

# CitiX Dual Rotation CI-DR100

## Local situation awareness camera

Built for Armoured Vehicles



### Features

- 57.3° horizontal Field of View
- Image merging (Visible & Infrared)
- 24V operating voltage (15 – 36V)
- Pan function 180° & 3 pre-sets
- Washer function
- Graphical insertion



In high risk, or combat situations, safety of armoured vehicles personnel is of prime importance. Fibrenetix CITIX Dual Rotation camera, combines thermal and visual cameras built into a pan unit, with the ability to pan 270°, even in park mode. The FOV is optimised for driver-sighted applications.

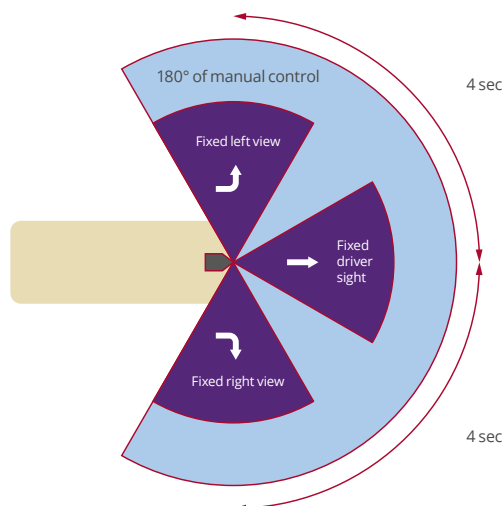
### Rugged design

The CITIX Dual Rotation CI-DR100 camera is encased in a rugged IP-65 housing, designed to withstand vibration in accordance with MIL-STD 810F and provides high-performance images even in the harshest conditions, with temperatures ranging from -40°C to +70°C. All electrical connections go through a MIL-compliant 38999/23 connector and the integrated mounting bracket allows precise elevation and azimuth alignment of the camera.

- **Graphical insertion** for overlay of FOV and position of the pan unit.
- **Fog penetration** of the daylight channel is designed to automatically increase visibility under conditions such as fog, haze and fire smoke. The camera continuously analyses the picture and once it detects a low-contrast condition, it will automatically enhance the contrast.
- **White / Black** hotspot automatic change on thermal
- **Merging function** CITIX Dual Rotation camera enables the driver / operator to adjust the blending between the daylight and thermal camera to ensure maximum information for driving, as well as situational awareness.

### Combined sensor technology

The combined sensor technology offers 24/7 operation and provides optimal driver vision capability, survivability, and mobility during day and night, as well as adverse weather conditions such as dust, smoke, and haze.



### Protective Convoy Mode

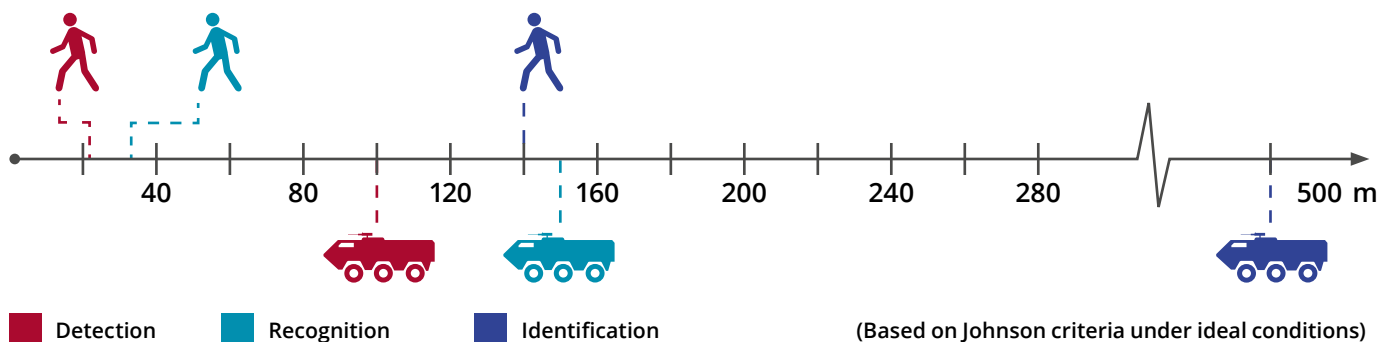
Designed to turn from the front to the rear, to protect the front glass from mud and stones.

**fibrenetix**

# Citix Dual Rotation CI-DR100

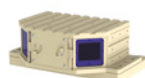
## Local Situational Awareness Camera

Indication of Identification, Recognition and Detection distances at 60°FOV for CITIX local situational awareness camera solutions



### 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        |

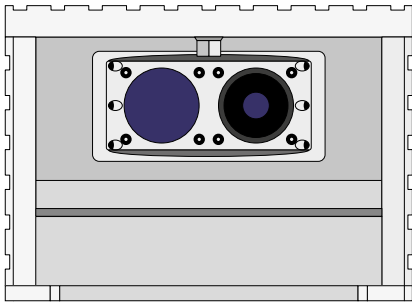
### Common features:

