



LASER RANGEFINDERS

NIGHT VISION SYSTEMS

THERMAL SYSTEMS

TACTICAL OPTICS



NCAGE: L0076



Contract  
Holder  
Contract GS-07F-334AA

## Company Profile

Newcon Optik is a world leader in the design and manufacture of laser rangefinders, image-intensified night vision systems, thermal imagers, and other professional-grade tactical optics.

Headquartered in Toronto, Canada, Newcon Optik's dealer network is present on six continents and its products are relied upon by military, government and commercial customers in more than 70 countries.

Since 1992 we have worked closely with our customers and partners to consistently produce technologically-advanced products that meet and exceed the needs of the professionals they serve.

## Featured

### SPOTTER LRF PRO

Page 5



### NVS 18

Page 17



### EGS-42

Page 19



# Table of Contents

## LASER RANGEFINDERS.....

- Spotting scopes with built-in LRF p. 5
- Mountable laser rangefinders p. 6
- Ultra long-range laser rangefinder binoculars p. 7
- Medium-range laser rangefinder binocular p. 8
- Medium-range laser rangefinder monocular p. 9
- Medium-range laser rangefinder binoculars p. 10-11
- Laser rangefinder monoculars p. 12
- OEM laser rangefinder modules p. 13

## NIGHT VISION SYSTEMS.....

- Night vision monoculars p. 15
- Dual-tube night vision goggles p. 16
- Quad-tube Night vision goggles p. 17
- Night vision goggles p. 18
- Enhance goggles system p. 19
- Night vision binoculars p. 20
- Night vision accessories p. 21-22
- Night vision clip-on p. 23
- Night vision riflescope p. 24
- Aviator night vision imaging systems p. 25
- No export permit required p. 26-27

## THERMAL IMAGING SYSTEMS.....

- Thermal monocular p. 28
- Thermal imaging binoculars p. 29-30
- Thermal imaging riflescopes p. 31
- Thermal clip-on sight p. 32
- Optical detection system p. 33
- Thermal imaging binoculars p. 34

## TACTICAL OPTICS.....

- Illuminated tactical variable-zoom riflescopes p. 35
- Red dot sights p. 36
- Magnified day sights p. 37
- Spotting scopes p. 38
- Multi-functional laser system p. 39
- Tactical LED flashlights p. 40
- High-powered visible and infrared aimer/illuminator p. 41
- Tactical day binoculars p. 42
- Ultra long-range observation binocular p. 43
- Tactical accessories p. 44



# LASER RANGEFINDERS



The Spotter LRF PRO is the first of its kind—a combined spotting scope/laser rangefinder system. It makes it faster, easier and more accurate than ever before to acquire range, inclination and azimuth data on long-distance targets.

This model is built to MIL-STD-810G standards and is fully ruggedized to handle real-world military deployment. With 20-60x variable magnification, fully multi-coated optics, an etched mil-dot reticle, Bluetooth/USB output and LED display, the Spotter LRF PRO is among the most versatile optics you can bring with you to the field. This model is compatible with an Android™-based application, Bluetooth capability (BT version) and other peripheral devices. Users can now communicate with the Spotter LRF PRO using Newcon Optik's new NC Cronus™ app.

Optics	SPOTTER LRF PRO
Magnification (x)	20 - 60
Objective lens (mm)	80
Exit pupil diameter (mm)	4 - 1.3
Eye relief (mm)	27
Field of view (°)	2.6 (20x) - 0.9 (60x)
Axial resolution (center), (arcsec)	3.0
Diopters adjustment range, dpt	-5 +4
Device focusing range (m)	12 - ∞
<b>Laser Rangefinder</b>	
Eye safety	Class 1, eye-safe
Peripheral Compatibility	BT, PC, Android™
Wavelength (nm)	1535
1064 nm laser protection	Optional
Specified measuring range (m) <sup>2</sup>	20 - 4,000
<b>Display</b>	
Aiming reticle type	Etched reticle (MIL Dot)
Display type	Customized red matrix TOLED
Display brightness control	Manual (8 levels)
<b>Mechanics, Electronics &amp; Environmental</b>	
Dimensions (mm)	355x106x136
Weight with battery (g)	1,950
Operational temperature (°C)	-35 to +55
Storage temperature (°C)	-45 to +65
Waterproof	1m/30min
Environmental conditions	MIL-STD-810G
Tripod mounting pad	Yes
3-axis digital compass	Yes
Internal power supply	2x CR123 Lithium
Battery life (# of measurements)	5,000
Nitrogen filled	Yes
Interface	USB, RS232

2. 2.3m x 2.3m NATO standard target

This device is compatible with:



Android™ Bluetooth™ NC Cronus™

# MOUNTABLE LASER RANGEFINDER

The SEEKER M represents Newcon Optik's next generation of laser rangefinder. This mountable LRF can be boresighted to any optical system. Whether mounted on a rifle, spotting scope, binoculars or thermal imager, these powerful devices instantly add long-distance rangefinding capability in a compact, lightweight package. With a built-in display that can be used in tandem with an Android™-based application, the SEEKER M provide real-time distance, azimuth, inclination and GPS target data, and allow for real-time mapping and friendly force communication.

With NATO-standard target ranges of 3,000m. SEEKER M allow for fast and accurate target data acquisition while maintaining positive weapons control.

Rangefinder	SEEKER M
Laser safety	Class 1, eye-safe
Peripheral Compatibility	Bal Comp, AFS, PC, BT, Android™, CivTAK/ATAK <sup>1</sup>
Wavelength (nm)	1550
Measuring range, (m) <sup>2</sup>	10 - 3,000
Distance measuring accuracy (m)	±1
Azimuth measuring range (°)	360
Azimuth measuring accuracy (°)	±1
Inclination measuring range (°)	±60
Inclination measuring accuracy (°)	±0.5
First/Last target logic	Yes (via port)
Interface	USB, Bluetooth
<b>Visible Laser</b>	
Laser safety	Class 3R
Wavelength (nm)	635±10
Optical Output Power (mW)	<5
<b>Display</b>	
Integrated display	OLED
Display color	Red
<b>Mechanics, Electronics &amp; Environmental</b>	
Dimensions without mount (mm)	115x76.3x52
Dimensions with mount (mm)	115x76.3x74
Weight without batteries or mount (g)	330
Weight with mount (g)	450
Weapon mountable	MIL-STD-1913
Power Supply	2x CR2
Battery life (# of measurements)	3,500
Operating temperature range (°C)	-30 to +50
Storage temperature range (°C)	-35 to +60
Waterproofing	MIL-STD-810G

1. Optional

2. 2.3m x 2.3m NATO standard target

This device is compatible with:



# SEEKER M





## ULTRA LONG-RANGE LASER RANGEFINDER BINOCULARS

The LRB 12K is built to outperform all other handheld laser rangefinder binoculars. With a high number of performance features fit into a MIL-SPEC form factor, the LRB 12K can handle anything professional operators can throw its way. Features include a maximum range capability of 25,000m, built-in digital magnetic compass, built-in GPS receiver and a crystal-clear LED display.

