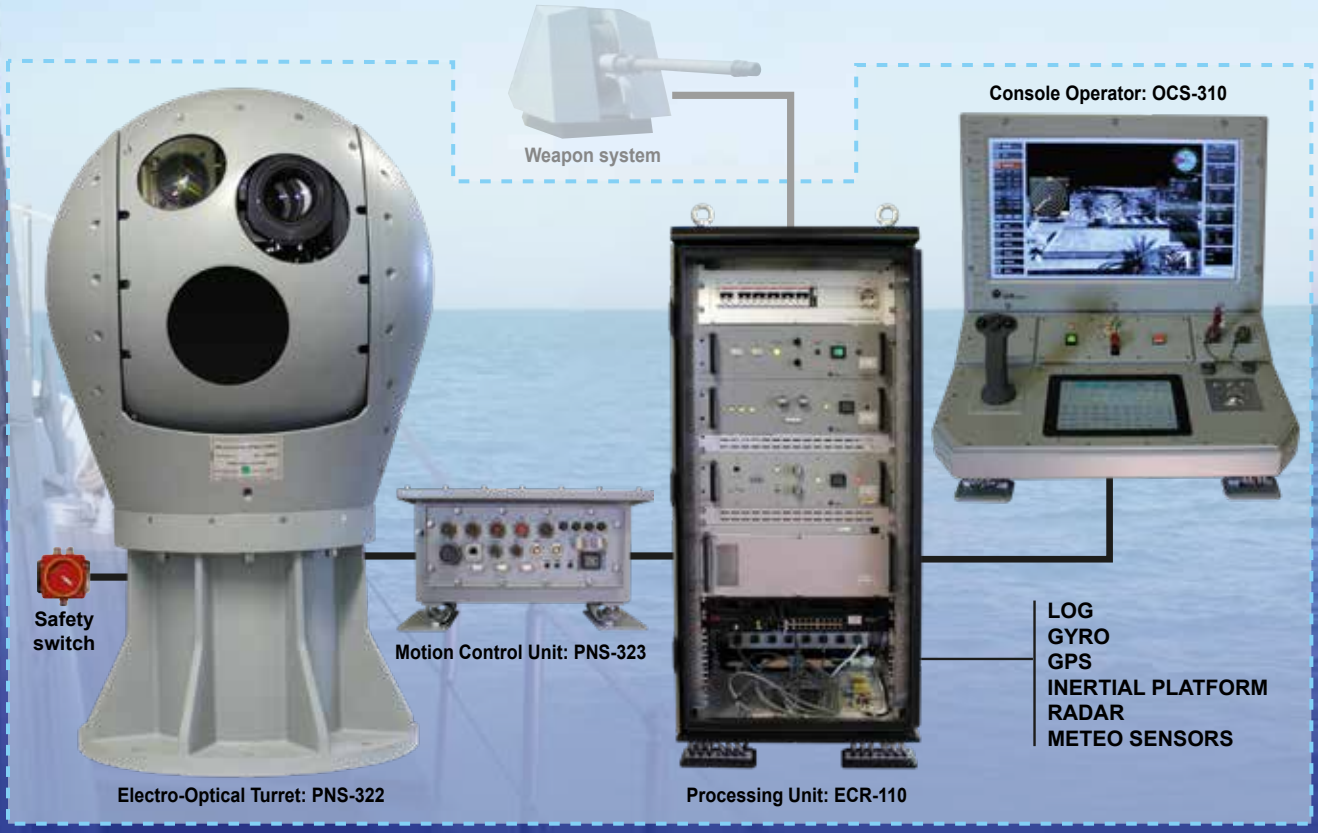
Military Defence

GEM elettronica

# EOFCS-115A

## ELECTRO-OPTICAL FIRE CONTROL SYSTEM (EOFCS)

The EOFCS is a compact, lightweight electro-optical tracking system (EOTS) designed for precision target tracking within the naval environment. The system provides training, elevation and range data to a fire control or command system for target indication and weapon control purposes, and can be used as a remote observation and tracking sensor for navigation and surveillance purposes.




System key features:

- Weapon system management for fire control
- Most advanced optronic subsystem determining the precise aiming parameters for the weapon system by optically tracking targets
- Rugged multifunctional compact console exploiting LCD technology with powerful software for ballistic calculations for several types of weapon systems (guns, missiles, etc.)
- High performance processing techniques including multilevel threat discrimination
- Built In Test Equipment (BITE) on the control console, capable to detect a fault to the LRU level
- Electronic alignment of sensors
- Fully automatic search, detection and acquisition reducing operator workload
- Target video tracking with information about target distance, bearing, speed, course, CPA etc., capable to handle external tracking requests

**Equipment specifically designed for ease of installation and maintenance which, together with high reliability, keep through-life costs to a minimum.**

# EOFCS-115A



## CONFIGURATION

### OPTRONIC TURRET

| | |
|---|---|
| 2 axes stabilized system, including servomotor, angular sensor | |
| Azimuth group, including servomotor, angular sensor and slip-ring for continuous Nx360° operation. | |
| Payload, consisting of IR and TV cameras, ELRF, Laser pointer (option) | |
| 2 FOG Gyroscopes. | |
| Elevation | continuous Nx360° (dual slip ring) |
| Position accuracy | better than 20 arcsec |
| Slewing rate | > 100°/s |
| Stabilization accuracy | 0.05 mrad (1 sigma) |
| Pedestal base (option) | |

### CONTROL UNIT

| |
|---|
| Rugged chassis |
| Driver for servomotors |
| Stabilizing software with drift compensation |
| Power supply management unit |
| Remote panel interface |

