



**LEADER<sup>®</sup>**

● *Fighting for performance*

# **THERMAL IMAGING CAMERAS**

RESPONSE EQUIPMENT

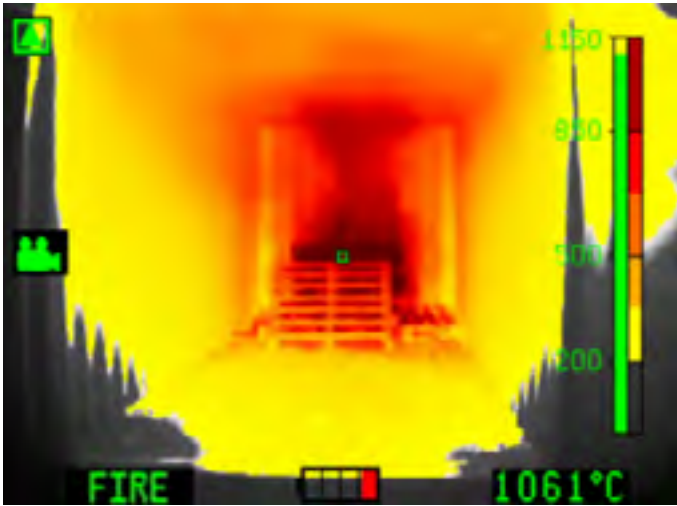
AUG. 2021



**FIREFIGHTING CAMERAS | LONG RANGE CAMERAS**

**THERMAL IMAGING CAMERAS  
FOR FIRE**

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**THERMAL IMAGING CAMERAS  
FOR SEARCH AND RESCUE**

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# LEADER THERMAL IMAGING CAMERA TECHNOLOGY

## HERITAGE THE MERGE OF EXPERTISE

Based in Austria, Active Photonics (now LEADER Photonics) started in 2000 developing and selling thermal imagers to Austrian market. In parallel of the hand held cameras range, the company was the one to develop innovative hands free system still active in main Austrian and German Fire Brigades.

The company is expert in the Infra-Red domain applied to fire and rescue.

## OUR COMMITMENT PROCESS AND CERTIFICATIONS FOR QUALITY

The work of our R&D and production teams lead to thermal cameras of highest quality. The whole LEADER range is manufactured in our plant in Austria, where it is subject to the strictest quality processes. As a confirmation, LEADER TICs receive a 5 years warranty on the camera, 6 years for the batteries and 10 years for the sensor!

## LEADER EQUIPMENT THE BEST PERFORMANCE FOR YOU

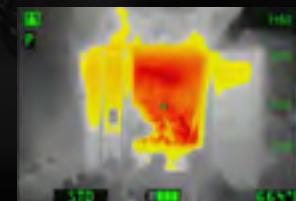
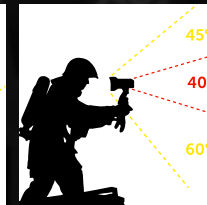
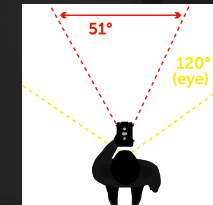
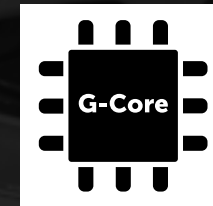
Our thermal cameras are specifically designed for Fire and Rescue to understand fire behavior, locate casualties and protect firefighters in hostile environments. With performance technology unique to LEADER Photonics, the LEADER TIC cameras provide firefighters and rescuers with

Since LEADER acquired Active Photonics in 2016, bringing complementary R&D support to IR expertise, the range of cameras has been totally redesigned for even better performances on the fire ground. The LEADER GROUP now promotes the thermal imaging cameras worldwide and is proud to be recognized as one of the main firefighting and rescue TIC manufacturers!

LEADER Photonics has now reached NFPA1801 standard. Our engineers continually strive to improve quality and efficiency of our products. This is why the LEADER TICs are considered very reliable.

the ultimate combination of situational awareness, lightweight design and compliance to TIC standards. The superior image quality enables firefighters to fully interpret a fire scene for making the best tactical decisions. It also allows rescuers to search for a victim through smoke or at long distance.

## OUR CHOICES WHY CHOOSING LEADER TICs ?



### ■ BRAND NEW CORE

The LEADER Photonics team is proud to announce the achievement of the new own advanced thermal engine for high image quality! The G-Core 384x288 is born! Using a European micro-bolometer, the R&D team developed the whole electronics and software as well as the brand new shutter that makes the job with the highest level.

### ■ SPECIFIC LENS FOR FIRE OPS

Our lens offers the largest FOV (H51° / V40°) on the market. This allows the widest view on display for maximum efficiency when scanning areas where you look for Fire information or Victims location.

### ■ GERMANIUM WINDOW

An effective protection in all situations for fire operations. It guarantees the protection of the sensor and the inside lens. This is an essential part that will prevent the camera from heat effects and all external aggressions.

### ■ -40 TO +1150°C: THE WIDEST HEAT DETECTION RANGE FOR FIRE OPS

LEADER cameras offer of the widest detection range on the market: -40°C to +1150°C. This is a must to avoid saturation at display when facing high temperatures. During fire attack, firefighters must rely on an imager that shows critical views:

- 500°C is the common limit temp of their fire suits outer layer protection,
- 675°C is the starting point for triggering thermal phenomena,
- 850°C is the stability limit of steel structures...

### ■ AUTOMATIC SENSITIVITY SWITCH

LEADER TICs software integrates 3 sensitivity modes with automatic switch according to the observed scene. This allows temperature range with:

- High sensitivity: -40 +150°C
- Medium sensitivity: -40 +500°C or 650°C depending on model
- Low sensitivity: -40 +1150°C

### ■ NON EXPLOSIVE BATTERIES - 5000 CHARGING CYCLES

LiFePO4 (Lithium Iron Phosphate) batteries are non flammable for use during high temperature operations. They offer a very long lifespan guarantee with 5000 charging cycles and a 6 year warranty.

### ■ ERGONOMIC HOUSING

LEADER Photonics engineers are also focused on how the thermal cameras are being used on the field. This is a critical point taken into account daily to bring the easiest and the most intuitive ergonomic design cameras on the market.





# **FIRE THERMAL IMAGING CAMERAS**

OUR ENGINEERS HAVE OVERCOME  
MANY OBSTACLES  
SO THAT NOTHING STOPS YOU!

## **THE LEADER TIC RANGE HAS BEEN DESIGNED WITH AND FOR FIREFIGHTERS.**

The thermal cameras offer up to 8 hours running time. They are lightweight, robust, IP67 water and dust proof and dedicated to tough environments! Our innovations are always specifically designed with user safety in mind, whether it is the safest LiFePO4 battery technology, the application of 5 color modes or the highest dynamic temperature of 1150°C available.



### **HAND HELD TIC**

**P. 8**

- ✓ Robust fire attack camera
- ✓ High temperature range
- ✓ Various colour modes



### **HANDS FREE CAMERA WITHIN HELMET**

**P. 16**

- ✓ 4 in 1: Helmet, BA, Comms and TIC
- ✓ Clear view with free hands
- ✓ High speed donning
- ✓ Very high temperature protection



### **FIXED TIC SYSTEMS**

**P. 20**

- ✓ Camera attached wherever needed
- ✓ High temperature range
- ✓ Various color modes





# LEADER TIC: HAND HELD THERMAL IMAGING CAMERAS THE MOST POPULAR

The LEADER TIC range has been designed with and for firefighters. The range of hand held TICs offers LEADER TIC 3.1 / TIC 3.3 / TIC 4.1 and TIC 4.3.

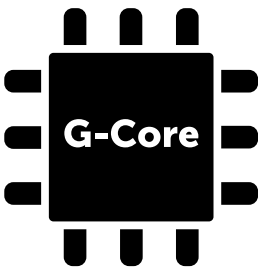
The thermal cameras have up to 8 hours running time, are lightweight, robust, IP67 and dedicated to tough environments! The wide range of temperature measurement brings situation awareness and also a clear view of fire behavior up to 1150°C.