Optics	LRB 12K	LRB 12KNIGHT
Magnification (x) day/night	7	7/5
Objective lens diameter (mm)	42	42
Field of view (°) day/night	6	6/7
Eye relief (mm)	20	20
Diopter adjustment range	±5	±5
Interpupillary distance (mm)	58 - 72	58 - 72
Rangefinder		
Eye safety	Class 1, eye-safe	Class 1, eye-safe
Peripheral Compatibility	PLGR, Bal Comp, PC and CivTAK/ATAK. AFS, Kestrel, Android™	
Wavelength (nm)	1550	1550
Measuring range capability (m)	10 - 25,000	10 - 25,000
Measuring distance capability (m)**	10 - 12,000	10 - 12,000
Distance measurement accuracy (m)	±1	±1
Azimuth measurement accuracy (°)	±1	±1
Inclination measurement accuracy (°)	±0.5	±0.5
Speed detection	Yes	Yes
First/last target logic	Yes	Yes
Gating capability	100-5,500m	100-5,500m
Gating step (m)	variable	variable
Scan mode	Yes	Yes
Distance between objects	Yes	Yes
Horizontal distance between objects	Yes	Yes
Azimuth difference between objects	Yes	Yes
Inclination difference between two objects	Yes	Yes
Height difference between objects	Yes	Yes
Display		
Meters/yards display	Yes	Yes
Display type	OLED	OLED
Last 10 readings recall	Yes	Yes
Reticle pattern selection	Yes	Yes
Low battery indicator	Yes	Yes
Mechanics, Electronics & Environmental		
Interface	PLGR/DAGR, RS-232, USB, BLE	
Dimensions (mm)	210x178x85	210x178x85
Weight without batteries (g)	1,580	1,900
Tripod mountable	Yes	Yes
Power supply	1x 2CR5 non-magnetic	1x 2CR5 non-magnetic
Battery life (# of measurements)	5,000	5,000
Operating temperature range (°C)	-40 to +60	-25 to +60
Storage temperature range (°C)	-40 to +60	-40 to +60
Waterproofing	MIL-STD-810G	MIL-STD-810G

# MEDIUM-RANGE LASER RANGEFINDER BINOCULARS

The CENTURION requires virtually no maintenance, and very little operational training. Through USB and RS-232 interfaces, the CENTURION can be operated remotely, have its stored data exported, and communicate with external GPS systems and ballistic computers with optional Bluetooth

Optics	LRB 6K
Magnification (x) day/night	7
Objective lens diameter (mm)	42
Field of view (°) day/night	6
Eye relief (mm)	20
Diopter adjustment range	±5
Interpupillary distance (mm)	58 - 72
Rangefinder	
Eye safety	Class 1, eye-safe
Peripheral Compatibility	PC, AndroidTM
Wavelength (nm)	1550
Measuring distance capability (m)**	10 - 5,000
Distance measurement accuracy (m)	±1
Azimuth measurement accuracy (°)	±1 / 17
Inclination measurement accuracy (°)	±0.5 / 8.8
Speed detection	Yes
First/last target logic	Yes
Gating capability	Yes
Gating step (m)	variable
Scan mode	Yes
Distance between objects	Yes
Horizontal distance between objects	Yes
Azimuth difference between objects	Yes
Inclination difference between two objects	Yes
Height difference between objects	Yes
Display	
Meters/yards display	Yes
Display type	OLED
Interface	RS-232, USB
Bluetooth*	Optional
Last 10 readings recall	Yes
Low battery indicator	Yes
Mechanics, Electronics & Environmental	
Dimensions (mm)	210x178x85
Weight without batteries (g)	1,580
Tripod mountable	Yes
Power supply	1x 2CR5 non-magnetic
Battery life (# of measurements)	5,000
Operating temperature range (°C)	-40 to +60
Storage temperature range (°C)	-40 to +60
Waterproofing	MIL-STD-810G

\*\* 2.3m x 2.3m NATO standard target

CENTURION







The LRM 3500M is the most advanced laser rangefinder monocular we have ever produced. This device builds on years of experience designing and manufacturing professional-grade LRFs, with a feature set never before found in a pocket-sized unit.

Optics	NC-35BT
Magnification (x)	6.5
Objective lens diameter (mm)	30
Field of view (°/mil)	7/124
Eye relief (mm)	20
Diopter adjustment range	±5
Rangefinder	
Eye safety	Class 1, eye-safe
Peripheral Compatibility	Bal Comp, AFS, PC, BT, Android™, CivTAK/ATAK <sup>1</sup> , Kestrel
Wavelength (nm)	1550
Range capability (m)	10 - 6,000
Specified range capability (m) <sup>2</sup>	10 - 3,500
Specified range to a man size target (m) <sup>2</sup>	10 - 1,500
Inclinometer range (mils)	±1420
Distance measurement accuracy (m)	±1
Azimuth measurement accuracy (mils)	17.5 (Optional ±10)
Inclination measurement accuracy (mils)	±8.8 (Optional ±5)
Compass & inclinometer units	°/mils
Power-on time (sec)	< 1
FOS (Fall of shot)	Yes
First/last target logic	Yes
Target discrimination (m)	50
Scan mode	Yes
Last 10 readings recall	Yes
Distance between objects	Yes
Horizontal distance between objects	Yes
Azimuth difference between objects	Yes
Inclination difference between two objects	Yes
Height difference between objects	Yes
Etched reticle step (mils)	1
User GPS coordinates	Yes
Target GPS coordinates	Yes
GPS coordinates format	Dec Degs Micro/MGRS/UTM
Mechanics, Electronics & Environmental	
Display type	Customized Matrix Red OLED
Interface	USB, BLE, PLGR/DAGR
Dimensions with no sleeve (mm)	118x107x54
Weight without batteries (g)	460
Power supply	Non-magnetic 2x CR123 lithium batteries
Battery life (# of measurements)	5,000
Low battery indicator	Yes
Tripod mountable	Yes
3-axis digital compass	Yes
Compass calibration & validation	Yes
Operating temperature range (°C)	-35 to +65
Storage temperature range (°C)	-40 to +85
Waterproofing	MIL-STD-810 G (1m/30min)

<sup>1</sup> Optional  
<sup>2</sup> 2.3m x 2.3m NATO standard target

This device is compatible with:

Android™ Bluetooth™ Ballistic apps NC Cronus™ CivTAK/ATAK

# MEDIUM-RANGE LASER RANGEFINDER BINOCULARS

# LRB 6K • LRB 6KNIGHT

The LRB provides accurate distance, azimuth, inclination and speed measurements out to maximum range capability of 6,000m. These binoculars pack premium optical quality and Newcon Optik's most advanced rangefinding system into a housing that is built to last.

