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## NAVAL TRZ DOME LOW LIGHT MONOCHROME CAMERA, MIL QUALIFIED

- **Unique Low Light Dome Camera**
- **Proven in Navy Submarine Applications**
- **8-48mm, F/1.0 Zoom Lens**
- **H.264 IP Option**
- **Diamond Turned Optical Dome**
- **Fully Qualified to US Mil Spec**

The 0457-6015 TRZ (Tilt, Rotate, Zoom) Camera is an in-air version of the proven Kongsberg Maritime 0413 range of low light monochrome cameras, used extensively in submarine applications.

The camera features a miniature, all solid-state CCD camera module interfaced to an 8 - 48mm F/1.0 zoom lens. The camera and lens are fastened to an internal motorized mount that facilitates rotation and tilting motions. The camera housing features an acrylic hemispherical dome, fastened to a grey painted stainless steel housing. The housing is fitted with a purge plug that permits it to be purged and pressurized with dry nitrogen for extended maintenance-free operation.

As well as the standard analogue interface an advanced IP option is also available. The integrated IP option can deliver two simultaneous video streams, one in H.264 and another in Motion JPEG, at full frame rate in all resolutions up to D1 (720x480 in NTSC, 720x576 in PAL). The H.264 video compression format drastically reduces bandwidth and storage requirements without

compromising image quality. The integrated IP option is fully compatible with Video Management Software (VMS), including Milestone XProtect®.

For surface ship applications the TRZ camera is typically installed dome down in locations for monitoring waterline security and general operations, in lieu of multiple fixed cameras. A standard Junction Box for termination of ships cables is also available.

The camera has been fully qualified to meet the stringent US Navy requirements of MIL-STD-901D 'Hammer' shock test as well as MIL-STD-461F EMI for surface ships (Above Decks limits).

### Applications

- **Naval Surface Ships**
- **Waterline Security**
- **Topside Observation**

## TECHNICAL SPECIFICATIONS

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### Electrical

Horizontal Resolution	570 TV Lines/ph
Picture Elements Video	768 (H) x 494 (V) NTSC
Sensitivity, Typical	0.0003 Lux (at sensor, useable picture, full frame rate (30fps))
Scene Illumination (limiting)	0.0024 Lux with F1.0 lens (scene)
Sensor Type	1/2" IL CCD sensor
Power Input	+16 to +24V dc, 330mA typical, 420mA Max.
Video Output	1V p-p (nominal) composite video
Standard Video Formats	525 lines 60Hz (RS-170 Mono) (CCIR and IP options also available)
Electro-Magnetic Compatibility	MIL-STD-461F Emissions (Above Decks Surface Ships) MIL-STD-461F Susceptibility (Above Decks Surface Ships)

### Environmental

Housing	IP67
Temperature	MIL-STD-810F Operating -20°C to +50°C / 95% RH Storage -30°C to +70°C
Vibration	MIL-STD-167-1A Shipboard, 4 to 25Hz
Shock	MIL-STD-901D, Grade B, Class II

### Optical

Standard Lens	8 – 48mm, F/1.0 zoom lens
Iris Control	Automatic (galvo)
Focus	1.2m to infinity
Angle of View in Air	7° to 41° Horizontal

### Mechanical

Diameter	241mm
Length	295mm
Weight	16.0Kg in Air
Standard Housing	Stainless Steel 316 painted 1 coat epoxy primer, 2 coats high solids polyurethane semi-gloss grey to federal standard 595 colour no. 26270
Window Material	Acrylic
Connector	220-02E14-12PN (Stainless Steel)

### Rotate and Tilt Coverage

Tilt	0° to -90° (dome down)
Rotate	360° continuous unlimited
Rotate and Tilt Control	RS485 or analogue

*Specifications subject to change without any further notice.*

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