

AR-014-05

Multifunctional Networked Observation System

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- Vanadium oxide uncooled microbolometer array
- 4-megapixel CMOS progressive scan
- 68x zoom
- Object recognition and tracking
- IP67 protection
- Pan: $\pm 175^\circ$; tilt: $\pm 30^\circ$
- Positioning error $< 0.06^\circ$
- Compatible with motion-detection sensors

The device is a multifunctional observation system comprising daylight and thermal cameras integrated with a pan-tilt system, a rangefinder, a Global Positioning System (GPS), and automatic calculation of object geographic coordinates. The system also supports network-based control, providing real-time data transmission and remote operation.

Technical Data

Thermal imaging

Microbolometer array type (detector)	Vanadium oxide, uncooled (VOx)	
Array resolution	1280(H) x 1024 (V)	
Pixel size	12 μm	
Spectral range	8 μm - 14 μm	
Sensitivity	≤ 35 mK	
Focal length	160 mm	
Field of view	H: 5.5° V: 4.4°	
Digital zoom	2x, 4x, 8x	
Detection range	Human	7500 m
	Vehicle (tank)	14500 m
Recognition range	Human	2100 m
	Vehicle (tank)	4500 m
Identification range	Human	1100 m
	Vehicle (tank)	2250 m

Visible imaging

Detector type	1/1.8" Sony Starvis progressive CMOS	
Maximum resolution	1920(H) x 1080 (V)	
Pixel count	4.17 megapixels	
Minimum illumination	Color: 0.005 lm/F1.4 Black and white: 0.0005 lm/ F1.4	
Detection range	Human	4000 m
	Vehicle (tank)	9800 m
Recognition range	Human	1600 m
	Vehicle (tank)	3500 m
Identification range	Human	810 m
	Vehicle (tank)	1800 m
Focal length	6.8 mm - 406 mm	
Field of view	H: 66.0° - 1.0° V: 40.3° - 0.6° D: 73.4° - 1.2°	
Optical zoom	68x	

Rangefinder	
Laser safety class	Class 1 (eye-safe)
Maximum measurement range	20000 m
Accuracy	< 0.5 m
Vehicle (2.3 m x 2.3 m) ranging capability	12000 m
Pan-tilt system	
Pan and tilt angular range	Pan: +/-175° Tilt: +/-30°
Minimum speed	0.1°/s
Maximum speed	15°/s
Positioning accuracy	0.06 °
Power and operating conditions	
Power source	DC 12/24 V AC 220 V / 50 Hz
Power consumption	< 36 W
Operating temperature	-30°C to +60°C
Operating humidity	≤95%
Continuous operation	24/7
Storage temperature	-40°C to +70°C
Ingress protection rating	IP67
Video	
Video compression	H.265 / H264H / H264B
Frame rate	50 Hz

Image resolution	Thermal imaging: Main stream: 1280x1024 Substream: 640x512
	Visible imaging: Main stream: 1920x1080 Substream: 1280x720
Specifications	
Coordinate calculation	WGS84 or SK42
Global Navigation System (GPS)	Integrated
Picture-in-picture (PIP)	Supported
Interoperability	Onvif; Aragats SDK
Network protocol	HTTP; HTTPS; TCP; RTSP; UDP; SMTP
Storage	SSD: 1TB
Fault detection	Network fault detection and storage-capacity monitoring
Solar panel integration	Supported