Optics	LRB 6K	LRB 6KNIGHT
Magnification (x) day/night	7	7/5
Objective lens diameter (mm)	42	42
Field of view (°) day/night	6	6/7
Eye relief (mm)	20	20
Diopter adjustment range	±5	±5
Interpupillary distance (mm)	58 - 72	58 - 72
Rangefinder		
Eye safety	Class 1, eye-safe	Class 1, eye-safe
Peripheral Compatibility	PLGR, Bal Comp, PC and CivTAK/ATAK. AFS, Kestrel, Android™	
Wavelength (nm)	1550	1550
Measuring range capability (m)	10 - 6.500	10 - 6.500
Measuring distance capability (m)**	10 - 6,000	10- 6,000
Distance measurement accuracy (m)	±1	±1
Azimuth measurement accuracy (°)	±1 / 17	±1 / 17
Inclination measurement accuracy (°)	±0.5 / 8.8	±0.5 / 8.8
Speed detection	Yes	Yes
First/last target logic	Yes	Yes
Gating capability	100-5,500m	100-5,500m
Gating step (m)	variable	variable
Scan mode	Yes	Yes
Distance between objects	Yes	Yes
Horizontal distance between objects	Yes	Yes
Azimuth difference between objects	Yes	Yes
Inclination difference between two objects	Yes	Yes
Height difference between objects	Yes	Yes
Display		
Meters/yards display	Yes	Yes
Display type	OLED	OLED
Interface	PLGR/DAGAR, RS-232, USB	PLGR/DAGAR, RS-232, USB
Bluetooth*	Optional	Optional
Last 10 readings recall	Yes	Yes
Reticle pattern selection	Yes	Yes
Low battery indicator	Yes	Yes
Mechanics, Electronics & Environmental		
Dimensions (mm)	210x178x85	210x178x85
Weight without batteries (g)	1,580	1,900
Tripod mountable	Yes	Yes
Power supply	1x 2CR5 non-magnetic	1x 2CR5 non-magnetic
Battery life (# of measurements)	5,000	5,000
Operating temperature range (°C)	-40 to +60	-25 to +60
Storage temperature range (°C)	-40 to +60	-40 to +60
Waterproofing	MIL-STD-810G	MIL-STD-810G

\*\* 2.3m x 2.3m NATO standard target

This device is compatible with:



LRB 6K NSN# 1240-20-010-6217



## MEDIUM-RANGE LASER RANGEFINDER BINOCULAR

Designed with professional operators in mind, the LRB 3000PRO combines compact, clear 7x40 binocular optics with a 3,000m (NATO target) ranging capability.

A built-in digital magnetic compass provides accurate readings of azimuth, inclination, and target speed. With a matte black housing, rubberized body and scratch-resistant optical surfaces, the LRB 3000PRO is built to perform and last in the harsh, foreboding environments in which our customers operate.

The LRB 3000PRO is now available with an optional high-definition OLED display.

Optics	LRB 3000PRO
Magnification (x)	7
Objective lens diameter (mm)	40
Field of view (°)	6
Eye relief (mm)	18
Diopter adjustment range	±4
Interpupillary distance (mm)	60 - 70
Rangefinder	
Eye safety	Class 1, eye-safe
Wavelength (nm)	905
Measuring distance range (m) <sup>1</sup>	10 - 3,000
Azimuth measurement accuracy (°/mils)	±2 / 35
Inclination measurement accuracy (°/mils)	±1 / 17
Speed detection	Yes
First/last target logic	Yes
Scan mode	Yes
Display	
Meters/yards display	Yes
Computer output, type	None
Last 10 readings recall	Yes
Reticle pattern selection	Yes
Target quality indicator	Yes
Low battery indicator	Yes
Mechanics, Electronics & Environmental	
Dimensions (mm)	158x145x69
Weight without batteries (g)	970
Power supply	9V
Battery life (# of measurements)	5,000
Operating temperature range (°C)	-25 to +50
Storage temperature range (°C)	-30 to +55
Waterproofing	IP66

<sup>1</sup> 2.3m x 2.3m NATO standard target

# LASER RANGEFINDER MONOCULARS

Newcon Optik's bestselling line of laser rangefinder monoculars features a compact, sturdy design well-suited to conditions in the field. The LRM 2K is for users requiring basic functionality and high reliability. It features a true measurement range of 2,000m (NATO target) and can recall 10 measurements from device memory.

For border patrol, law enforcement and other professionals tasked with perimeter control, the LRM 1800S features a true measurement range of 1,800m (NATO target), and performs accurate speed measurement. The LRM 2200SI features a true measurement range of 2,200m (NATO target) and is reliable in practically all weather conditions. A built-in digital magnetic compass and inclinometer enable accurate azimuth and inclination measurements.

In combination with an NVS 14 series night vision monocular, each device in the LRM line can operate 24 hours a day.

Optics	LRM 1800S	LRM 2K	LRM 2200SI
Magnification (x)	7	7	7
Objective lens diameter (mm)	25	24	25
Field of view (°)	8	7.5	8
Eye relief (mm)	15	16	15
Diopter adjustment range	±4	±5	±4
<b>Rangefinder</b>			
Eye safety	Class 1, eye-safe	Class 1, eye-safe	Class 1, eye-safe
Wavelength (nm)	905	905	905
Measuring distance range (m) <sup>1</sup>	10 - 1,800	10 - 2,000	10 - 2,200
Distance measurement accuracy (m)	±1	<500m ±1m (≥500m ±2m)	±1
Azimuth measurement accuracy (°/mils)	-	-	±2 / 35
Inclination measurement accuracy (°/mils)	-	±1	±1 / 17.5
Speed detection	Yes	-	Yes
First/last target logic	-	-	Yes
Scan mode	Yes	-	Yes
Interface	-	Bluetooth	Bluetooth
<b>Display</b>			
Meters/yards display	TOLED	TOLED	TOLED
Computer output, type	Yes	Yes	Yes
Computer output, type	None	None	None
Last 10 readings recall	Yes	-	Yes
Reticle pattern selection	Yes	-	Yes
Target quality indicator	Yes	-	Yes
Low battery indicator	Yes	Yes	Yes
<b>Mechanics, Electronics &amp; Environmental</b>			
Dimensions (mm)	127x125x60	106x76x39	127x125x60
Weight without batteries (g)	445	235	445
Power supply	1x 9V	1x CR 123 Lithium	1x 9V non-magnetic
Battery life (# of measurements)	5,000	5,000	5,000
Operating temperature range (°C)	-25 to +50	-20 to +50	-25 to +50
Storage temperature range (°C)	-45 to +65	-30 to +65	-45 to +65
Waterproofing	IP63	IP67	IP66