Applications:

- Identify hot spots during reconnaissance
- See in the dark and through smokes
- Detect and display fire temperature even in larger, hotter fires
- Locate the origin of the fire
- Understand the spread of the fire
- Move safe during Search and Rescue responses



## FEATURES AND BENEFITS



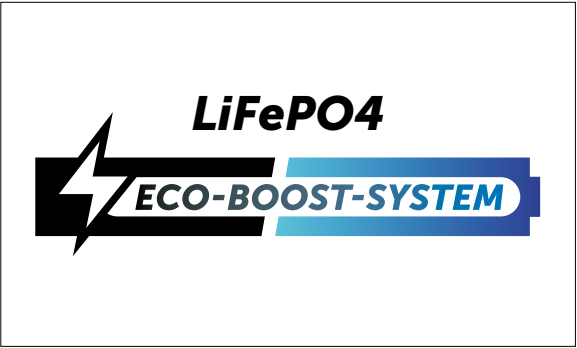
**Image quality**  
Our engineers designed G-Core that provides high quality image displayed at 320x240px.



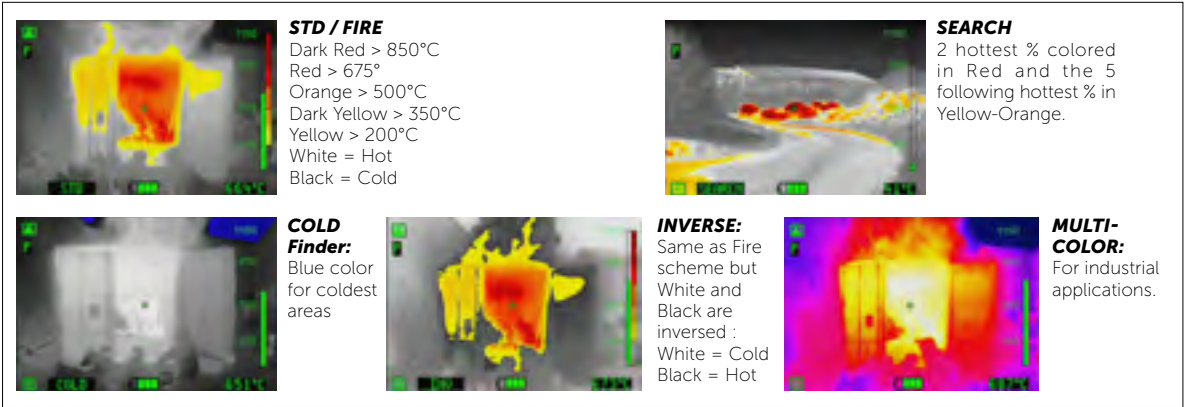
**Wireless video transmission**  
For live video streaming to a tablet, computer or mobile. Very useful for training purpose or during ladder operation or Hazmat situation while colleagues follow at distance in a safe area!



**Fully ergonomic and intuitive**  
Large glove-friendly buttons for ease of use. No menu to click.  
2 models:  
- TIC 3.1 and 4.1 with 1 button - Simple and easy to use in stressful operations,  
- TIC 3.3 and 4.3 with 3 buttons - A maximum of functions for various uses (Color modes, Freeze, Zoom, Photo, Video, Gallery, Laser pointer).



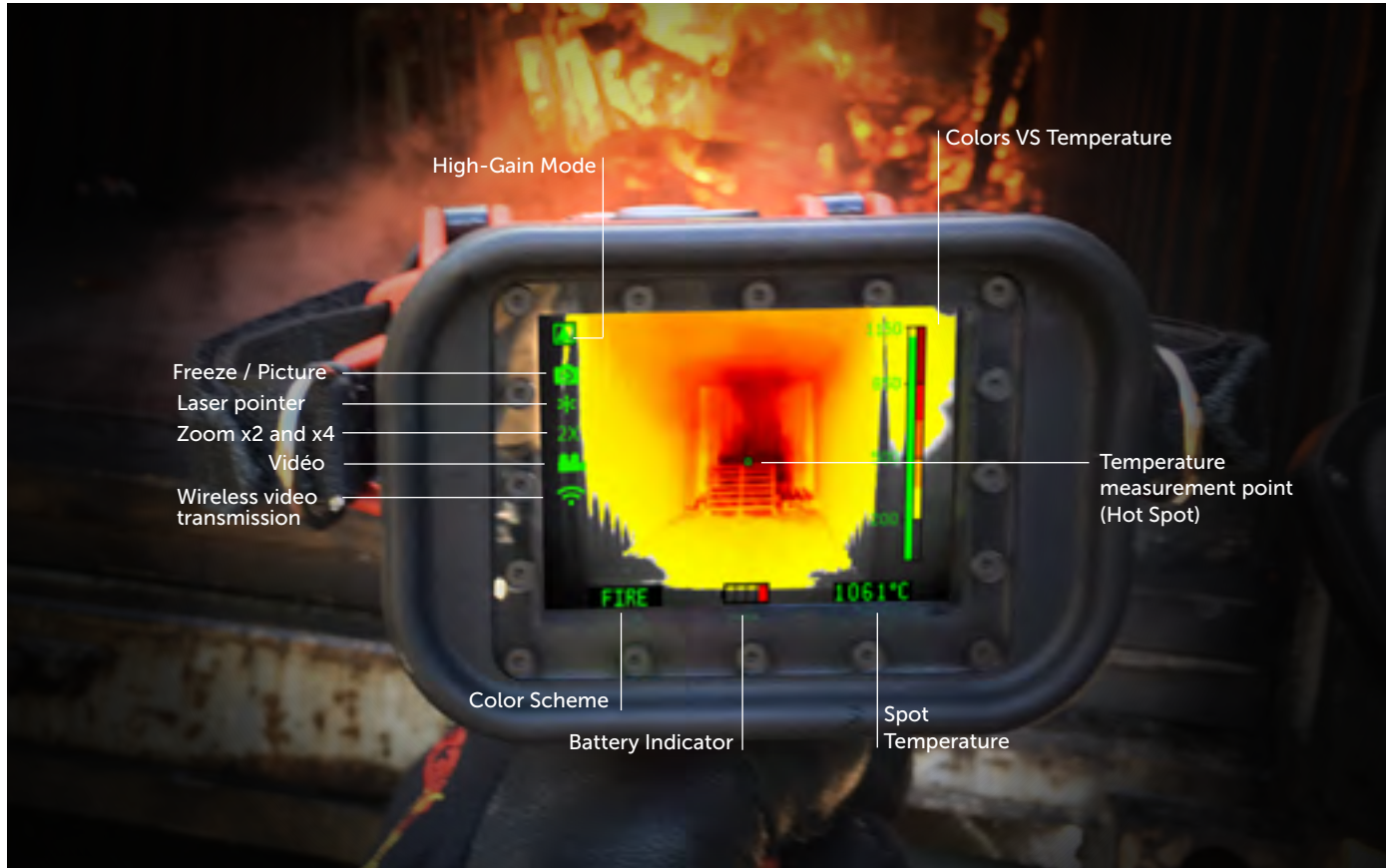
**Long last and safe batteries**  
- Eco-Boost-System allows up to 8h running time with 2 batteries. Camera imager comes with 2 batteries. One can be removed while 2nd keeps the camera running ON.  
- Batteries are LiFePO4 (Lithium Iron Phosphate) which is non explosive for use during high temp operations.  
- They offer 6 year warranty with 5000 charging cycles life time.



**Up to 5 color schemes**  
According to the chosen model (1 or 3 buttons), LEADER TIC cameras give access to up to 5 color schemes: Fire, Search, Cold, Inverse and Multicolor. One button camera shows Fire mode as standard with optional Search mode. Three buttons camera offers Fire, Search and Inverse schemes with Cold and Multicolor as options.



AVAILABLE FUNCTIONS  
WITHIN YOUR LEADER TIC



- 

**High-Gain Mode**  
Camera automatically adjusts temperature sensitivity levels (Low, Medium, High). High-Gain mode displays this icon in Medium and Upper temp ranges for better quality image management on the most extended temperature range.
- 


**Freeze / Picture**  
Freeze / Picture capture (1000 records): For analysis in operation or post operation or for training purpose without exposing to danger.
- 


**Laser pointer**  
Optional integrated laser pointer allows pointing object for better communication with colleagues during operation.
- 

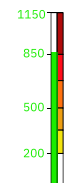
**Zoom x2 and x4**
- 


**Video**  
Video capture (8 hours record): For analysis in operation or post operation or for training purpose without exposing to danger.
- 


**Wireless video transmission**  
For live video streaming to a tablet, computer or mobile.


- 

**Color Scheme indicator**  
According to TIC model; you can switch Fire mode to Search, Inverse, Cold or Multicolor modes (check previous page)
- 

**Battery level indicator**
- 





**Spot Temperature**  
Temperature at measurement point (Hot Spot) in center of display (°C / °F swappable).
- 

**Colors VS Temperature**  
Reference temperature bar with color gradients for easy understanding of heat hazard.
- 

**Picture and Video gallery**  
Simply access to recorded pictures and videos in the Gallery to display them on the camera. For displaying on a computer; no software needed for downloading files. Simply plug the camera to computer.
- 

**Overheat alarm**  
Blinking overheat warning appears when infrared sensor reaches upper limit of internal temperature. Camera remains working so that user has time to run out.

