock/Vibration/Drop; Safety	25 g (IEC 60068-2-27) / 2 g (IEC 60068-2-6) / Designed for 2 m (6.6 ft) drop; camera safety IEC/EN 60950-1, IEC/EN 62368-1
Weight/Dimensions	1 kg (2.2 lb), 27.8 × 11.6 × 11.3 cm (11.0 × 4.6 × 4.4 in)
Box Contents	Infrared camera with lens, battery (2 ea), battery charger, front protection, straps (hand, wrist), hard transport case, lanyards, lens caps, lens cleaning cloth, power supplies, 8 GB SD card, Torx wrench, cables (USB 2.0 A to USB Type-C, USB Type-C to USB Type-C, USB Type-C to HDMI), FLIR Thermal Studio Starter, documentation

Exx-Series cameras are backed by FLIR's industry-leading warranty

2 years: Full protection, parts, labor
5 years: Battery
10 years: Detector



Learn more about Exx-Series cameras at www.flir.com/exx-electrical

FLIR TOTAL SOLUTION

TRAINING



Get thermography certification through the Infrared Training Center (ITC) to increase your understanding of thermal imaging and make surveying more efficient.

Our courses include:

* Levels I, II and III Thermography Certification
* Levels I and II Electrical Thermography Certification
* IR Electrical Inspection Training

Certification as a Level I thermographer ensures you understand how to use the camera; Level II cranks up your credibility with more in-depth concepts; and Level III ensures you have the skills to administer your company's thermography program.

For a complete schedule of courses and more information, visit **www.infraredtraining.com**

SOFTWARE



FLIR Thermal Studio Pro, FLIR Ignite Cloud storage, and FLIR route management provide the total solution your team needs to streamline inspections, analysis, and reporting.

FLIR Thermal Studio Pro: Build an efficient survey roadmap with the FLIR Route Creator software plugin, then download and run it using the Inspection Route feature on your camera. Once your inspection is complete, bring the images back into FLIR Thermal Studio for processing, analysis, and reporting.

FLIR Ignite: Upload images wirelessly to this cloud-based service, which automatically manages the safe and secure back-up of your data.

SERVICE AND SUPPORT



Regular maintenance and calibration from FLIR's service professionals is the best way to ensure your camera is operating within specification for accurate results, working reliably, and helping you reduce downtime.

FLIR Service is 9001:2008 certified and our exclusive 14-Point Inspection and Calibration program uses temperature references that are calibrated annually and traceable to the National Institute of Standards and Testing.

We also offer 24/7 global technical support in a wide range of languages, so you can be sure to get the help you need when you need it.

For more information contact:
Sales@TeledyneFLIR.com
or to find your local support number, visit:
flir.com/contactsupport

Specifications are subject to change without notice
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Exx-Series_Brochure_072022_RH22-0735-INS

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