<sup>1</sup> 2.3m x 2.3m NATO standard target

LRM 2K and LRM 2200SI are compatible with:



Bluetooth™ NC Cronus™

# LRM SERIES



LRM 2K NSN# 1240-20-AOX-5255



LRM 2200SI NSN# 1240-20-009-0287



**LRF MICRO 1550** NSN# 1240-20-014-5613



**LRF MOD 25HFLC**

The LRF MICRO 1550 and 1550 (CI) utilize a 1550nm laser that cannot be seen by image-intensified night vision systems. Each 'CI' variant incorporates a digital magnetic compass and inclinometer for vector measurement and enhanced spatial data collection.

Rangefinder	LRF MICRO 1550	LRF MICRO 1550 CI
Eye safety	Class 1, eye-safe	Class 1, eye-safe
Wavelength (nm)	1550	1550
Specified measurement range (m):		
Vehicle size NATO target, 2.3x2.3m, albedo 0.3	3,000	3,000
Human size NATO target, 1.0x1.0m, albedo 0.1	1,000	1,000
Conditions: Visibility ≥15km		
Distance measurement accuracy (m)	±1	±1
Azimuth measurement accuracy (°)	-	±1
Inclination measurement accuracy (°)	-	±1
Beam divergence, mrad	1.6x0.4	1.6x0.4
Speed detection	Yes	Yes
Measuring time, distance (seconds)	0.1 - 0.7	0.1 - 0.7
Simultaneously-detected targets	Multiple	Multiple
First/last target logic	Yes	Yes
Gating capability	Yes	Yes
Gating step (m)	100	100
<b>Mechanics, Electronics &amp; Environmental</b>		
Dimensions without compass (mm)	88x48x30	88x48x30
Weight (g)	107	120 (CI)
Interface	UART, USB	UART, USB
Power source	5 - 15V DC	5 - 15V DC
Operating temperature range (°C)	-40 to +50	-40 to +50
Storage temperature range (°C)	-40 to +60	-40 to +60

The LRF MOD 25HFLC enables highly-accurate range acquisition of low-reflection targets at ranges of up to 30 km. The module can be effectively used in marine navigation, long-range reconnaissance, naval and coast guard patrols.

Rangefinder	LRF MOD 25HFLC
Wavelength (nm)	1,570
Min distance (m)	280
Max distance (m)	30,000
Range measurement accuracy, instrumental (m)	±1
Simultaneously-detected targets	3
First/last target logic	Yes
Gating capability	Yes
Pulse repetition rate (Hz)	1 to 12.5
Continuous running time	
1 Hz	continuously
1 to 10 Hz	5 min operation, 2 min pause, 10 cycles, 20 min between cycles
11 to 12.5 Hz	60 sec operation, 60 sec pause, 10 cycles, 20 min between cycles
<b>Mechanics, Electronics &amp; Environmental</b>	
Dimensions without viewfinder (mm)	326x195x112
Weight (kg)	≥5.5
Interface	RS-422
Range of supply voltage (V)	22-32
Warm-up time, max (sec)	60
Operating temperature range (°C)	-40 to +55

# NIGHT VISION SYSTEMS

## AG SERIES

The AG series consists of advanced Generation 3 IITs with world-leading GaAs photocathode sensitivity and high FOM. This series of IIT, like the AGBW series, incorporates an auto-gating system that automatically adjusts itself to limit the impact of changing light conditions—the effect of muzzle flash, vehicle lights, and other intermittent battlefield light sources is significantly reduced by auto-gating technology.



## AGBW SERIES

The AGBW series consists of advanced Generation 3 IITs with world-leading GaAs photocathode sensitivity and high FOM. This series of IIT, like the AG series, incorporates an auto-gating system that automatically adjusts itself to limit the impact of changing light conditions—the effect of muzzle flash, vehicle lights, and other intermittent battlefield light sources is significantly reduced by auto-gating technology. The black-&-white image produced by the AGBW series reduces eye strain and provides better contrast in certain light conditions.





The NVS 14 series of night vision monoculars has been proven by deployments in conflict zones and by peacekeepers around the world. All models utilize advanced Gen 3 image intensifier tubes with minimum, exportable FOM >1600, and have a manual gain control system. The newly-improved NVS 14-3AG and NVS 14-3AGBW models are now the lightest night vision monoculars utilizing full-sized IITs available today. Both systems are auto-gated while the NVS 14-3AGBW produces a black-&-white image rather than the traditional green.

Each NVS 14 series device can be handheld, weapon-, head- or helmet-mounted. With optional lens attachments that turn either model into a 3x or 5x night vision sight, and a full range of additional accessories, the NVS 14 series is among the world's most versatile night vision devices.

IIT	NVS 14-3AG	NVS 14-3AGBW
Generation	3	3
Photocathode material	GaAs	GaAs
IIT resolution, minimum (lp/mm)	64	64
Signal to noise ratio, minimum	25	25
Figure of merit (minimum)	1600	1600
Auto-gating	Yes	Yes
Black & white phosphor	No	Yes
<b>Optics</b>		
Magnification (x)	1	1
Field of view (°)	40	40
Objective F#	1.2	1.2
Objective focal length (mm)	25	25
Focus range (m)	0.25 - ∞	0.25 - ∞
Eye relief (mm)	25	25
Diopter adjustment range	-6 to +5	-6 to +5
<b>Mechanics, Electronics &amp; Environmental</b>		
Dimensions (mm)	114x68x49	114x68x49
Weight without batteries (g)	287	287
Built-in IR illuminator	Yes	Yes
Battery type	1x AA or 1xCR123	1x AA or 1xCR123
Reverse Polarity Protection	Yes	Yes
IR Operation Indicator	Yes	Yes
Automatic Shut-off System	Yes	Yes
Upright Shut-off System	Yes	Yes
Battery life (hours)	40	40
Operating temperature range (°C)	-50 to +55	-50 to +55
Storage temperature range (°C)	-50 to +70	-50 to +70
Waterproofing, standard	MIL-STD-810G	MIL-STD-810G
Waterproofing GCS Upgrade	20m, 30min	20m, 30min

# DUAL-TUBE NIGHT VISION GOGGLES

The NVS 15 series of night vision goggles has been proven by deployments in conflict zones and by peacekeepers around the world. All models utilize two advanced Gen 3 image intensifier tubes, with minimum, exportable FOM >1600, built-in IR illuminator, auto shutoff mechanism and are fully MIL-SPEC. All systems are auto-gated and can be supplied in white phosphor or traditional green.