### EYE SAFE LASER RANGE FINDER (ELRF)

| | |
|---|---|
| Transmitter type | flashlamp pumped Nd:YAG laser |
| Wavelength | 1.57 µm, eyesafe, linear polarization |
| Receiver type | APD photo diode based type |
| Beam divergence | 0.4 ± 0.1 mrad |
| Receiver FOV | 1 ± 0.1 mrad |
| Repetition rate | Continuous: 1 Hz<br>Burst mode: 3 Hz for max. 10 s after an idle period of 30 s min. |
| Measuring range | from 100 m to 20000 m |
| Measuring accuracy | ± 5 m |
| Range discrimination | 5 m |
| Multiple targets: | up to 5 |

### LASER POINTER (option)

| | |
|---|---|
| Class: | III B |
| Wavelength: | 0.8 µm |
| Power: | 135 m W |

### IR CAMERA

| | |
|---|---|
| Spectral waveband | 3÷5 µm |
| Detector type | Cooled InSb 15 µm pixel pitch |
| Resolution | 640x512 pixel |
| Lens type | 15-300 mm, continuous zoom, F/4 |
| Field of View (H) | NFOV: 1.8°<br>WFOV: 35.5° |
| NETD (sensitivity) | < 16 mK typical @ 20°C (without lens) |
| Video output | CVBS: 1.0 Vp-p / 75 Ω |
| STANAG 4347 detection | 2.3x2.3m target > 16.8 km<br>human 1m² target > 10.1 km |

### DLTV COLOR CAMERA

| | |
|---|---|
| Type of detector | colour 1/1.9" CMOS sensor |
| Lens type | continuous variable zoom 11÷245 mm |
| Video Resolution | 1920(H) x 1080(V), 2.07 Mpixel approx. |
| Signal-to-Noise ratio | 50 dB (rms) or better |
| Field of View (H) | NFOV: 1.6°<br>WFOV: 31.5° |
| Zoom ratio | 22:1 optical |
| Sensor gain | Automatic / Manual |
| Video output | HD-SDI: 1080 25p; CVBS: PAL |
| Sensitivity | Colour mode: 0.05 lux@F1,2<br>B/N mode: 0.01 lux@F1,2 |

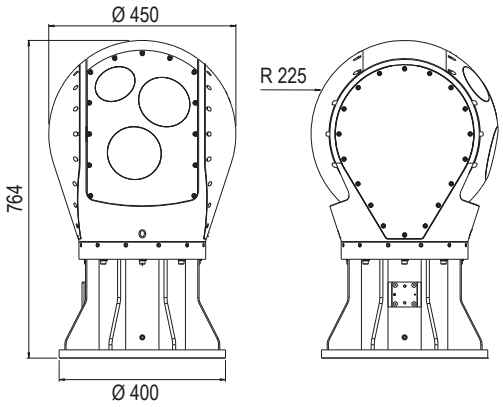
### ENVIRONMENTAL AND ELECTRICAL FEATURES

| | |
|---|---|
| Operative temperature range: | -25 °C ÷ +55 °C (external unit) |
| Relative humidity: | up to 95% |
| EMI / vibrations: | IEC 60945 |
| Power absorption (peak): | 220 Vac or 24 Vdc 1 KW peak |

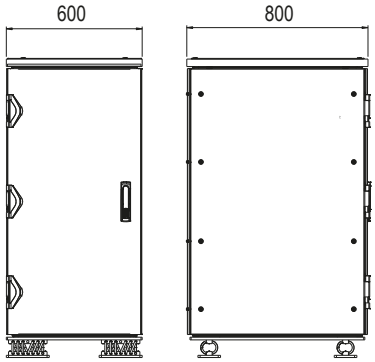
### CONSOLE

| |
|---|
| Automatic Video Tracker |
| 24" display console and keyboard with joystick |
| Video Recording System (optional) |

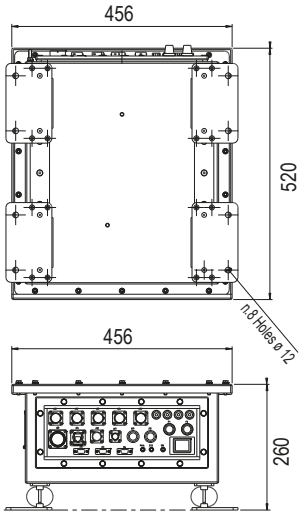
### Electro-Optical Turret PNS-322



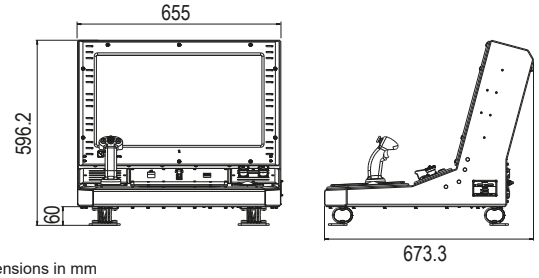

### Rack Processor ECR-110



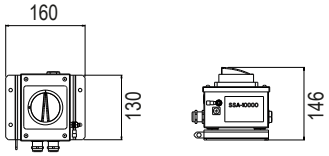

### Motion Control unit PNS-323




### Console OCS-310




### Safety Switch SSA-10000




### Weight

| | |
|---|---|
| Electro-Optic Turret | 70 kg |
| Control unit | 32 kg |
| Console | 40 kg |
| Rack | 140 kg |
| Safety Switch | 1.5 kg |

Dimensions in mm

Surveillance & Security | Guidance, Navigation & Positioning | Military & Defence | Marine Electronics



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