FUNCTIONS PER MODEL

	Quick code	Ref.	Disp.	COLOR SCHEMES:					FUNCTIONS:					
				Fire	Search	Inverse	Cold	Multi-Color	Freeze	Video	Photo	Gallery	Zoom	Laser
REGULAR RANGE														
	3.1 1CSF	A10.00.317	3.5"	■	-	-	-	-	■	-	-	-	-	-
	3.1 2CS	A10.00.318	3.5"	■	■	-	-	-	-	-	-	-	-	-
	3.1 P	A10.00.314	3.5"	■	-	-	-	-	■	-	■	-	-	-
	3.1 V	A10.00.315	3.5"	■	-	-	-	-	■	■	■	-	-	-
	3.3	A10.00.330	3.5"	■	■	■	-	-	■	-	-	-	■	-
	3.3 L	A10.00.332	3.5"	■	■	■	-	-	■	-	-	-	■	■
	3.3 V	A10.00.331	3.5"	■	■	■	-	-	■	■	■	■	■	-
	3.3 VL	A10.00.333	3.5"	■	■	■	-	-	■	■	■	■	■	■
	3.3 5CS	A10.00.336	3.5"	■	■	■	■	■	■	-	-	-	■	-
	3.3 L5CS	A10.00.337	3.5"	■	■	■	■	■	■	-	-	-	■	■
	3.3 V5CS	A10.00.338	3.5"	■	■	■	■	■	■	■	■	■	■	-
	3.3 VL5CS	A10.00.339	3.5"	■	■	■	■	■	■	■	■	■	■	■
	4.1 1CSF	A10.00.417	4"	■	-	-	-	-	■	-	-	-	-	-
	4.1 2CS	A10.00.418	4"	■	■	-	-	-	-	-	-	-	-	-
	4.1 P	A10.00.414	4"	■	-	-	-	-	■	-	■	-	-	-
	4.1 V	A10.00.415	4"	■	-	-	-	-	■	■	■	-	-	-
	4.3	A10.00.430	4"	■	■	■	-	-	■	-	-	-	■	-
	4.3 L	A10.00.432	4"	■	■	■	-	-	■	-	-	-	■	■
	4.3 V	A10.00.431	4"	■	■	■	-	-	■	■	■	■	■	-
	4.3 VL	A10.00.433	4"	■	■	■	-	-	■	■	■	■	■	■
	4.3 5CS	A10.00.436	4"	■	■	■	■	■	■	-	-	-	■	-
	4.3 L5CS	A10.00.437	4"	■	■	■	■	■	■	-	-	-	■	■
	4.3 V5CS	A10.00.438	4"	■	■	■	■	■	■	■	■	■	■	-
	4.3 VL5CS	A10.00.439	4"	■	■	■	■	■	■	■	■	■	■	■

- LEGEND**

CS : Color Scheme  
F : Freeze
- P : Picture  
V : Video + Picture
- L : Laser
- As standard  
- Not applicable



LEADER TIC TECHNICAL COMPARISON



**LEADER TIC 3.1**  
3.5" display, 1 button simple camera  
870g incl. batteries



**LEADER TIC 4.1**  
4" display, 1 button simple camera  
950g incl. batteries



**LEADER TIC 3.3**  
3.5" display, 3 buttons versatile camera  
870g incl. batteries



**LEADER TIC 4.3**  
4" display, 3 buttons versatile camera  
950g incl. batteries



3.5" or 4" display

According to users' expectations, the range proposes compact design cameras with 3.5" display, and also 4" display for better scene visibility.

PERFORMANCE AND TECHNICAL CHARACTERISTICS

IP67 (Ingress Protection)	■
Drop tests from 2m height on concrete	■
T°C dynamic range -40°C to 1150°C	■
Display resolution 320 x 240 px	■
IR sensor resolution 384 x 288 px	■
60 Hz Frequency (export license outside EU)	■
IR sensor protected by Gemanium window	■
LiFePO4 Batteries (2 per camera)	■
Up to 8h running time	■
T°C measurement at center point of display	■
3 sensitivity modes with automatic switch	■
Less than 5 seconds boot time	■
Overheat warning	■
Aramide hand straps on both sides	■

CERTIFICATIONS

CE certified	■
NFPA 1801	under progress
ISA 12.12.01 / CSA C22.2 N°213	under progress

WARRANTY

5 years on camera	■
6 years on batteries	■
10 years on thermal sensor	■

OPTIONS

Startup screen with text or logo	🔊
9Hz low image frequency: export license not required	🔊

ACCESSORIES

Wireless transmission kit for live streaming	□
Removable pistol grip	□
Aramide neck strap	□
Retractable lanyard (500g or 1000g tension)	□
Heat protection hood	□
Rechargeable spare batteries	□
Mains charger 12-24 VDC or 100-240 VAC	□
Charging bay 12-24 VDC or 100-240 VAC	□
Watertight hard case	□
Analog NTSC or PAL output with 5m cable	□

LEGEND

- As standard
- Option to be specified
- 🔊 On request



FIRE HAND HELD TICS | COMPARISON



# OPTIONAL ACCESSORIES



### Wireless video transmission kit

Allows live video streaming displayed onto computer, tablet or mobile phone (3 devices max simultaneously) via a free player up to 140m (open field). Very useful for training purpose or during ladder operation or Hazmat situation while colleagues follow at distance in a safe area!



### Retractable lanyard

LEADER TIC can be held with 1 or 2 retractable lanyards (zipper) attached to the side "D" rings. Often used by 2 to avoid swinging on chest. 500g and 1000g tension force are available.



### Removable pistol grip

The pistol grip is easily mounted for those who prefer a comfortable pistol grip (delivered with tool).



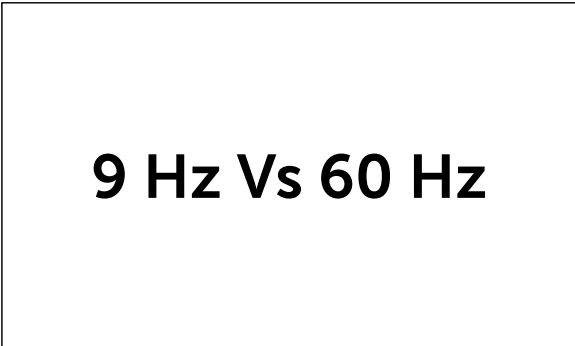
### Heat protection doubles exposure time

Made of aluminized textile the protective hood doubles NFPA requested exposure time of the camera: It allows 30 min at 150°C and 10 min at 260°C!



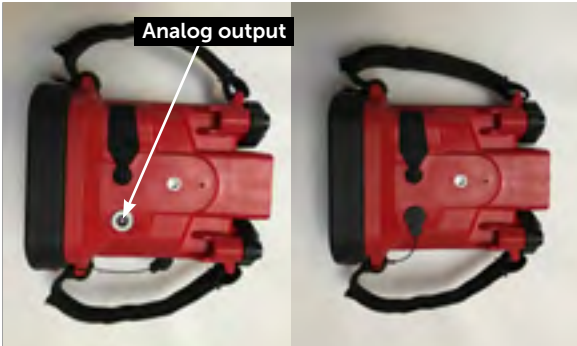
### Neck strap

This strap is an alternative to the retractable lanyards. Made of aramide (fire-proof), it holds the LEADER TIC by its side "D" rings.



### Image motion fluidity

Frame Per Second (Hz) can be chosen. 60Hz has great fluidity and requires a dual use license outside EU. 9Hz has lower fluidity but doesn't request any license.



### Analog output (NTSC or PAL)

Useful for vehicle mount such as ladder trucks. Comes with 5 m open end cable. A 30m extension cable can be added without need of amplifier.



### Charger

12-24 VDC or 100-240 VAC available with all international adapters. Allows charging the 2 batteries inside the camera so that it is ready to go at any time.



### Spare batteries

LiFePO4 (Lithium Iron Phosphate) batteries with 5000 cycles life time, 6 year warranty. Lightweight and safe when used during fire operations with high temperature.



### Charging bays

12-24 VDC or 100-240 VAC. Standard model charges the 2 batteries inside the TIC for making it ready to go at any time. A model with external slots allows charging the 2 batteries in the camera and 2 spares. Vehicle mount possible. Complies with EN1789 against 10G accelerations (under process).