The NVS 15 series provide users with full depth perception, and is ideal for vehicle operation and any other dark-environment task requiring acute situational awareness. The modular design of the NVS 15 allows for the detachment of the left or right device, while the proprietary bridge mount provides for interpupillary adjustments.

Each monocular module in the NVS 15 can be handheld, weapon-, head- or helmet-mounted. With optional lens attachments that convert the NVS 15 into 3x binoculars, and a full range of additional accessories, the NVS 15 series is among the world's most versatile night vision devices.

IIT	NVS 15-3AG	NVS 15-M
Generation	3	3
Photocathode material	GaAs	GaAs
IIT resolution, minimum (lp/mm)	64	64
Signal to noise ratio, minimum	25	25
Auto-gating	Yes	Yes
Black & white phosphor	Optional	Optional
<b>Optics</b>		
Magnification (x)	1 (3x option available)	1
Field of view (°)	40	40
Objective F#	1.2	1.18
Objective focal length (mm)	25	22.5
Focus range (m)	0.25 - ∞	0.25 - ∞
Eye relief (mm)	25	30
Diopter adjustment range	-6 to +5	-6 to +4
<b>Mechanics, Electronics &amp; Environmental</b>		
Dimensions (mm)	114x150x66	110x108x92
Weight without batteries (g)	676	508
Interpupillary distance (mm)	52 - 74	50 - 80
Flip up	No	Yes
Flip to side	No	Yes
Built-in IR illuminator	Yes	Yes
Battery type	2x AA or 2x CR123	2x CR123
Battery life (hours)	40	40
Startup time (seconds)	<2	<1
Auto shutoff	No	Yes
Operating temperature range (°C)	-50 to +55	-40 to +55
Storage temperature range (°C)	-50 to +70	-40 to +60
Humidity	up to 95% non-condensing	up to 95% non-condensing
Waterproofing, standard	MIL-STD-810G	MIL-STD-810G

# NVS 15 SERIES



NVS 15-AG



NVS 15-M





The NVS 18 QUAD Panoramic Night Vision Goggle, provides users wide field-of-view, helmet-mounted device with either green or white phosphor technology for improved target detection and recognition, 120 FOV allows for quick DIR (Detection, Identification, Reaction) under adverse conditions and is ruggedized for ground applications.

The most striking feature of the NVS 18 is the presence of four separate image intensifier tubes with four separate objective lenses arrayed in a panoramic orientation. The center two, giving the operator more depth perception, while two point slightly outward from the center to increase peripheral view. The IPD of the two system can be adjusted on the helmet mount.

IIT	NVS 18
Generation	3
Lens system	F1.18 22.5mm
Optical distortion	3% Max
Relative illumination	>75%
<b>Optics</b>	
Magnification (x)	1
Field of view (°)	H: 120+ V: 50+
Focus range (m)	0.25 to ∞
Coaxiality	<0.1°
Eye relief (mm)	30
Diopter adjustment range	-1 (+0.5~-2.5)
<b>Mechanics, Electronics &amp; Environmental</b>	
Dimensions (mm)	155x136x83
Weight without batteries (g)	880
IPD adjust type	Arbitrary continuously adjustable
IPD adjust range	50 - 85mm
IPD lock type	Manual lock
IR	850nm 20mW
Battery type	Lithium battery (CR123Ax1) External battery packs (CR123Ax4)
Battery life (hours)	30-80
Battery capacity	800-3200mAh
Power supply	2.6-4.2V
Power dissipation	<0.2W
Aperture	8mm
Temperature range (°C)	-40 to +55
Humidity range	5% - 95%
Waterproofing	IP67
Installation	Head/Helmet
Control mode	ON/IR/Auto/OFF

# NIGHT VISION GOGGLES

The NVS 7 night vision goggles have been proven by deployments in conflict zones and by peacekeepers around the world. All models utilize advanced Gen 3 image intensifier tubes with minimum, exportable FOM >1600; have a built-in IR illuminator; auto shutoff mechanism; and is fully MIL-SPEC. The NVS 7-3AG is an auto-gated traditional green image.

Fitted with an optional 3x, 4x, 5x lens, this advanced goggle can be easily converted to a long-range night vision binocular. With full range of additional accessories, the NVS 7 series is among the world's most versatile night vision devices.

IIT	NVS 7-3AG
Generation	3
Photocathode material	GaAs
IIT resolution, minimum (lp/mm)	64
Signal to noise ratio, minimum	25
Auto-gating	Yes
Auto-gating with black & white phosphor	No
<b>Optics</b>	
Magnification (x)	1
Field of view (°)	40
Objective F#	1.2
Objective focal length (mm)	27.5
Focus range (m)	0.25 - ∞
Eye relief (mm)	25
Diopter adjustment range	-5 to +5
<b>Mechanics, Electronics &amp; Environmental</b>	
Dimensions (mm)	160x160x65
Weight without batteries (g)	560
Interpupillary distance (mm)	57-73
Built-in IR illuminator	Yes
Battery type	2x AA
Reverse Polarity Protection	Yes
IR Operation Indicator	Yes
Low Battery Indicator	Yes
Automatic Brightness control	Yes
Automatic shut-off system	Yes
Battery life (hours)	60
Operating temperature range (°C)	-40 to +55
Storage temperature range (°C)	-45 to +60
Waterproofing	MIL-STD-810G

# NVS 7



The EGS-42 is a high-performance handheld fusion night vision goggles. It serves a wide variety of tactical, law enforcement, border security and special forces applications. EGS-42 features various image observation modes, ultra-long-range thermal detection, I2C night vision and digital magnetic compass, image capture, video recording, and real-time data transmission, and efficiently aids users in conducting onsite investigations, searches, and information feedback tasks. Data is displayed in the field of view and can be exported to a variety of peripheral devices.

