

# RANGER® HDC MR

High Definition Mid-Range Surveillance System

## APPLICATIONS

**BORDER SECURITY**

**COASTAL  
SURVEILLANCE**

**FORCE PROTECTION**

**INDUSTRIAL FACILITY**

**CRITICAL  
INFRASTRUCTURE**

**SECURITY**

**AIR & SEA PORTS**

**COUNTER UAS  
APPLICATIONS**



The Ranger HDC MR sets a new standard for high definition perimeter security applications, border surveillance and force protection. With superior capability to detect illegal activities in any weather using built-in fog mode and heat turbulence filters, operators can quickly and accurately determine true threats from false alarms in any situation.

The HDC MR is not only a superior system in bad weather, it also provides increased uptime and reduces cyber risks – a reliable tool that adds days of efficient surveillance and reduces risk compared to previous generations of systems.

Geo-locate targets quickly with the Laser Range Finder option and change quickly from one scene to another with the fast and accurate pan-tilt.

Includes a high-definition thermal imager with either a 1280 x 720 cooled detector or a 1024 x 576 uncooled detector along with a 1920 x 1080 HD Color TV camera, and is designed for slew to cue integration with other sensors such as radars, making it ideal for C-UAS.

## FEATURES

### SEE MORE

Compared to any legacy standard resolution system, the Ranger HDC MR can capture a wider array of views with the same target resolution thanks to the high definition imagery.

### EXTEND THE MISSION CAPABILITY IN BAD WEATHER

See through fog and haze with the fog filter and through turbulent air with the Merlin ASX turbulence filter.

### ACT FASTER

Shorten the time between target detection and counter measures with higher resolution imagery for more accurate target classification.

### INCREASE UPTIME

Significantly reduce downtime, maintenance and costs with the long-life core that more than doubles the MTBF of previous generations.

### LOWER RISK

Protects against hackers with an industry leading cyber security tool that scans at each software release to ensure system is not vulnerable to attacks.

## SPECIFICATIONS

High Definition Thermal Camera	Ranger HDC UC	Ranger HDC 350	Ranger HDC 550
Detector type	Micro-bolometer FPA: 1024x576	Indium Antimonide (InSb) 1280x720	
Spectral range	7.5 – 13.5 $\mu$ m	3-5 $\mu$ m	
Field-of-view	Narrow: 5.4°x3.1° $\pm$ 7% 16:9 image format Wide: 16.8°x9.3° $\pm$ 7% 16:9 image format	Narrow: 3.0°x1.7° $\pm$ 7% 16:9 image format Wide: 38.0°x21.5° $\pm$ 7% 16:9 image format	Narrow: 1.9°x1.08° $\pm$ 7% 16:9 image format Wide: 24°x13.5° $\pm$ 7% 16:9 image format
Focus	One shot Auto focus and Manual		
Continuous zoom options	Two optical Fields of View with seamlessly integrated digital zoom between Wide FOV and NFOV. Digital zoom: 16x	Optical zoom: >12x Digital zoom: 16x	
Image processing	Teledyne FLIR Image Processing Engine with advanced Digital Detail Enhancement (ADE/DDE), Histogram equalization, Electronic image stabilization.		
High Definition Color TV Camera			
Sensor format	1920x1080 pixels		
Focal length	4.3 mm (WIDE) to 129 mm (TELE)		
F-number	F1.6 to F4.7		
Narrow field-of-view	$\leq$ 2.3°x1.3° (digital video)		
Wide field-of-view	$>$ 63°x35° (digital video)		
Optical zoom	30x		
Digital zoom	12x		
Min. Sensitivity	0.1 lx High Sensitivity Mode Off 0.01 lx High Sensitivity Mode On		
Focus	1.2 m to infinity		
Fog mode	on/off		
Pan & Tilt Unit			
Az Range; Az velocity	nx360°; 0.08°/s - 120°/s		
El Range; El velocity	-35° - +90°; 0.08°/s - 120°/s		
Accuracy	$\pm$ 0.5 mrad		
Resolution	$\leq$ 0.05 mrad		
Parking position	Default transportation/Stand-by parking position in elevation		
Image Presentation			
Video format	HD-SDI video output format: 1920x1080p29.97 YCbCr 4:2:2 according to SMPTE 274M carried over SMPTE 292M Ethernet video output format: H.264 carrying 1920x1080p29.97		
Connectors			
Connectors	Power connector, type D38999 series III Main connector, type D38999 series III Ethernet connector, Amphenol RJFTV21ZN or similar		
Options available			
Laser Range Finder (LRF)	Yes, optional: Mid range (10 km) or Short range (6 km)		
Geo Positioning (GPS)	Yes, optional		
Digital Magnetic Compass (DMC)	Yes, optional		
Merlin ASX - Turbulence filter	Yes, optional (for both channels, select one video at a time)		



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