### Transport case

Hard and IP67 waterproof case is available for protecting the camera and the optional accessories.





# SOLO-TI AND SOLO HELMETS WITH COMMS AND THERMAL IMAGING DISPLAY IN THE BA MASK

ALL INCLUSIVE SET FOR FAST DONNING  
TO QUICKLY KILL A FIRE ON-BOARD A SHIP

## 5 in 1 equipment

It is the ultimate fire helmet with breathing apparatus mask built-in as standard, integrated thermal imaging and outstanding communications ability. The helmet is fitted with a skirt for neck protection.

## Exceptional adaptability and efficiency during ship fires.

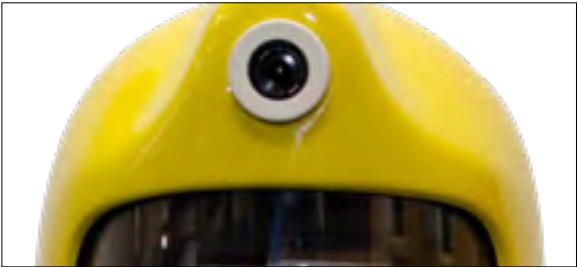
Fire is the number one danger on board a boat. Especially with passengers. It must be contained and extinguished as quickly as possible! Providing head protection, respiratory protection and a great communications interface in one system is a huge benefit. When you couple that with being able to see through the densest of smoke then it's a must have in firefighting safety. The SOLO-TI features a fully integrated thermal imaging camera, which displays

the image inside the face mask using augmented reality viewing optics. The ergonomic design gives clean lines to the outside of the helmet. The helmet can be donned within a few seconds giving firefighters a quicker reaction time and the ability to use both hands in any hazardous situation.

## Applications:

- Clear view with free hands
- Temperatures situation awareness
- Identify hot spots during reconnaissance
- See in the dark, fog and through smokes
- Detect and display fire temperatures
- Locate the origin of the fire
- Move safe during Search and Rescue

## FEATURES AND BENEFITS



### Clear image

The clarity of the image displayed inside the face mask is paramount.



### Crystal clear Comms

SOLO-TI and SOLO integrate crystal clear Comms with your existing radio



### High speed donning!

Donned within a few seconds giving firefighters a quicker reaction time than putting on independently a hood, BA mask, helmet and connecting comms and getting a thermal camera ready.



### Dräger and Scott SCBA connection

Can be used in conjunction with Dräger PSS (LDV) and Scott SCBA.



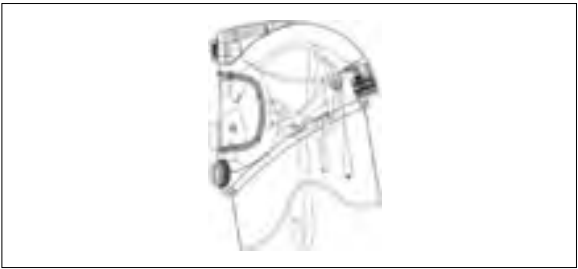
### SOLO-TI, easy to operate

In stressful environment equipment needs to be simple and easy for crews to operate in emergency situations. The SOLO-TI offers 2 buttons for color selection and PTT. It enables firefighter to have quick reaction time and have both hands free.



### SOLO Helmets for connected teams

SOLO helmet is a 3 in 1 helmet with built in BA and Comms. Each fire crew uses SOLO helmets to complement SOLO-TI. The crystal clear communication enables teams to work efficiently with the SOLO-TI as commander.



### MED and SOLAS approved

Complete head, face and neck protection. SOLO and SOLO-TI are fully approved, with MED, SOLAS and CE marking.



### Fire retardant resin

Fire retardant resin and Kevlar® fibre composite shell. The smooth, clean lines minimise the risks of snagging during operational use. The helmet provides neck protection with an aramide skirt.



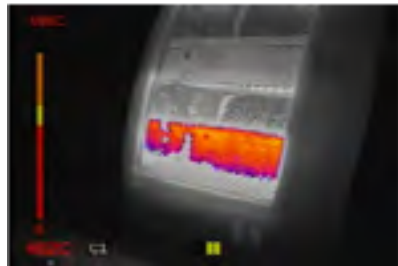
SOLO-TI



AVAILABLE FUNCTIONS

4 color schemes

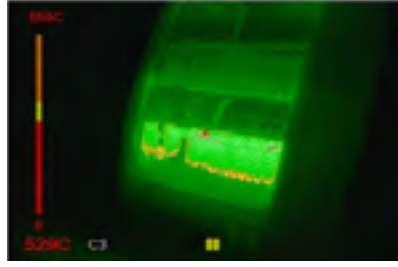
SOLO-TI thermal imager gives access to 4 color schemes:



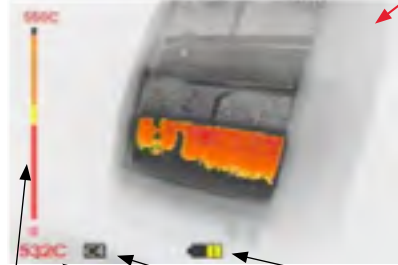
C1: White Hot - Multi Color



C2: White Hot - Red

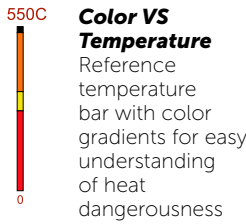


C3: Green



C4: Black Hot - Multi Color

Camera automatically adjusts temperature sensitivity levels: Low gain 0-150°C and High gain 0-550°C.



532C Spot Temperature  
Temperature display at measurement point (Hot Spot) in center of screen (°C / °F swappable)

C4 Color scheme  
C1: White Hot- Multi Color, C2: White hot - Red, C3: Green, C4: Black Hot - Multi Color.

Battery level indicator



TECHNICAL CHARACTERISTICS

DEVICE COMBINES:	SOLO-TI	SOLO	CERTIFICATIONS	SOLO-TI	SOLO
Helmet	■	■	Emissions: EN 61000-6-3:2007	■	-
Neck protection skirt	■	■	Immunity: EN 61000-6-2:2005	■	-
Integrated Breathing Apparatus mask	■	■	PPE: 89 / 686 EEC	■	■
Integrated radio communication	■	■	EC Approval: EN 443 (2008), EN136 (1998) including AC (2003), EN137 (2006)	■	■
In the mask thermal imaging display	■	-	Solas Approved and MED 2014/90/EU	■	■
PERFORMANCE AND TECHNICAL CHARACTERISTICS					
HELMET	SOLO-TI	SOLO	WARRANTY	SOLO-TI	SOLO
Weight including batteries	2.9 kg	2.4 kg	3 years on helmet	■	■
Shell: Fire retardant resin and Kevlar fibre composite	■	■	1 year on batteries	■	-
Shell Lining: Plastazote Foam Strap Material	■	■	1 year on thermal sensor	■	-
Neck skirt: Aramide	■	■	ACCESSORIES	SOLO-TI	SOLO
THERMAL IMAGING CAMERA	SOLO-TI	SOLO	Valve adapter for Scott SCBA	□	□
Near to eye display optic	■	-	Valve adapter for Dräger SCBA	□	□
IP67 (Ingress Protection)	■	-	Radio interface cable for connect assembly	□	□
T°C dynamic range -40°C to 550°C	■	-	100-240V battery charger	●	-
Display resolution 428 x 240 x 3 (WQVGA)	■	-	Li-ion Rechargeable spare battery	●	-
IR sensor resolution 320 x 240 px	■	-			
30 Hz Frequency (export license outside EU)	■	-			
Li-ion Rechargeable Battery	■	-			
Up to 10h running time	■	-			
T°C measurement at center point of display	■	-			
2 sensitivity modes with automatic switch	■	-			
Less than 5 seconds boot time	■	-			

LEGEND  
■ As standard  
□ Option to be specified  
● Option adaptable afterward  
- Not applicable  
Check out our product data sheet for more technical details



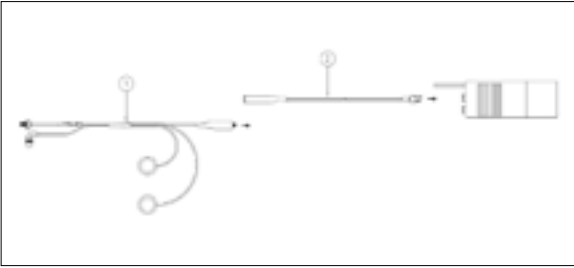
Valve adapter for Scott and Dräger breathing apparatus devices.