Infrared Sensors	EGS-42
Detector type	Vox
Resolution (pixels)/Pitch size UM	640x512
Spectrum (µm)	8-14
Pitch size (µm)	12
NETD (mK @F1.0)	<40
Frequency (Hz)	50
Objective focal length (mm)	18
Field of view (°)	24 x 18
Non-uniformity correction	Auto
Detection/Recognition of tank target (km)	2.0/0.6
Detection/Recognition of human target (km)	1.3/0.3
Zoom	1
IIT channel	
Objective focal length (mm)	26
Field of View (°)	40
Focus range (m)	0.25 - ∞
Eye relief (mm)	20
Fusion	
Combining day and thermal image	Yes
Fusion modes	At least 3 modes of image combining
Magnetic compass	
Azimuth resolution/accuracy	1° / 1°
Elevation resolution/accuracy	0.5° / 0.5°
Elevation range	+/- 80°
Mechanics and environmental	
Interpupillary distance (mm)	58 - 76
Eyepiece diopter adjustment (dpt)	±4D
Internal video & photo recording	32GB
Connectivity	Power input, RS232 (remote control), USB (output videos and images), PAL video
Continuous working time (hours)	IIT 50, thermal 8, fusion 6
Dimensions with eyepiece (mm)	160 x 200 x 83
Weight without battery (kg)	1.45
Power	Internal battery: rechargeable 4x18650, DC 12VDC
Temperature range (°C)	-30 to +60
Storage temperature range (°C)	-35 to +65
Waterproof	MIL STD 810 (1m for 30 min)
Mechanical interface/mounts	1/4" tripod mount

# NIGHT VISION BINOCULARS

Based on the popular NVS 7 night vision goggles series, the NVS 7 binocular series models are suitable for defence, marine and SAR operations that take place in the world's darkest tactical environments. Available in 4x, 5x and 8x magnification configurations, there is a binocular model for virtually any detection, recognition, or identification requirement. All models are auto-gated.

The NVS 7-3/4xAG is the smallest and lightest handheld night vision binocular in its class, while the NVS 7-3/5xAG provides an excellent visibility range while remaining compact and functional.



IIT	NVS 7-3/4xAG	NVS 7-3/5xAG	NVS 7-3/8xAG
Generation	3	3	3
Photocathode material	GaAs	GaAs	GaAs
IIT resolution, minimum (lp/mm)	64	64	64
Signal to noise ratio, minimum	25	25	25
Auto-gating	Yes	Yes	Yes
Auto-gating with black & white phosphor	Optional (AGBW)	Optional (AGBW)	Optional (AGBW)
<b>Optics</b>			
Magnification (x)	4	5	8
Field of view (°)	10	8	5
Objective F#	2.0	2.3	2.0
Objective focal length (mm)	115	130	240
Focus range (m)	10 - ∞	10 - ∞	10 - ∞
Eye relief (mm)	25	25	25
Diopter adjustment range	-5 to +5	-5 to +5	-6 to +5
<b>Mechanics, Electronics &amp; Environmental</b>			
Dimensions (mm)	175x150x70	210x150x80	235x150x135
Weight without batteries (g)	815	930	1,840
Interpupillary distance (mm)	56-72	56-72	56-72
Built-in IR illuminator	Yes	Yes	Yes
Battery type	2x AA	2x AA	2x AA
Battery life (hours)	60	60	60
Operating temperature range (°C)	-40 to +55	-40 to +55	-40 to +55
Storage temperature range (°C)	-45 to +60	-45 to +60	-45 to +60
Waterproofing	MIL-STD-810G	MIL-STD-810G	MIL-STD-810G

# NIGHT VISION ACCESSORIES

Newcon Optik's NVS accessories multiply the usefulness of NVS devices by protecting them from the elements, by allowing them to be head-, helmet-, or weapon-mounted, and by permitting the combination of multiple devices.



**NVS S Mount**

Shroud-compatible helmet mount for monoculars and goggles



**NVS H Mount**

PASGT-compatible helmet mount for monoculars and goggles



**NVS HMA**

Lightweight Tactical Head Gear for NVS S mount with all Night Vision Monoculars and Goggles; One size fits all: three adjustment dials allow for comfort adjustments to any head size or shape.



**NVS DS and NVS SW**

Demist shield to prevent eye-piece fogging and sacrificial window to protect objective lens of monoculars and goggles



**NVS Bridge**

Connecting bridge for conversion of two monoculars into dual tube goggles



Quick Release MIL-STD-1913 Weapon Mount.

# NIGHT VISION ACCESSORIES

Newcon Optik offers accessories for device transport, to add magnification, or to attach to day-optics for a night vision conversion.



**Hard Case (various sizes)**

MIL-SPEC case to protect devices during transportation and storage



**NVS Lens 3x**

Afocal 3x magnification add-on lens for monoculars and goggles



**NVS Lens 4x**

Catadioptric 4x magnification add-on lens for goggles



**NVS U Coupler**

Connects monoculars and goggles to any Newcon Optik LRF or day optic for night operation



**NVS Lens 5x**

Catadioptric 5x magnification add-on lens for monoculars and goggles



The NVS 27M is Newcon Optik's most advanced night vision clip-on to date and represents a significant improvement on other clip-on systems currently available.

This high-resolution unit is designed to mount in front of virtually any daytime riflescope and is compatible with day sight magnifications between 1x and 20x. As military and police shooters continue to use higher-magnification day sights, this compatibility range provides a significant advantage in the field, enabling the use of most, if not all, of a given day sight's magnification capability.

The NVS 27M was designed by shooters. Its extra-wide field of view, manual gain control system, and extended target-detection range makes it the world's most complete night vision clip-on system.

IIT	NVS 27M
Generation	3
Photocathode material	GaAs
IIT resolution, minimum (lp/mm)	68
Figure of merit, minimum	2000
Signal to noise ratio, minimum	28
Mean time to failure (hours)	10,000
Photocathode sensitivity, minimum, ( $\mu\text{A}/\text{lm}$ )	1800
Auto-gating	Yes
Auto-gating with black & white phosphor	Optional
Automatic brightness control	Yes
<b>Optics</b>	
Magnification (x)	1
Field of view ( $^{\circ}$ )	13
Objective F#	1.5
Objective focal length (mm)	78
Focus range (m)	10 to $\infty$
Magnification compatibility, recommended (x)	1 - 20
<b>Mechanics, Electronics &amp; Environmental</b>	
Dimensions (mm)	220x95x73
Weight without batteries (g)	934 (without objective lens cap)
Mount system	QR Mount
Height from the rail to the optical axis (mm)	42
Height from the rail to the optical axis (inches)	1.65
IR illuminator	Optional
Battery type	1x AA or 1x CR123
Battery life (hours)	50
Low battery indicator	Yes
Operating temperature range ( $^{\circ}\text{C}$ )	-45 to +65
Storage temperature range ( $^{\circ}\text{C}$ )	-50 to +70
Waterproofing	MIL-STD 810G
MIL-STD-810G compliant	Yes
Boresight retention	Permanent
Boresight adjustment	Not required

# NIGHT VISION RIFLESCOPES

DN 463 • DN 493\_6x

The DN 463 and DN 493\_6x are members of Newcon Optik's next-generation night vision rifle scope series. These riflescopes feature a manual gain control adjustment, an advanced Gen 3 image intensifier tube, a MIL-DOT, LED-lit reticle with adjustable brightness, a Picatinny rail mount, removable infrared illuminator, and tactile windage and elevation adjustments. These scopes are easy to service and maintain, and present among the lowest lifetime costs of ownership among riflescopes in their class.

