

# CitiX Thermal CI-TH100

## Local situation awareness camera

Built for Armoured Vehicles

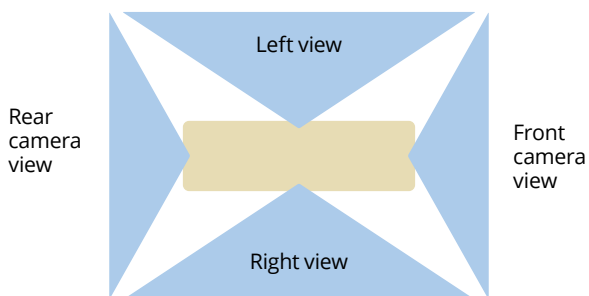


### Features

- 44° or 90° horizontal Field of View
- Wide temperature range, -40°C to +70°C
- 640 X 480 resolution
- Analogue or LVDS output
- Image contrast enhancement
- Integrated adjustable mounting bracket
- 24V operating voltage (15 – 36V range)



Fibrenetix CITIX Thermal CI-TH100 optimises safety for the entire personnel of armoured vehicles, which is of prime importance in the risk situations. By mounting several wide-angle cameras at strategic positions on the vehicle, the CITIX Thermal provides unobstructed views over the near surroundings, with all hatches closed. The thermal camera enables vehicle personnel to see any movement outside the vehicle during day and night conditions.



### Rugged design

The CITIX Thermal CI-TH100 is encased in a rugged IP-66 housing, designed to withstand vibration in accordance with MIL-STD 810F and provides high-performance images, even under the harshest conditions, in temperatures ranging from -40°C to +70°C.

All electrical connections go through a MIL-compliant 10-pin round connector. The integrated mounting bracket allows precise elevation and azimuth alignment of the camera.

### Resistant to solar damage

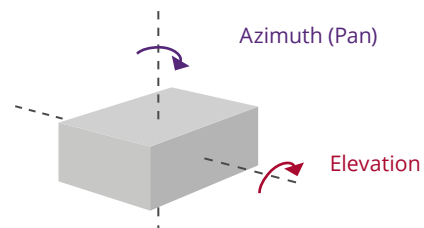
The CITIX Thermal camera utilises a VOx uncooled 17 µm pitch 640 x 480 microbolometer resistant to solar damage, and is available in many different lens variants, from athermalized fixed focus, to motorised and zoom lenses.

### Superior image quality and sensitivity

The CITIX Thermal provides outstanding sensitivity and superior image quality, regardless of lighting conditions to provide crystal clear imagery during day, night and challenging environmental conditions such as smoke, dust, haze and fog.

### 2 degrees-of-freedom, adjustable mounting bracket

Designed with a mounting bracket that allows alignment of the camera within 2 degrees of freedom, the Citix Compact CI-C60 can be adjusted to the contours and slopes of the vehicle body.