100-240V / 50-60Hz charger with international adapters for SOLO-TI battery.



Li-ion Rechargeable battery for powering SOLO-TI thermal camera



Radio interface cable for connect assembly with Motorola radios.





# LT10: FIXED THERMAL IMAGING CAMERA

## PERFECT FOR IR VISION IN VEHICLES AND SURVEILLANCE

Device is compact infra-red camera encapsulated into robust and watertight housing. LT10 integrates a heated window for avoiding condensation with low ambient temperatures.

LT10 uses LEADER G-Core technology providing clear thermal image displayed on chosen screen.

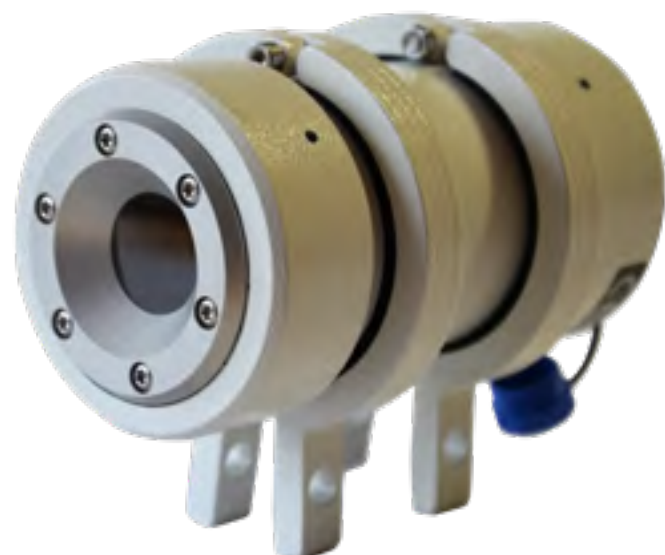
In the vehicle cabin, the user accesses up to 5 colorization modes with x2 x4 zoom providing fire crews with optimal support in the detection of fires and hot spots but also the temperature analysis for better understanding of fire behavior. Video output is Analog.

Applications:

- Identify hot spots
- See in the dark, fog and through smokes
- Locate the origin of the fire
- Understand the spread of the fire
- Move safe during Search and Rescue responses

Examples:

- At front or rear of vehicles for tunnel fires
- At top of ladder vehicle for reconnaissance before crew access in building
- Close to risky fire areas in waste recycling plant
- Close to industrial facilities with fire hazard



## FEATURES AND BENEFITS



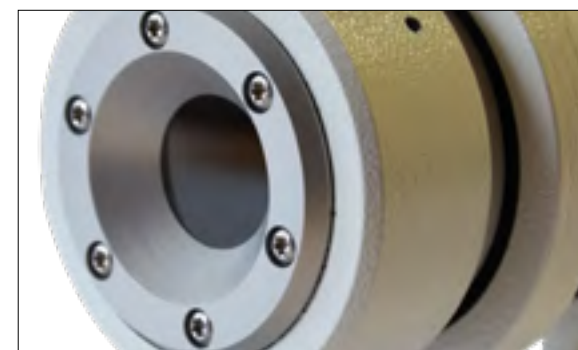
### Very compact

One of the most compact on the market with 135mm length x 68 mm diameter!



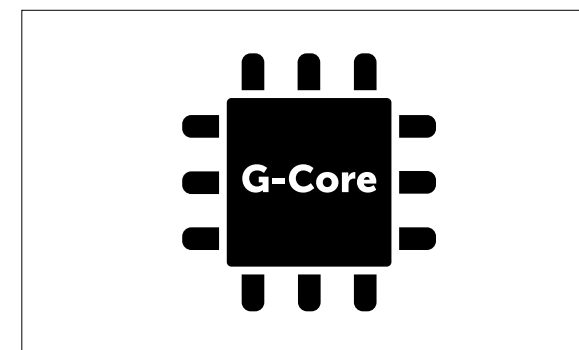
### Extremely robust

Epoxy powder coated thick aluminum housing. A Germanium window protects the lens and sensor.



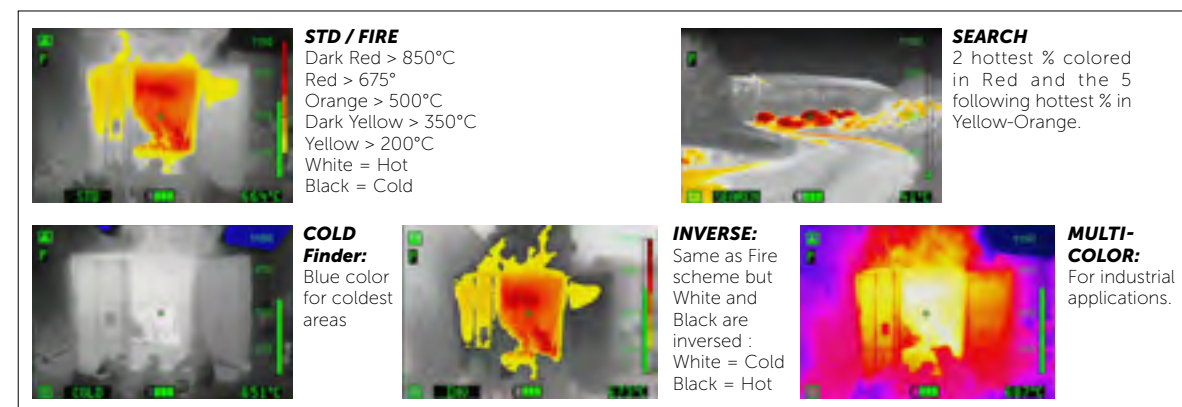
### Heated protection

Together with germanium carbon coated lens, the device integrates a heated window. This avoids condensation for a clear picture.



### Image quality

Developed by LEADER engineers, the G-Core module provides a resolution of 384x288px, and gives LT10 high image quality displayed in 320x240px.

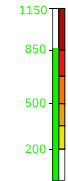
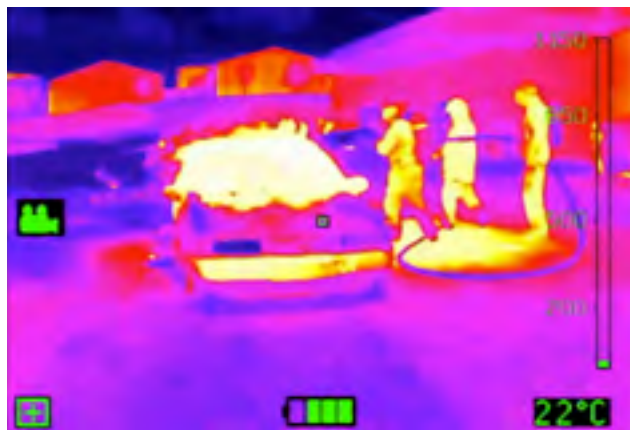


### Up to 5 color schemes

According to the thermal camera model, LT10 gives access to up to 5 color schemes: Fire, Search, Cold, Inverse and Multicolor. One supplied button kit to be installed by customer into the cabin of the vehicle allows switching from one to the other one.



AVAILABLE FUNCTIONS OF LT10



**Colors VS Temperatures**  
Reference temperature bar with color gradients for easy understanding of heat dangerousness



**High-Gain Mode**  
Camera automatically adjusts temperature sensitivity levels (Low, Medium, High). High-Gain mode displays this icon in Medium and Upper temp ranges for better quality image management on the most extended temperatures range.

22°C

**Spot Temperature**  
Temperature display at measurement point (Hot Spot) in center of screen (°C / °F swappable)

FIRE

**Color Scheme indicator :**  
Fire or Search as standard. Inverse, Cold and Multicolor as optional schemes (Multicolor shown here as an example)

2X

**Zoom x2 and x4**

TECHNICAL CHARACTERISTICS

PERFORMANCE AND TECHNICAL CHARACTERISTICS	LT10	COLOR SCHEMES	LT10
Camera weight	700g	Fire mode	■
Large button(s) easy to operate	3	Search mode	■
IP67 (Ingress Protection)	■	Inverse mode	□
T°C dynamic range -40°C to 1150°C	■	Cold mode	□
Display resolution 320 x 240 px	■	Multicolor mode	□
IR sensor resolution 384 x 288 px	■	ACCESSORIES	LT10
60 Hz Frequency (export license outside EU)	■	Monitors size (diagonal)	7", 10" or 17"
IR sensor protected by Gemanium window	■	Main box 12 or 24VDC	●
Powered by vehicle	■	Cap protection against gravel	●
T°C measurement at center point of display	■	Sunroof	●
3 sensitivity modes with automatic switch	■	Wifi Transmission	●
Less than 5 seconds boot time	■		
Overheat warning	■		
CERTIFICATIONS	LT10	LEGEND	
CE certified	■	■ As standard	
WARRANTY	LT10	□ Option to be specified	
5 years on camera	■	● Option adaptable afterward	
10 years on thermal sensor	■		

Check out the product data sheet for more technical details

ACCESSORIES



7", 10" or 17" monitor to install inside the vehicle cabin



Sunroof



Protective cap against gravels when thermal camera is not in use





## LONG RANGE THERMAL IMAGING CAMERAS

IDEAL FOR FINDING PEOPLE  
IN LARGE AREAS SUCH AS  
DESERT, MOUNTAIN AND SEA!