The DN 463 and DN 493\_6x are battle-hardened and ready for deployment in combat or peacekeeping, as well as in public and private infrastructure security.

IIT	DN 463	DN 493_6xAG/AGBW
Generation	3	3
Photocathode material	GaAS	GaAS
IIT resolution, minimum (lp/mm)	64	64
Signal to noise ratio, minimum	25	25
Auto-gating	Optional	Yes
Auto-gating with black & white phosphor	Optional	AGBW
<b>Optics</b>		
Magnification (x)	4	6
Field of view (°)	10.0	6.3
Objective F#	1.68	2.00
Objective focal length (mm)	101.5	165.0
Focus range (m)	10 to ∞	20 to ∞
Eye relief (mm)	50	50
Diopter adjustment range	±3.5	-3 to +4
<b>Mechanics, Electronics &amp; Environmental</b>		
Dimensions (mm)	275x95x105	300x98x90
Weight with mount (g)	1,230	1,400
Standard mount system	MIL-STD-1913	MIL-STD-1913
Built-in IR illuminator	Yes (removable)	Yes (removable)
Battery type	1x AA or 1x CR123A	2x AA
Battery life without IR (hours)	15 with AA, 24 with CR123A	60
Low battery indicator	-	Yes
Operating temperature range (°C)	-30 to +40	-40 to +50
Storage temperature range (°C)	-40 to +50	-45 to +55
Waterproofing	IP67	MIL-STD-810G
<b>Ballistics</b>		
Reticle pattern	Mil-Dot	Mil-Dot
Lit reticle	Yes	Yes
Adjustable reticle brightness	Yes	Yes
Windage adjustment step (MOA)	0.42	0.34
Elevation adjustment step (MOA)	0.42	0.34







The NVS 9-3AG ANVIS goggles enable pilots to operate their aircraft in the darkest flight environments. The goggles allow aviators to navigate at the nap of the earth, take off, land, and perform other operations that are otherwise impossible at night without the use of a light source.

Adjustable 25mm eyepieces provide improved eye relief enabling excellent viewing regardless of the eyepiece positioning. Ergonomically-designed interface controls, including interpupillary adjustments and vertical, fore-aft, and tilt adjustments allow improved viewing of the entire system field of view. The lightweight goggles can be mounted on a variety of aviator helmets. Newcon Optik's expert team is able to ensure you select the right goggle for your aircraft and its cockpit lighting system.

IIT	NVS 9-3AG
Generation	3
Photocathode material	GaAs
IIT resolution, minimum (lp/mm)	64
Signal to noise ratio, minimum	25
Auto-gating	Yes
<b>Optics</b>	
Magnification (x)	1
Field of view (°)	40
Objective F#	1.2
Objective focal length (mm)	27.5
Focus range (m)	0.25 to ∞
Eye relief (mm)	25
Diopter adjustment range	-5 to +2
Filter (Available)	Leaky green (Class C filter) included, Minus blue optional
<b>Mechanics, Electronics &amp; Environmental</b>	
Dimensions (mm)	128x120x55
Weight without batteries (g)	575
Battery type	2x AA
Battery life (hours)	≥40
Operating temperature range (°C)	-32 to +52
Storage temperature range (°C)	-40 to +60

# NO EXPORT PERMIT REQUIRED

The NV 207-G2 and NV 66-G2 provide optical advantage in a variety of situations in which a night vision capability is required. These Gen 2+ systems do not require an export permit.

The NV 207-G2 uses the same approach to night vision as the NVS 14 night vision monocular series, while the NV 215-G2 features many of the advantages of the NVS 15 night vision goggle series.

A large variety of available accessories allow both units to be applied to a number of real-world applications including game-reserve management, private and public infrastructure security and, where allowed by law, hunting and other outdoor activities.

IIT	NV 207-G2	NV 215-G2
Generation	2+	2+
Photocathode material	S-25	S-25
IIT resolution, minimum (lp/mm)	53	53
Signal to noise ratio, minimum	18	18
<b>Optics</b>		
Magnification (x)	1	1
Field of view (°)	40	40
Objective F#	1.17	1.2
Objective focal length (mm)	27.5	27.5
Focus range (m)	0.25 - ∞	0.25 - ∞
Eye relief (mm)	25	25
Diopter adjustment range	-6 to +5	-6 to +5
<b>Mechanics, Electronics &amp; Environmental</b>		
Dimensions (mm)	125x53x69	118x150x66
Weight without batteries (g)	300	725
Interpupillary distance (mm)	-	52 - 74
Built-in IR illuminator	Yes	Yes
Reverse Polarity Protection	Yes	Yes
IR Operation Indicator	Yes	Yes
Low Battery indicator	Yes	Yes
Automatic Brightness Control	Yes	Yes
Automatic shut-off system	Yes	Yes
Battery type	1x AA or 1xCR123	1x AA or 1xCR123
Battery life (hours)	40	40
Operating temperature range (°C)	-50 to +55	-50 to +55
Storage temperature range (°C)	-50 to +70	-50 to +55
Waterproofing	IP67	IP67

## NV 215-G2 • NV 207-G2



NV 215-G2



NV 207-G2

The NV 66-G2 provide optical advantage in a variety of situations in which a night vision capability is required. These Gen 2+ systems do not require an export permit.

A large variety of available accessories allow the unit to be applied to a number of real-world applications including game-reserve management, private and public infrastructure security and, where allowed by law, hunting and other outdoor activities.



IIT	NV 66-G2
Generation	2+
Photocathode material	S-25
IIT resolution, minimum (lp/mm)	57
Signal to noise ratio, minimum	22
<b>Optics</b>	
Magnification (x)	1
Field of view (°)	40
Objective F#	1.2
Objective focal length (mm)	27.5
Focus range (m)	0.25 - ∞
Eye relief (mm)	25
Diopter adjustment range	-6 to +5
<b>Mechanics, Electronics &amp; Environmental</b>	
Dimensions (mm)	130x125x55
Weight without batteries (g)	400
Interpupillary distance (mm)	58-72
Built-in IR illuminator	Yes
Battery type	2x AA
Reverse Polarity Protection	Yes
IR Operation Indicator	No
Low Battery Indicator	Yes
Automatic Brightness control	Yes
Automatic shut-off system	Yes
Battery life (hours)	80
Operating temperature range (°C)	-50 to +55
Storage temperature range (°C)	-55 to +60
Waterproofing	MIL-STD-810G

Thermal imagers give users the ability to detect incredibly small thermal gradients regardless of external light conditions. Using a high-performance, uncooled microbolometer, thermal imagers can be used in a variety of situations, including detecting a foe behind concealment, locating a victim under an avalanche, pointing out recently operated vehicles or even to detect a bad contact in a high-voltage powerline.