- 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

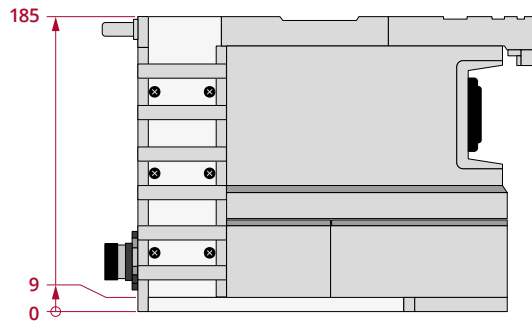
**fibrenetix**

## Mechanical outline and dimensions

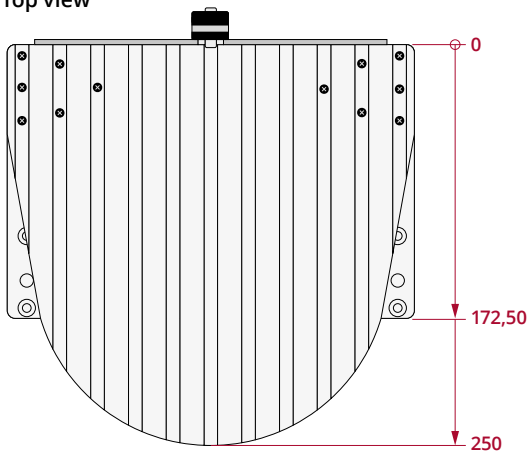
Front view



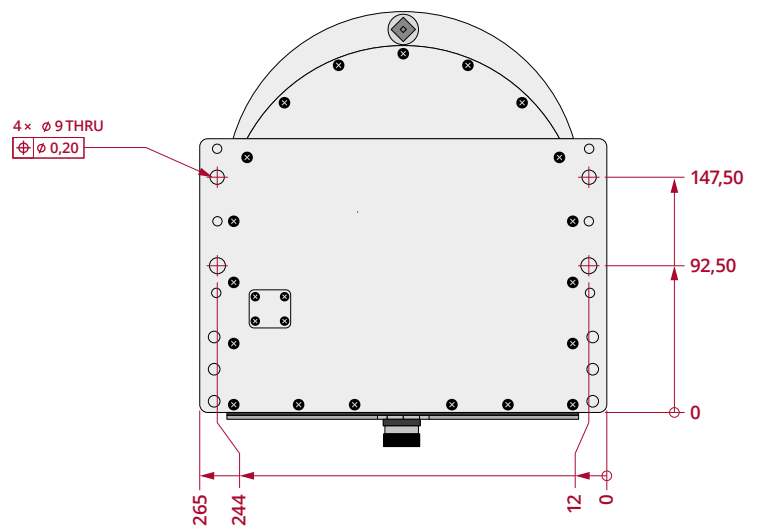
Side view



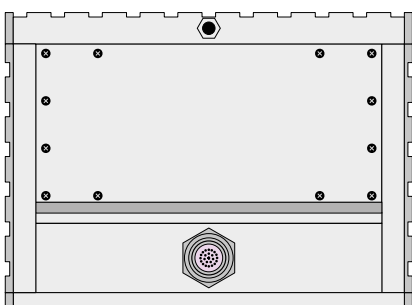
Top view



Bottom view



Rear view



# Citix Dual Rotation CI-DR100

## Local Situational Awareness Camera

### Technical Specifications

|  | PAL/NTSC Daylight  | Thermal                              |
|--|--|--------------------------------------|
| <b>Image system</b>                            |  |                                      |
| Sensor   | High sensitivity 3 Gen 1/3" colour CCD   | Uncooled VOx or A-si Micro bolometer |
| Lens FOV                                       | 57.3° at F 1,4*  | 57.3° (HFOV)*                        |
| Effective pixels (H×V), per camera             | PAL – 976 × 582 (3:4 image format),<br>NTSC– 976 ≥% × a 494 (3:4 image format) | 640 × 480 (3:4 image format)         |
| Detector pitch                                 | 5 µm × 6,25 µm   | 17 µm                                |
| <b>Electrical specifications and functions</b> |  |                                      |
| Video output                                   | Composite VBS, 1 Vpp, 75 ohm   |                                      |
| Sensitivity in real time                       | 0.007 lx, 25% video @ f/1.6, AGC on  | 50 mK                                |
| Sensitivity in extended night mode             | 0.001 lx, 25% video @ f/1.6, AGC on  |                                      |
| Spectral response                              | Visible – NIR light support on request   | 8 -14 µm                             |
| Dynamic range enhancement                      | XDR-function   |                                      |
| Picture inversion                              | Positive/negative  |                                      |
| Fog penetration                                | Image contrast enhancement   |                                      |
| Image mirroring                                | Horizontal and vertical image flip   |                                      |
| Configuration, serial interface                | RS-422, Fibrenetix protocol  |                                      |
| <b>Mechanical</b>                              |  |                                      |
| Overall dimensions – mm (W×H×L)                | 256 × 185 × 250 (excluding connectors)   |                                      |
| Net weight                                     | 10kg   |                                      |
| Pan speed                                      | From protected position to drive position 8 seconds (180 degrees)              |                                      |
| Pan speed                                      | From drive position to left or right position 4 seconds (90 degrees)           |                                      |
| Mounting                                       | Fibrenetix CITIX Panoramic v2  |                                      |
| Protective housing integrity                   | IP-65, back-filled with dry nitrogen   |                                      |
| Camera window                                  | Float glass with multi-layer AR coating & de-icing heater                      | Hard carbon coated lens              |
| Connector                                      | D 38999 / 23   |                                      |
| <b>Environmental</b>                           |  |                                      |
| Operating voltage                              | 15 – 36 V DC (Galvanic separation from housing)                                |                                      |
| Over voltage protection                        | MIL-STD-1275-D   |                                      |
| Current consumption                            | Maximum 25 watts, including active heater in window                            |                                      |
| 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   |                                      |
| Start-up time for full operation               | 60 seconds to driver mode  |                                      |

OtherFOV available upon request

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