### **THE LEADER TIC LR HAS BEEN DESIGNED FOR MANY SEARCH AND SURVEILLANCE APPLICATIONS.**

The Long Range thermal cameras are useful for many applications in large areas. LR700 and LR1000 allow detecting a human target at 700m and 1000m. The TICs are convenient with 3.5" or 4" display and easy to use with 1 or 3 buttons. The 3 buttons models allow greater versatility such as ability to zoom in the image to recognize the detected target.

#### **LONG RANGE TIC**

P.26



- ✓ Ideal for surveillance
- ✓ 700 or 1000m
- ✓ Robust and all weather camera
- ✓ Versatile thanks to large temperature range
- ✓ Various color modes





# LEADER TIC LR: LONG RANGE THERMAL IMAGING CAMERAS

## FOR SURVEILLANCE OR FINDING PEOPLE IN LARGE AREAS SUCH AS SEA, MOUNTAIN AND DESERT!

Long Range TICs combine 700m or 1000m target detection together with all functions of LEADER TICs regular range (TIC 3.1 / TIC 3.3 / TIC 4.1 and TIC 4.3): 5 color schemes, video, picture, gallery, laser, wireless video streaming...

The thermal cameras are compact, IP67 with 8h run time and dedicated to tough environments!

The wide range of temperature measurement allows search for victims in large open fields, brings fire situation awareness and also a clear view of fire up to 1150°C.

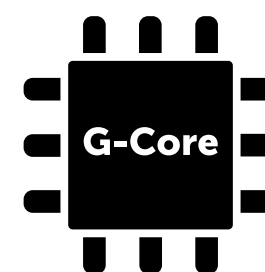
Applications:

- Find missing persons
- See humans at sea, mountain, desert... during Rescue operations
- Move safe during Search and Rescue responses
- Identify hot spots at distance
- See in the dark and through smokes
- Locate the origin of a fire
- Detect and display fire temperature even in larger, hotter fires
- Understand the spread of the fire



08/2021 - ZCL07.353.EN.2

## FEATURES AND BENEFITS



### Image quality

Our engineers designed G-Core that provides high quality image displayed at 320x240px.



### Wireless video transmission

For live video streaming to a tablet, computer or mobile. Very useful for training purpose or during ladder operation or Hazmat situation while colleagues follow at distance in a safe area!



### Fully ergonomic and intuitive

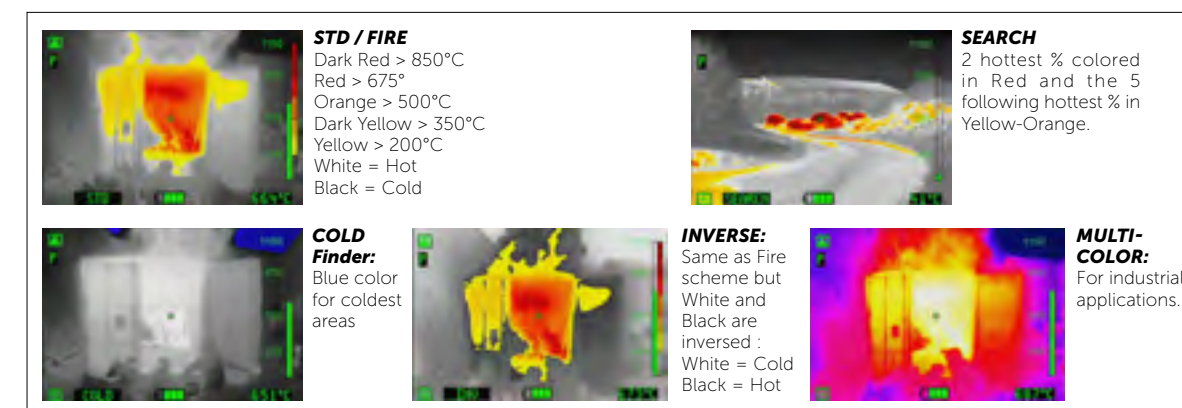
Large glove-friendly buttons for ease of use. No menu to scroll.

2 models:

- TIC 3.1 and 4.1 with 1 button - Simple and easy to use in stressful operations,
- TIC 3.3 and 4.3 with 3 buttons - A maximum of functions for various uses (Color modes, Freeze, Zoom, Photo, Video, Gallery, Laser pointer).

### Long last and safe batteries

- Eco-Boost-System allows up to 8h running time with 2 batteries. Camera imager comes with 2 batteries. One can be removed while 2nd keeps the camera running ON.
- Batteries are LiFePO4 (Lithium Iron Phosphate) which is non flammable for use during high temp operations.
- They offer 6 year warranty with 5000 charging cycles life time.



### Up to 5 color schemes

According to the chosen model (1 or 3 buttons), LEADER TIC cameras give access to up to 5 color schemes: Fire, Search, Cold, Inverse and Multicolor. One button camera shows Fire mode as standard with optional Search mode. Three buttons camera offers Fire, Search and Inverse schemes with Cold and Multicolor as options.



AVAILABLE FUNCTIONS  
WITHIN YOUR LEADER TIC



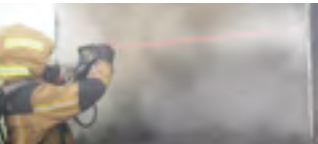
**High-Gain Mode**  
Camera automatically adjusts temperature sensitivity levels (Low, Medium, High). High-Gain mode displays this icon in Medium and Upper temp ranges for better quality image management on the most extended temperature range.



**Freeze / Picture**  
Freeze / Picture capture (1000 records): For analysis in operation or post operation for training purpose without exposing to danger.



**Laser pointer**  
Optional integrated laser pointer allows pointing object for better communication with colleagues during operation



**Zoom x2 and x4**



**Video**  
Video capture (8 hours record): For analysis in operation or post operation for training purpose without exposing to danger.



**Wireless video transmission**  
For live video streaming to a tablet, computer or mobile.



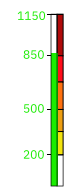
**Color Scheme indicator**  
According to TIC model; you can switch Fire to Search, Inverse, Cold or Multicolor modes (check previous page)



**Battery level indicator**

1082°C

**Spot Temperature**  
Temperature at measurement point (Hot Spot) in center of display (°C / °F swappable).



**Colors VS Temperature**  
Reference temperature bar with color gradients for easy understanding of heat hazard.







**Picture and Video gallery**  
Simply access to recorded pictures and videos in the Gallery to display them on the camera. For displaying on a computer; no software needed for downloading files. Simply plug the camera to computer.



