

# armstrong optical

## IR513 Multifunctional Handheld Thermal Camera



By combining an infrared camera, GPS, laser range finder (with integrated visible telescope), electronic compass, the IR513 multifunctional handheld infrared thermal viewer provides target observation in the air, on land or at sea in both day and night and in all weathers. Additionally, target range, direction and location can be obtained in real-time. Measurement results can be sent to a command system through the built-in interfaces or viewed using the eyepieces. The IR513 is ideal for both mobile and/or static operation. With all these features, the IR513 is ideal for military, police, firefighting, law enforcement and coastal surveillance.

### **Both visible image and infrared image available**

Dual waveband operation for passive day & night surveillance.

### **GPS and electronic compass**

Provides system position and target direction to the built-in interface on IR513 camera.

### **Laser range finder**

Provides target distance in real-time.

### **Manual or automatic adjustment of brightness/contrast**

Brightness and contrast may be adjusted manually or automatically to obtain the best image quality according to specific environmental conditions or personal preference.

### **Electronic zoom**

2X electronic zoom (by interpolation) to improve image recognition capability.

### **Black and white display or Multiple colour display**

Multiple colours for easier observation and analysis, plus black hot & white hot.

### **RS232/RS485/RS422**

Allows camera control and image transfer to PC.

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## Specification

### Thermal Imager Performance

Sensor type	Uncooled micro bolometer UFPA
Detector material	Amorphous silicon
Response time	4ms
Pixels	384x288 array, 25µm pitch
Spectral range	8~14µm
Pixel sampling rate	3.689MHZ
Fill factor	>80%
Bad pixels	<1%
Response rate	>4mV/K @ 30°C
NETD	<80mK @ 25°C
Non-uniformity	<±1°C

### GPS

Positional precision	<2.5m
Realtime refresh rate	20Hz
Cold start	<60sec
Hot start	<20sec
Re-acquisition time	<1sec

### Digital compass

Heading range	0 - 360°
Inclination range	± 50°
Rolling range	± 180°

### Power requirements

Power supply	100-240 VAC adapter
Battery operation	>4hrs continuous

### Environmental Specification

Operating Temperature	-20°C ~ +50°C (-40°C ~ +60°C optional)
Storage Temperature	-20°C ~ +50°C
Encapsulation	IP67, 3m submerged

### Physical characteristics

Colour	Black
Weight	2.1kg
Dimensions	238 x 185 x 115mm

### Thermal optics

Lens	focal length 100mm f/1.1
FOV	5.5°x4.12°

### Visible telescope

Performance	X6
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### Image presentation

Video output	PAL
Thermal frame rate	50Hz
Image adjustment	Auto/manual brightness and contrast
Electronic zoom	X2

Image polarity	Black & white plus B/W inverse
Eyepiece displays	Dual OLED viewfinders

### Laser rangefinder

Ranging performance	50 ~ 5000m
Ranging accuracy	±3m
Wavelength	1.064µm
Beam divergence	≤1.0mrad

### Interfaces

Command/control	RS232
Image display	RCA/BNC