

# Leader TIC 3.3 LR1000

## LONG RANGE Thermal Imaging Cameras

- 3 buttons camera for various functionalities
- 3.5" display



Particularly suitable for Search & Rescue operations in large open fields such as sea, mountain, country side, desert... They are ideal for rescue or surveillance teams searching for and locating people at night, in rough or smoky environments.



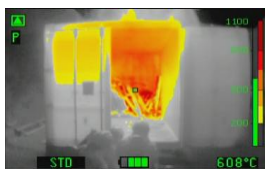
### Outstanding features:

- Compact & Lightweight
- Large 3.5" (TIC 3.3) display for detailed visibility
- LR1000 - Detection of a person at 1000m (recognition at 200m)
- Housing: Dark grey
- Wide detection range: -40°C to +1150°C
- Up to 5 colorization modes
- Picture Capture and / or Video recording (option)
- Batteries: 6 year warranty, 5000 charging cycles
- Safe batteries (LiFePO4): No explosion at high temp operations
- Up to 8h running time (2 batteries) with Eco-Boost-System
- Infrared protective window to protect the optics
- 3 Large buttons: easy to operate even with gloves
- Functions:
  - ON/OFF
  - Zoom x2 x4
  - Colorization selection (3 or 5 modes)
  - Image freeze / picture capture (option)
  - Video recording (option)
  - Replay picture and video on screen
  - Laser pointer (option)
- Removable Pistol grip (option)
- Wireless transmission kit (option)

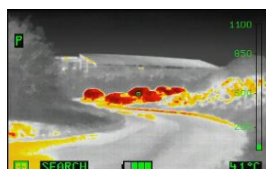


### Color schemes:

LEADER TIC 3.3 LR1000 offers 3 color schemes as standard: Fire, Search, and Inverse + 2 color schemes as options: Cold Finder and Multicolor



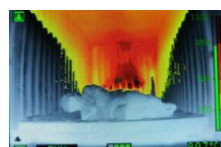
**STD / FIRE:**  
 Dark Red >850°C  
 Red > 675°C  
 Orange > 500°C  
 Dark Yellow >350°C  
 Yellow > 200°C  
 White = Hot  
 Black = cold



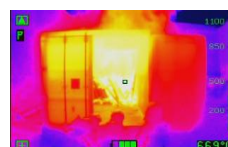
**SEARCH:**  
 2 hottest % colored in Red and the 5 following hottest % in Yellow-Orange.



**COLD Finder:**  
 Blue color for coldest areas



**INVERSE:**  
 Same as Fire scheme but White & Black are inversed:  
 White = Cold  
 Black = Hot



**MULTICOLOR:**  
 For Industrial applications

### 3 Sensitivity modes with automatic switch according observed scene:

- High sensitivity temperature range: -40 +150°C
- Medium sensitivity temperature range: -40 + 500°C
- Low sensitivity temperature range: -40 +1150°C





### Détection, Reconnaissance, Identification?

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



**Detection:** You can see that something is there



**Recognition:** You can see that a person is there

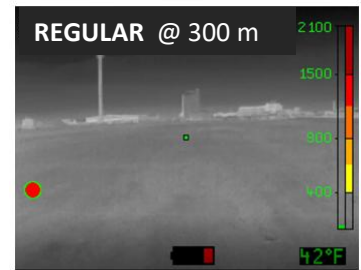
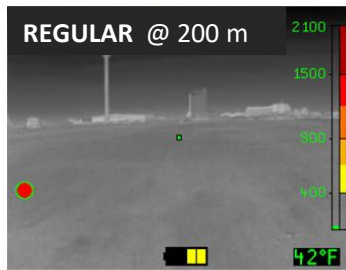
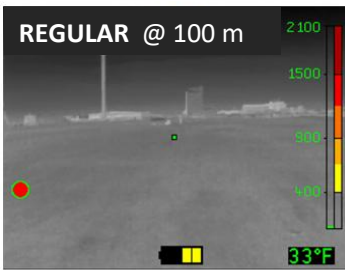


**Identification:** You can see that a person looks like a person

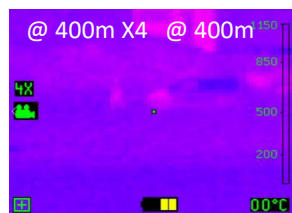
The LEADER TIC LR ranges are as follow:

| LEADER TIC          | HUMAN TARGET (1.8 x 0.6m) |             |                | VEHICLE TARGET (2.3 x 2.3 m) |             |                |
|---------------------|---------------------------|-------------|----------------|------------------------------|-------------|----------------|
|                     | 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.



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.





### Energy concept

LiFePO4 batteries (lithium-iron-phosphate).