**Overheat alarm**  
Blinking overheat warning appears when infrared sensor reaches upper limit of internal temperature.

FUNCTIONS PER MODEL

					COLOR SCHEMES:					FUNCTIONS:						
	Quick code	Disp.	Ref.	Ref.	Fire	Search	Inverse	Cold	MultiColor	Freeze	Video	Photo	Gallery	Zoom	Laser	
LONG RANGE																
	LEADER TIC 3.1	3.1 1CSF	3.5"	A10.70.310	A10.10.310	■	-	-	-	-	■	-	-	-	-	
		3.1 2CS	3.5"	A10.70.316	A10.10.316	■	■	-	-	-	-	-	-	-	-	
		3.1 P	3.5"	A10.70.314	A10.10.314	■	-	-	-	-	■	-	■	-	-	
		3.1 V	3.5"	A10.70.315	A10.10.315	■	-	-	-	-	■	■	■	-	-	-
	LEADER TIC 3.3	3.3	3.5"	A10.70.330	A10.10.330	■	■	■	-	-	■	-	-	-	■	-
		3.3 L	3.5"	A10.70.332	A10.10.332	■	■	■	-	-	■	-	-	-	■	■
		3.3 V	3.5"	A10.70.331	A10.10.331	■	■	■	-	-	■	■	■	■	■	-
		3.3 VL	3.5"	A10.70.333	A10.10.333	■	■	■	-	-	■	■	■	■	■	■
		3.3 5CS	3.5"	A10.70.336	A10.10.336	■	■	■	■	■	■	-	-	-	■	-
		3.3 L5CS	3.5"	A10.70.337	A10.10.337	■	■	■	■	■	■	-	-	-	■	■
		3.3 V5CS	3.5"	A10.70.338	A10.10.338	■	■	■	■	■	■	■	■	■	■	-
	3.3 VL5CS	3.5"	A10.70.339	A10.10.339	■	■	■	■	■	■	■	■	■	■	■	
	LEADER TIC 4.1	4.1 1CSF	4"	A10.70.410	A10.10.410	■	-	-	-	-	■	-	-	-	-	
		4.1 2CS	4"	A10.70.416	A10.10.416	■	■	-	-	-	-	-	-	-	-	-
		4.1 P	4"	A10.70.414	A10.10.414	■	-	-	-	-	■	-	■	-	-	-
		4.1 V	4"	A10.70.415	A10.10.415	■	-	-	-	-	■	■	■	-	-	-
	LEADER TIC 4.3	4.3	4"	A10.70.430	A10.10.430	■	■	■	-	-	■	-	-	-	■	-
		4.3 L	4"	A10.70.432	A10.10.432	■	■	■	-	-	■	-	-	-	■	■
		4.3 V	4"	A10.70.431	A10.10.431	■	■	■	-	-	■	■	■	■	■	-
		4.3 VL	4"	A10.70.433	A10.10.433	■	■	■	-	-	■	■	■	■	■	■
		4.3 5CS	4"	A10.70.436	A10.10.436	■	■	■	■	■	■	-	-	-	■	-
		4.3 L5CS	4"	A10.70.437	A10.10.437	■	■	■	■	■	■	-	-	-	■	■
		4.3 V5CS	4"	A10.70.438	A10.10.438	■	■	■	■	■	■	■	■	■	■	-
	4.3 VL5CS	4"	A10.70.439	A10.10.439	■	■	■	■	■	■	■	■	■	■	■	

LEGEND

■ As standard  
CS : Color Scheme  
F : Freeze  
P : Picture  
V : Video + Picture  
L : Laser


9Hz available for all cameras (no Dual Use license)

Check out our product data sheet for more technical details




IDENTIFY A TARGET


**LEADER TIC LR700** and **LR1000** can detect up to 700m and 1000m distance. However, there are major differences between detection, recognition and identification.



**Detection:**  
Display showing that something is there



**Recognition:**  
Display showing that a person is there



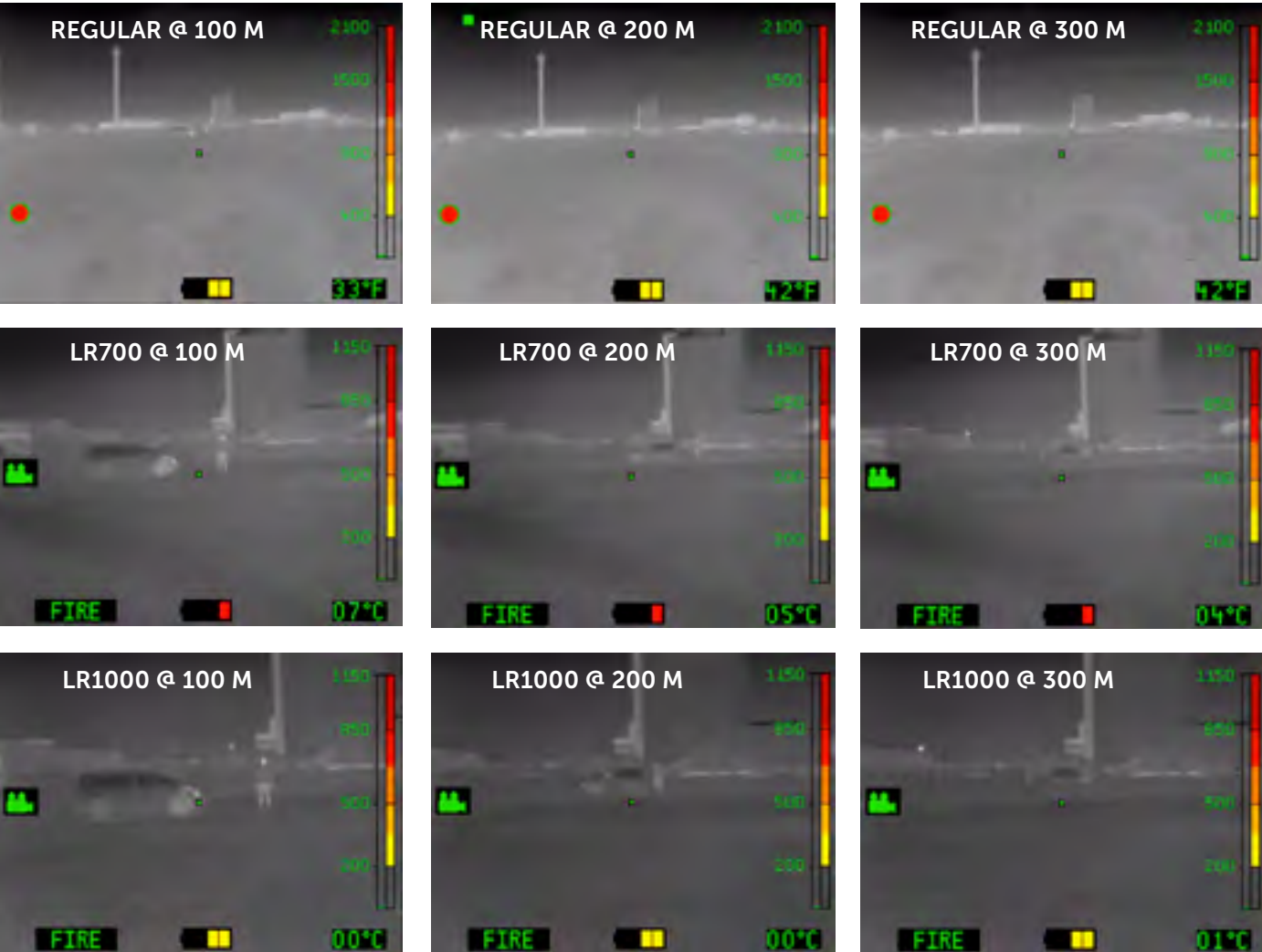
**Identification:**  
Display showing that a person looks like a person

The LEADER TIC LR ranges are as follow:

LEADER TIC	HUMAN TARGET (1.8 x 0.6m)			VEHICULE TARGET (2.3 x 2.3m)		
	Detection	Recognition	Identification	Detection	Recognition	Identification
TIC3 / TIC4 REGULAR	180 m	40 m	30 m	500 m	100 m	75 m
TIC3 / TIC4 LR700	700 m	130 m	100 m	1700 m	350 m	260 m
TIC3 / TIC4 LR1000	1000 m	200 m	150 m	2400 m	500 m	370 m

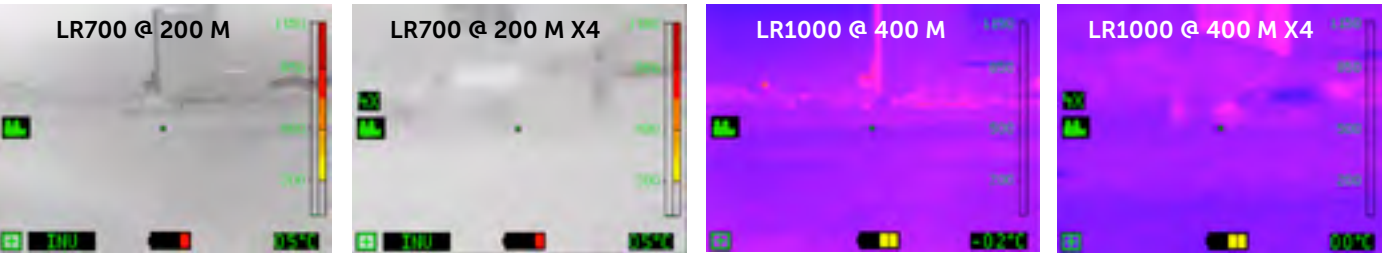
Accuracy based on 17µm sensor and having good weather conditions, 70% probability (Real distance may vary from atmospheric conditions).


**Note:** Target material, shape, background, environment, camera or target movement could influence the detection ability.




