

AR-040-01

Multifunctional Networked Observation System

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- Vanadium oxide uncooled microbolometer array
- 4-megapixel CMOS progressive scan
- 90x zoom
- Object recognition and tracking
- IP67 protection
- Pan: +/-175°; tilt: +/-30°
- Positioning error < 0.06°

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 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 200 mm

Field of view H: 4.4 °
V: 3.5 °

Digital zoom 2x, 4x, 8x

Detection range	Human	9300 m
	Vehicle (tank)	18500 m

Recognition range	Human	2650 m
	Vehicle (tank)	5600 m

Identification range	Human	1400 m
	Vehicle (tank)	2800 m

Visible imaging

Detector type	1/1.8" Sony Starvis progressive CMOS
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Maximum resolution	1920(H) x 1080 (V)
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Pixel count	4.17 megapixels
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Minimum illumination	Color:	0.005 lm/F1.4
	Black and white:	0.0005 lm/ F1.4

Detection range	Human	5400 m
	Vehicle (tank)	11800 m

Recognition range	Human	2150 m
	Vehicle (tank)	4750 m

Identification range	Human	1100 m
	Vehicle (tank)	2400 m

Focal length	6.8 mm - 504 mm
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Field of view	H: 59.6° - 1.5° V: 35.7° - 0.8° D: 66.7° - 1.7°
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Optical zoom	90x
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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	4000 m
Medium-size structures ranging capability	8000 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