Multi-sensor Platform

The multi-sensor platform from Carl Zeiss Optronics was designed in accordance with specific customer requirements. It consists of a 2nd or 3rd generation thermal imaging device, a CCD camera and a laser rangefinder integrated into a pan and tilt head. The standard configuration contains the sensors listed in the technical data.

It is used for day and night surveillance and observation of civilian or military objects and has an observation angle of 360°. It can be used on land-based and water vehicles. It is also suitable for remote-controlled stationary use on a tower, for example, or mounted on a tripod while surveillance personnel remain at a safe distance from the point of observation.

The multi-sensor platform is operated via the control console (BSAE). Transmitted images are displayed on a monitor. An electronic map with detected targets can be viewed on the second monitor (optional). Videos from the thermal imager and the CCD-camera can be recorded using a video recorder.

Technical data

Thermal imaging device	OPHELIOS	ATTICA MW/LW
Detector	CMT IRCCD 96 x 4	CMT 512 x 640 FPA MW: 288 x 384 or 240 x 320 LW: 288 x 384 or 480 x 640
Spectral range	7.5 µm to 10.5 µm	3 µm to 5 µm/8 µm to 12 µm
Video lines	576	512
Cooling system	Low-noise linear cooling system	Low-noise linear cooling system
Wide field of view	5,2° x 7°; 9° x 12°; 12,3° x 16,4°	4,9° x 6,2°; 11° x 15°
Narrow field of view	1,5° x 2°; 2,7° x 3,5°; 3,6° x 4,8°	1,6° x 2°; 3,6° x 4,8°
F #	1,5	2
Electronic zoom	Yes	Yes
Operating temperature	-35 °C to +63 °C	-35 °C to +63 °C
Storage temperature	-40 °C to +85 °C	-40 °C to +85 °C
Power supply	18 to 32 V DC	18 to 32 V DC
Video output	CCIR	CCIR; Optional: video digital 16 bit
Power consumption	80 W (typical)	50 W (typical)

CCD camera

Sensor	1/3" Interline CCD
Pixels PAL (h x v)	752 x 582 effective image elements
Pixel size PAL (h x v)	6.6 µm x 6.25 mm
Pixels NTSC (h x v)	768 x 494 effective image elements
Pixel size NTSC (h x v)	6.35 µm x 7.4 mm
Signal-to-noise ratio	>48 dB (measured on a dark image with an integration time of 20ms and 0dB light amplification)
Sensitivity	<2 lx (measured at 0dB light amplification, 20ms integration time, field integration, gamma = 1 and 50% video modulation, 3000k light source)
Horizontal resolution	480 TV lines
Automatic integration time	
PAL	1/50 s
NTSC	1/60 to 1/10000 s
Output signal	Y/C (S-VHS): 1 Vpp/75 W
Power supply	24 V DC

LDM 38 laser rangefinder

Laser type	Nd: YAG, OPO shifted
Wavelength	1570 nm
Pulse energy	8 mJ
Max. repeat rate	3 Hz burst
Beam divergence 1/e	0.4 mrad
Eye-safe distance NOHD	0 m
Eye-safe	Yes
Laser class	1M as per EN 60825-1 2003
Measuring accuracy	±5 m
Range display	200 m to 40,000 m
Resolution	5 m
Multiple target resolution	20 m
Logic	First/ last target (selectable)
Operating temperature	-35 °C to +63 °C
Storage temperature	-40 °C to +70 °C
Power supply	18 V DC to 32 V DC

Pan and tilt head

Positioning range azimuth	n x 360° (with slip ring)
Positioning range elevation	≥ 30° (typical)
Positioning speed azimuth	≥ 40°/s
Positioning speed elevation	≥ 20°/s
Play	0,005°
Safety class	IP 65
Operating temperature	-30 °C to +45 °C
Storage temperature	-40 °C to +60 °C
Power supply	24 V DC

Options	- Visual Camera Complex (VCC), consists of CCD-camera and LLL TV - MOLEM laser rangefinder

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