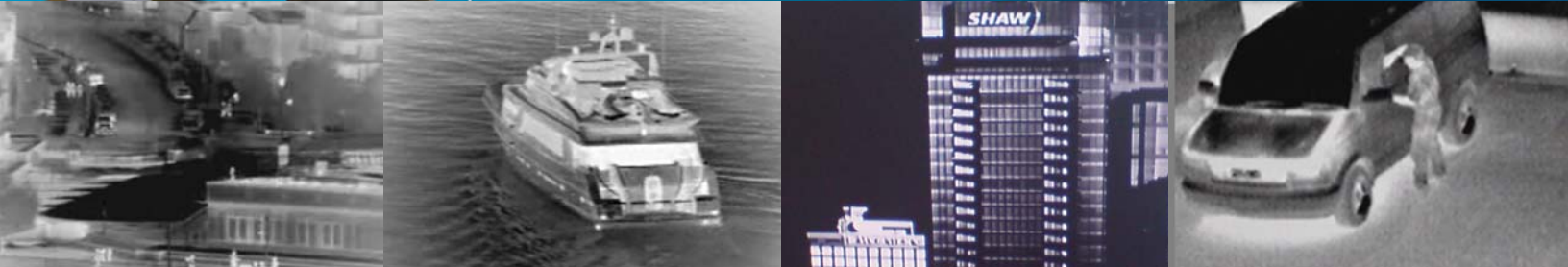


## TR4000/TR4500

### ULTRA LONG-RANGE THERMAL SECURITY SURVEILLANCE CAMERA



The Cantronic TR4000 Series of thermal security surveillance cameras consists of very high sensitivity thermal imaging cameras. They use either an InSb 320x256 IRFPA detector (TR4000) or an InSb 640 x 512 IRFPA detector (TR4500) operating in the middle infrared wavelength 3-5µm region (MWIR). The cameras are powerful long-range security surveillance products with exceptional detection range. These cameras incorporate advanced-cooled FPA technology, with either a 30-micron or 15-micron pitch, and come with pressurized enclosure. The enclosure is filled with dry nitrogen, for installation and operations under demanding environmental conditions. The cameras can be used as a standalone unit or be integrated with a customer's own system(s).

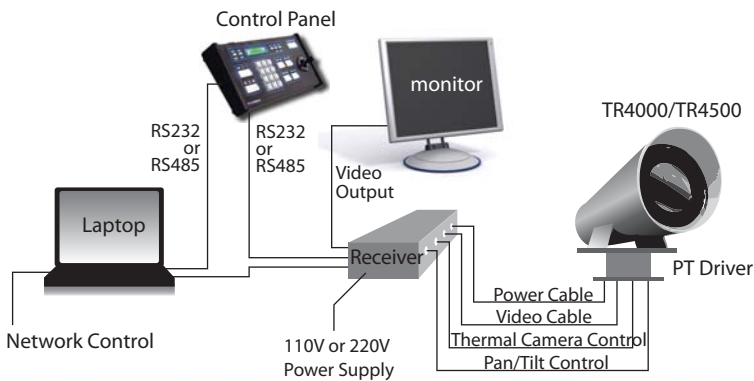


### Typical Configuration

- All thermal camera functions including polarity, focus, lens FOV switch etc. are controlled either directly from controller or through Receiver/optional PT driver.
- Camera can be mounted either directly (fixed) or with an optional Pan-Tilt driver.

### Features

- Remotely controlled
- Motorized lens
- Single FOV, dual FOV, and Triple FOV on selected model
- Plug and Play Operations
- Ge infrared optics with AR coating
- Environmentally Sealed and Pressurized housing



Typical wiring diagram with optional Pan-Tilt driver



Showing highway bridge out 7.8 km using only TR4000 with 100mm lens

### Lenses and Typical Range Performances:

The nominal aperture is F/4. The following lenses are available:

| Lens (mm) | Focus Method         | FOV(°)                            |                               | Detection range (km) for 2.3x2.3m Target |        |
|-----------|----------------------|-----------------------------------|-------------------------------|--|--------|
|           |                      | TR4000                            | TR4500                        | TR4000                                   | TR4500 |
| 50        | Manual               | 11 x 8.2                          | 11.0 x 8.3                    | 2.2                                      | 4.5    |
| 100       | Motorized            | 5.5 x 4.1                         | 5.5 x 4.1                     | 4.6                                      | 9      |
| 250       | Motorized            | 2.2 x 1.65                        | 2.2 x 1.7                     | 10.0                                     | 13     |
| 50/250    | Dual FOV Motorized   | 11 x 8.2 / 2.2 x 1.65             | 11.0 x 8.3 / 2.2 x 1.7        | 10.0                                     | 13     |
| 100/500   | Dual FOV Motorized   | 5.5 x 4.1 / 1.1 x 0.83            | 5.5 x 4.1 / 1.1 x 0.8         | 14.2                                     | 17.5   |
| 25/80/320 | Triple FOV Motorized | 22 x 16.5 / 6.9 x 5.2 / 1.7 x 1.3 | 22.0x16.5 / 6.9x5.2 / 1.7x1.3 | 13.0                                     | 15.5   |

Customized Lenses are available, upon special request.

### Specifications

|                              | TR4000   | TR4500   |
|------------------------------|--|--|
| Sensor :                     | InSb   | InSb   |
| Resolution :                 | 320 x 256 pixels   | 640 x 512 pixels   |
| Pitch :                      | 30µm   | 15µm   |
| Wavelength :                 | 3-5 µm   | 3-5µm  |
| Image mode :                 | Snap Shot  | Snap Shot  |
| Cooling :                    | Stirling cooler  | Stirling Cooler  |
| A/D :                        | 14 bits  | 14 bits  |
| NETD:                        | <20 mK   | <20 mK   |
| F number:                    | F/4  | F/4  |
| System control :             | RS232 or RS422 from a remote computer or through a controller                  | RS232 or RS422 from a remote computer or through a controller                  |
| Video output :               | CCIR (PAL) or RS 170 (NTSC)  | CCIR (PAL) or RS 170 (NTSC)  |
| Dimensions (with T320 lens): | 220mm (W) x 260mm (H) x 600mm (L) including sunshield                          | 220mm (W) x 260mm (H) x 600mm (L) including sunshield                          |
| Weight (with T320 lens):     | <14kg  | <15kg  |
| Power supply:                | Camera direct power input - 24VDC, 30W typical; with receiver - 110 or 220 VAC | Camera direct power input - 24VDC, 30W typical; with receiver - 110 or 220 VAC |
| Enclosure:                   | Sealed and dry nitrogen backfilled housing rated IP67                          | Sealed and dry nitrogen backfilled housing rated IP67                          |
| Camera Mounting:             | fixed or with optional pan-tilt driver   | fixed or with optional pan-tilt driver   |
| Operating Temperature:       | -20°C +55°C  | -20°C +55°C  |
| Storage Temperature:         | -40°C +70°C  | -40°C +70°C  |

### How To Order TR4000 - 100 N TR4500 - 100 N

#### Lens Video Output

|       |                                       |                 |
|-------|---------------------------------------|-----------------|
| 50:   | 50mm manual lens                      | N: NTSC (RS170) |
| 100:  | 100mm motorized lens                  | P: PAL (CCIR)   |
| 250:  | 250mm motorized lens                  |                 |
| D250: | Dual FOV 50/250mm motorized lens      |                 |
| D500: | Dual FOV 100/500mm motorized lens     |                 |
| T320: | Triple FOV 25/80/320mm motorized lens |                 |

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