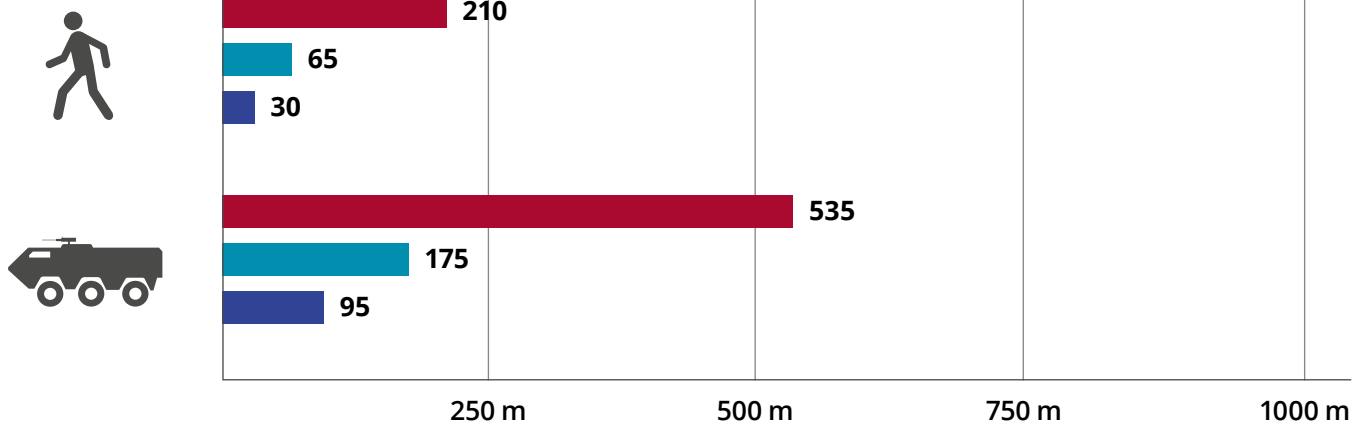


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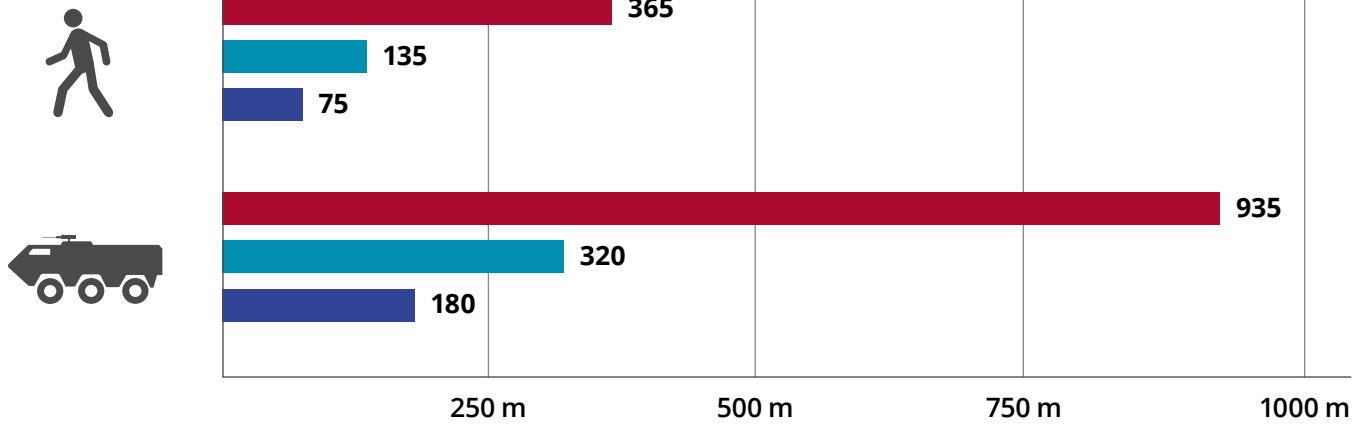
# Citix Thermal Local Situational Awareness Camera

## Visual Range Performance

### 90° HFOV



### 44° HFOV



■ Detection   ■ Recognition   ■ Identification

Conditions for SSIP CAM program: Visual band 400-1000nm, Contrast 30%, Over cast daylight, Sky ratio 3, Visibility 3km, 50% probability  
Dimensions Man: 0.45m × 1.7m. Vehicle dimensions NATO target 2.3m × 2.3m

## Citix Family

Comparison of key parameters for the CITIX family of local situational awareness cameras, built for armoured vehicles