LONG RANGE MODELS COMPARISON

LEADER TIC LR thermal cameras **offer up to 5 color schemes, and x2 x4 digital Zoom**. This gives the ability to switch from each color mode and combine Zoom level for better distinguishing the target. So that the user adapts the camera vision to the environment, background and undergoing movements.







**LEADER TIC 3.1 LR700 OR LR1000**  
3.5" display, 1 button simple camera  
870g incl. batteries



**LEADER TIC 4.1 LR700 OR LR1000**  
4" display, 1 button simple camera  
950g incl. batteries



**LEADER TIC 3.3 LR700 OR LR1000**  
3.5" display, 3 buttons versatile camera  
870g incl. batteries



**LEADER TIC 4.3 LR700 OR LR1000**  
4" display, 3 buttons versatile camera  
950g incl. batteries



**3.5" or 4" display**  
According to users' expectations, the range proposes compact design cameras with 3.5" display, and also 4" display for better scene visibility.

PERFORMANCE AND TECHNICAL CHARACTERISTICS

IP67 (Ingress Protection)	■
Drop tests at 2m height on concrete	■
T°C dynamic range -40°C to 1150°C	■
Display resolution 320 x 240 px	■
IR sensor resolution 384 x 288 px	■
60 Hz Frequency (export license outside EU)	■
IR sensor protected by Germanium window	■
LiFePO4 Batteries (2 per camera)	■
Up to 8h running time	■
T°C measurement at center point of display	■
3 sensitivity modes with automatic switch	■
Less than 5 seconds boot time	■
Overheat warning	■
Aramide hand straps on each side	■
CE certified	■

WARRANTY

5 years on camera	■
6 years on batteries	■
10 years on thermal sensor	■

ACCESSORIES

Wireless transmission kit for live streaming	□
Removable pistol grip	□
Aramide neck strap	□
Retractable lanyard (500g or 1000g tension)	□
Heat protection hood	□
Rechargeable spare batteries	□
Mains charger 12-24 VDC or 100-240 VAC	□
Charging bay 12-24 VDC or 100-240 VAC	□
Watertight hard case	□
Analog NTSC or PAL output with 30m cable	□
Startup screen with text or logo	☎
9Hz (no export license)	☎

LEGEND

- As standard
- Option to be specified
- ☎ On request



# OPTIONAL ACCESSORIES



**Wireless video transmission kit.**  
Allows live video streaming displayed onto computer, tablet or mobile phone (3 devices max simultaneously) via a free player up to 140m range (open field). Very useful for training purpose, or where colleagues want to follow at distance in a safe area!



**Retractable lanyard**  
LEADER TIC can be held with 1 or 2 retractable lanyards (zipper) attached to the side "D" rings. Often used by 2 to avoid swinging on chest. 500g and 1000g tension force are available.



**Removable pistol grip**  
The pistol grip is easily mounted for those who prefer a comfortable pistol grip (delivered with tool). It is red.



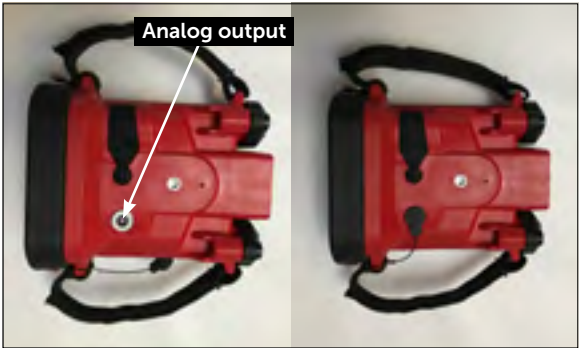
**Heat and dust protection**  
Made of aluminized textile protective hood prevents the camera from overheating when left for surveillance in hot areas.



**Neck strap**  
This strap is an alternative to the retractable lanyard(s). Made of aramide (fire-proof), it holds the LEADER TIC by the side "D" rings.

9 Hz Vs 60 Hz

**Image motion fluidity**  
Frame Per Second (Hz) can be chosen. 60Hz has great fluidity and requires a dual use license outside EU. 9Hz has lower fluidity but doesn't request any license.



**Analog output (NTSC or PAL).**  
Useful for vehicle mount such as ladder trucks. Comes with 5 m open end cable. A 30m extension cable can be added without need of amplifier.



**Mains charger**  
12-24 VDC or 100-240 VAC available with all international adapters. Allows charging the 2 batteries inside the camera so that it is ready to go at any time.



**Spare batteries**  
LiFePO4 (Lithium Iron Phosphate) batteries with 5000 cycles life time, 6 year warranty. Lightweight and safe when used during fire operations with high temperature.



**Charging bays**  
12-24 VDC or 100-240 VAC. Standard model charges the 2 batteries inside the TIC for making it ready to go at any time. A model with external slots allows charging 2 batteries in the camera and 2 spares. Vehicle mount possible. Complies with EN1789 against 10G accelerations (under process).



**Transport case**  
Hard and IP67 waterproof case is available for protecting the camera and the optional accessories.



**SINCE 1985**, LEADER HAS DESIGNED AND MANUFACTURED HIGHER PERFORMING EQUIPMENT USED IN FIREFIGHTING, FIRE TRAINING AND SEARCH AND RESCUE APPLICATIONS AND PROPOSES THEM TO FIRE AND RESCUE SERVICES, CIVIL DEFENSE, HAZARDOUS INDUSTRIES, NGOS, MARITIME SERVICES, ETC. ON THE 5 CONTINENTS.



## A MAJOR AXIS: INNOVATION

**To meet the advancing challenges of fire hazards and search & rescue missions, equipment must continually evolve and adapt to be more effective while ensuring maximum safety for workers.**

To meet these challenges, LEADER is committed to constant innovation and new technologies and has its own in-house Research & Development team which works alongside end-users to design and develop the equipment that will be available tomorrow.

To test our equipment and assess its performance, we at LEADER continually invest in our own infrastructure:

- ▶ Water and High-Expansion Foam test room (400 sq m)
- ▶ Ventilation test room (400 sq m)
- ▶ Fire test area in fire container - Fire extinguishing equipment
- ▶ Casualty Search Equipment test area

## OUR COMMITMENT

When you choose LEADER equipment, you are assured of the quality and compliance of our products. These have been made in our workshops by our engineering and electronics specialists.

### ISO 9001 certified since 1999, LEADER:

- ▶ Carries out checks at every stage of the manufacturing process as well as on the finished products before dispatch,
- ▶ Provides continuous training for all its staff.

## GUARANTEED EQUIPMENT

Every LEADER product comes with a specific contractual guarantee.

## CLOSE TO OUR CUSTOMERS

Through its sales force, its subsidiaries (in Germany, Austria, China and the USA) and an international distribution network, LEADER is present worldwide, keeping us as close as possible to its customers.

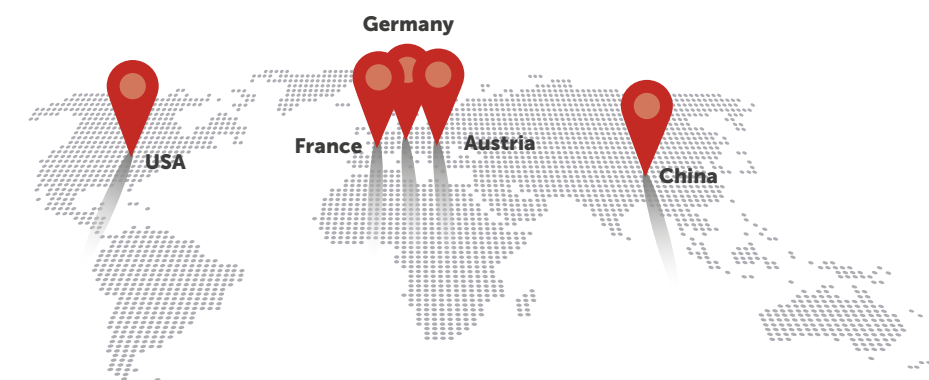


## ADAPTED TRAINING

For optimal and long-term use of the equipment you purchase, LEADER can propose suitable training on the handling, on the use and maintenance of the equipment. Training can be done at our site or at your own site.

## AN INTERNATIONAL PRESENCE

SUBSIDIARIES AND A STRONG RETAILER NETWORK





# LEADER GROUP



**MOBILE VENTILATION**



**LARGE-FLOW VENTILATION**



**THERMAL VISION**



**FIRE EXTINGUISHING**



**FIRE TRAINING DEVICES**



**SEARCH AND RESCUE EQUIPMENT**



**CHAINSaws**



**FIRE FOAM CONCENTRATES**

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