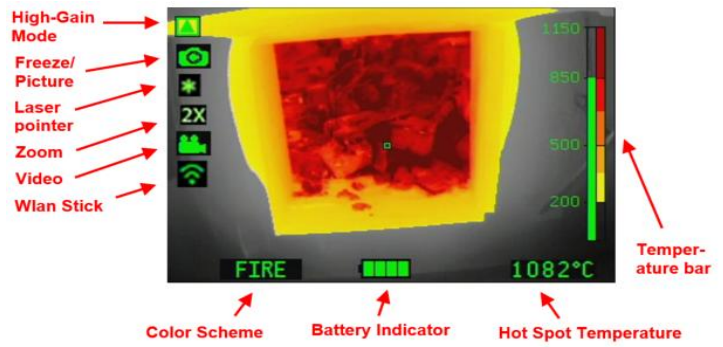
#### Benefits:

- Very long lifespan guaranteed 5000 charging cycles (~10 years)
- Operating time (up to 8h with 2 batteries at the same time in the camera)

### Picture capture & Video recording

Pictures (up to 1000) and Video (up to 8h) can be:

- Viewed on the camera screen during operation
- Live streaming can be sent to a computer, tablet or smartphone thanks to optional wireless stick.
- Downloaded onto a computer via a USB cable



### Vehicle Charging Bay

Very space-saving mountable!

Power supply 12/24 VDC or 100-240 VAC. Can charge up to 4 batteries at the same time (2 in the camera and 2 spares)

### Technical characteristics:

|  |   |
|--|---|
| <b>Thermal Imaging Camera</b>  | Leader TIC 3.3<br>LR700 or LR1000   |
| Dimensions   | L.165 x W.140 x H.85 mm<br>(H= +110mm with optional pistol grip)  |
| Weight   | 990g with 2 batt / 905g with 1 batt<br>(+170g with optional pistol grip)  |
| Operating button(s)  | 3 large buttons glove-friendly easy to operate  |
| Battery compartments   | x2 available. Camera uses 1 or 2 batteries to work.   |
| Power-on indicator   | Company logo lighted up when powered ON   |
| <b>Display</b>   |   |
| Size   | 3,5" LCD / 320 x 240 (76 800) px  |
| Backlight / Brightness   | 800 cd/m <sup>2</sup>   |
| Protective display   | Polycarbonate cenolex-sapphire ultra resistant material. Interchangeable by user during maintenance (screws)                                      |
| Colorization modes   | Standard: Fire, Search, Inverse. Option: Cold Finder and Multicolor   |
| <b>Housing</b>   |   |
| Material   | PUR / Elastomer   |
| Drop Test  | 2m onto concrete on 6 faces and edges   |
| IP   | IP67 / 1 Meter 30 Minutes   |
| Heat resistance  | 150°C for 15min / 260°C for 5min  |
| <b>Sensor</b>  |   |
| Micro bolometer type   | Uncooled 17µ Amorphous Silicon aSi  |
| Sensor resolution  | 384 x 288 (110 592 px)  |
| Spectral range   | 7 – 14 µm   |
| Sensor sensitivity   | NETD: <40mK (<0.04°C)   |
| Frequency  | 60Hz Fps  |
| Temperature range  | -40° to +1150°C   |
| <b>Optics</b>  |   |
| Lens   | LR1000 = 35 mm  |
| Focus  | LR1000 = 5m to infinity / F/1.5 speed   |
| Visual field / FOV   | LR1000 = H: 9.4° / V: 7° / Diagonal: 11.7°  |
| Protection   | Protected by a Infrared protective window (Ge, ZnS or equivalent) against exterior aggressions  |
| <b>Rechargeable batteries</b>  |   |
| Type   | LiFePO4 (Lithium Iron Phosphate) / 2.5Ah at 6.6V / 85g  |
| Running time (20°C) with Eco-Boost-System (since October 2018)   | Without video/photo functions: >8h (2 batt) / >4h (1 batt)<br>With: >6h (2 batt) with non-active video / >5h (2 batt) with recording video        |
| Charging voltage   | 12-24 VDC or 100-240 VAC  |
| Charging time for 2 batteries (half for 1 batt.)   | Mains charger & Charging bay: 100% in ~2h, 90% in ~1h30, 80% in ~1h20   |
| Charging temperature   | 0°C to 45°C ambient temperature   |
| Charging cycles  | More than 5000 cycles   |
| <b>Miscellaneous</b>   |   |
| Start-up time  | Less than 5 seconds   |
| Memory (optional)  | 8GB internal SD card (8h video and 1000 pics)   |
| Operating temperatures   | -20°C to +60°C. / +150°C: 15 min. +150°C: 30 min with optional protection hood.<br>/ +260°C: 5 min. +260°C: 10 min with optional protection hood. |
| Storage temperatures   | -20°C to 60°C   |
| <b>Warranties</b>  |   |
| Camera 5 years / Batteries 6 years / Thermal sensor 10 years / Accessories 1 year (chargers, charging bay, etc...) |   |