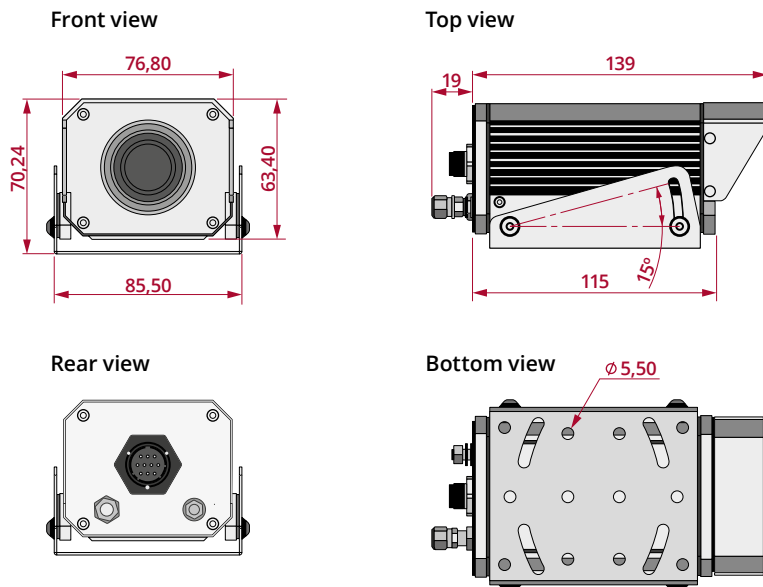


| Parameter   | CI-C60<br>Citix Compact                                     | CI-T90<br>Citix Thermal                          | CI-P170<br>Citix Panoramic                                  | Citadel Dual<br>Rotation                               | Citadel Dual<br>Camera |
|---|---|--|---|--|------------------------|
| Horizontal FOV                                    | 47° to 95°, fixed<br>(Factory default setting 60°)          | 44° or 90°                                       | 170°  | 57.3°<br>(180° with rotation function)                 | 57.3°                  |
| Resolution<br>(effective pixels in PAL)           | 976 × 582   | 640 × 480  | 976 × 582<br>(×2 sensors)                                   | CCD: 976 × 582<br>Thermal: 640 × 480                   |                        |
| Image sensor                                      | CCD, 1/3" colour  | Uncooled VOx micro bolometer                     | CCD, 1/3" colour  | CCD, 1/3" colour and thermal uncooled VOx              |                        |
| Video output                                      | Composite video   | Composite video                                  | Composite video   | Composite video  |                        |
| Sensitivity                                       | 0.007 lux (25% video @ f/1.6, AGC on)                       | NETD <50mK                                       | 0.007 lux (25% video @ f/1.6, AGC on)                       | 0.007 lux (25% video @ f/1.6, AGC on) and 50 mK        |                        |
| Spectral response                                 | Visible (400-700nm).<br>Optional is 400-950nm)              | Thermal / LWIR<br>(8 -14 μm)                     | Visible (400-700nm)   | Visible and Thermal / LWIR<br>(400-700nm and 8 -14 μm) |                        |
| Setup and control                                 | RS-422 or CAN-BUS serial interface<br>(Fibrenetix protocol) | RS-422 serial interface<br>(Fibrenetix protocol) | RS-422 or CAN-BUS serial interface<br>(Fibrenetix protocol) | RS-422 serial interface<br>(Fibrenetix protocol)       |                        |
| Dimensions –mm<br>(W×H×L)<br>excluding connectors | 77 × 63.4 × 139<br>(excluding mounting bracket)             | 77 × 63.4 × 139<br>(excluding mounting bracket)  | 200 × 78 × 134  | 256 × 185 × 250  | 256 × 137 × 250        |

### Common features:

- Designed for use on wheeled and tracked vehicles
- Dusk-to-dawn operation, with colour video output (except the CITIX Thermal cameras)
- Extended night-mode imaging, with full moon illumination
- Low profile, rugged design
- -40°C to +70°C operating temperature range

### Mechanical outline and dimensions



# Citix Thermal

## Local Situational Awareness Camera

### Technical Specifications

| <b>Citix Thermal CI-TH100 Situation awareness camera for armoured vehicles</b> |  |
|--|--|
| Sensor   | Uncooled VOx microbolometer  |
| Lens FOV   | 44 or 90 degrees (H)   |
| Effective pixels (H×V)   | 640×480  |
| Detector pitch   | 17 µm  |
| Image control  | Image contrast enhancement   |
|  | Image Polarity: black hot / white hot                                      |
|  | Orientation: invert / revert   |
| Symbology  | User selectable options including: zoom, polarity and shutter notification |
| <b>Electrical specifications and functions</b>                                 |  |
| Video output   | Analogue, NTSC: 30 Hz or PAL 25Hz  |
| Thermal sensitivity  | NETD <50mK   |
| Automatic gain and level   | User defined, persistent through power cycles                              |
| Spectral response  | 8 -14 µm   |
| Digital zoom and pan   | Region of interest; E-zoom from 1X-4X                                      |
| Picture inversion  | Positive / negative  |
| Image mirroring  | Horizontal and Vertical image flip   |
| Non-conformity correction  | 1 point with shutter or through lens                                       |
| Configuration, serial interface  | RS-422, CST protocol   |
| Start-up time  | <2.5 seconds   |
| <b>Mechanical</b>  |  |
| Overall dimensions - mm (W×H×L)  | 76.8×63.4×139, with sun visor, excluding connectors & mounting bracket     |
| Mounting bracket footprint   | 100 × 85.5 mm  |
| Net weight   | Approximately 1kg  |
| Housing material   | Aluminium with anti-corrosion protective coating                           |
| Mounting bracket alignment   | 2 degrees of freedom: elevation and azimuth (pan)                          |
| Protective housing integrity   | IP-66, back-filled with dry nitrogen                                       |
| Camera windows   | Hard carbon coated lens  |
| Connector (power, data, control)   | 10-pin round connector, aluminium (MIL-DTL-26482 series 1)                 |
| <b>Environmental</b>   |  |
| Operating voltage  | 15 – 36 V DC (Galvanic separation from housing)                            |
| Over voltage protection  | MIL-STD-1275-D   |
| Current consumption  | Maximum 5 watts  |
| Operating temperature  | -40°C to +70°C (solar load)  |
| Storage temperature  | -40°C to +70°C   |
| Shock / Vibration  | MIL-STD 810F (wheeled vehicle profile)                                     |
| EMC  | MIL-STD 461F RS103 and RE102   |
| MTBF   | 30,000 hours   |

\*Specifications are subject to change, without prior notice.