Thermal imagers are fast becoming an essential piece of equipment for military and professional law enforcement units as they offer true 24/7 detection capability, as well an alternative to traditional image intensified night vision systems. Newcon Optik's line of lightweight, high-performance thermal devices are purposely built to offer MIL-SPEC ruggedness, extreme distance performance, enhanced operational duration (via commercially available batteries), and to be virtually maintenance-free.



# THERMAL IMAGING SYSTEMS

# THERMAL MONOCULAR

## TVS 11M • TVS 11M-640

TVS 11M is the next generation of Newcon Optik's field-proven thermal imaging product line. Designed as a multipurpose thermal imager, the extremely lightweight and compact TVS 11M can be deployed in handheld, helmet or weapon-mounted configuration. Using a state-of-the-art uncooled thermal sensor, the TVS 11M delivers incredibly clear images while achieving continuous operation of over 4 hours. The TVS 11M is fully MIL-SPEC and features a built-in 2x and 4x digital zoom for enhanced distance performance. With video-output as a standard feature, internal video/photo storage (TVS 11M-640) and a built-in IR laser pointer, the TVS 11M is the ideal thermal monocular for military, police, and search & rescue applications.

Sensor	TVS 11M	TVS 11M-640
Resolution (pixels)	384x288	640x512
Operating wavelength (µ)	8 - 14	7 - 14
Sensitivity (mK @F1.0)	<70	<40
Video output	PAL	PAL
<b>DRI range (m)</b>		
Human	576/142/71	1,550/520/300
Vehicle	1,530/385/190	3,800/250/650
Multiple color options	Yes	Yes
<b>Optics</b>		
Objective focal length (mm)	17	35
Field of view (°)	22x16.5	125 x10
Eye relief (mm)	25	25
Dioptric correction	±5	-4/±5
Zoom	2x, 4x	1x,2x,4x
<b>Mechanics, Electronics &amp; Environmental</b>		
Dimensions (mm)	145x72x50	125x75x50
Weight without batteries (g)	375	440
Battery type	1x 3.7V 1800mAh Li-on or 2xCR123 Lithium batteries	1x 18650 rechargeable battery
Battery life (hours)	4	4
Operating Temperature range (°C)	-35 to +55	-35 to +60
Operating Temperature range (°C)	-45 to +70	-51 to +70
Waterproofing	MIL-STD-810G	MIL-STD-810G
Optional weapon-mounting systems	S Mount, QR Mount	S Mount, QR Mount
Weapon compatibility	Assault rifles, RPG	Rifles, Machine guns & Anti-armour systems (RPG, Carl-G)
Aiming reticle	Yes	Yes
Internal video/photo recording	No	64 GB (4h/10,000 shots)
<b>Integrated Laser</b>		
Laser wavelength (nm)	830 ±20	
Laser output, min (mW)	30	
Laser class	3B	
Laser beam divergence (mrad)	1	
Laser spot size at 50m (mm)	40	
<b>Detectable by</b>		
Night vision	+	
Thermal vision	-	
Detection range (km)	>2	





Mounted on TACT-3S Tripod

The SENTINEL MLRF is the most effective handheld multi-functional thermal laser rangefinder binocular available. It serves a wide variety of tactical, law enforcement, border security and special forces applications. SENTINEL MLRF features various image observation modes, ultra-long-range observation, precise target positioning and guidance with eye-safe laser rangefinder and digital magnetic compass, image capture, video recording, and real-time data transmission, and efficiently aids users in conducting on-site investigations, target searches, and information feedback tasks. Data is displayed in the field of view and can be exported to a variety of peripheral devices.

Infrared Sensors	SENTINEL MLRF
Detector type	Vox
Resolution (pixels)/Pitch size UM	640x512/12UM
Spectrum (µm)	8-14
NETD (mK @F1.0)	<40
Frequency (Hz)	50
Objective focal length (mm)	50 @ F1.0
Field of view (°)	8.8 x 7.0
Non-uniformity correction	Auto
Detection/Recognition of tank target (km)	6.3/1.6
Detection/Recognition of human target (km)	2.3/0.6
Zoom	1-4x
<b>Day channel</b>	
Objective focal length (mm)	35
Resolution (pixels)	1280x720
Frequency (Hz)	30
Field of view (°)	12.4 x 7.0
Zoom	1-4x
<b>LRF</b>	
Laser type	Semiconductor laser, Class 1
Laser wavelength (µm)	1,550
Detection range (m)	20 - 7,000, ( 20 - 10,000 Optional)
Ranging accuracy (m)	±2
<b>GPS</b>	
Type	GPS, Galileo (GNSS)
Target locating error	±5M (target<1km)
<b>Magnetic compass</b>	
Azimuth resolution/accuracy	1°/ 1°
Elevation resolution/accuracy	1°/ 1°
<b>Mechanics and environmental</b>	
Interpupillary distance (mm)	64
Eyepiece diopter adjustment (dpt)	±5
Internal video & photo recording	Yes
Connectivity	Power input, RS232 (remote control), USB (output videos and images), PAL video
Continuous working time (hours)	4
Dimensions with eyepiece (mm)	160 x 200 x 83
Weight without battery (kg)	1.45
Power	Internal battery: rechargeable 4x18650, DC 12VDC
Temperature range (°C)	-30 to +60
Storage temperature range (°C)	-35 to +65
Waterproof	MIL STD 810 (1m for 30 min)
Mechanical interface/mounts	1/4' tripod mount

# THERMAL IMAGING BINOCULARS

# SENTINEL • SENTINEL LRF

The SENTINEL and SENTINEL LRF are advanced thermal imaging binoculars with a wide variety of tactical, law enforcement, border security and special forces applications. The SENTINEL and SENTINEL LRF utilize a high-resolution uncooled thermal sensor to perceive differences in the thermal signature of objects within the field of view, and a large-diameter Germanium lens to extend their observation range.

The SENTINEL and SENTINEL LRF can detect objects at remote distances 24 hours a day, through smoke, fog or camouflage, and do not produce any audible sounds while in operation.

The SENTINEL contains the same detection features as the SENTINEL LRF without the laser rangefinder capability.

Sensor	SENTINEL (640)	SENTINEL LRF
Resolution (pixels)	640x480	640x480
Pixel size (PI)	17	17
Operating wavelength (μ)	8 - 14	8 - 14
Sensitivity (mK @F1.0)	<40	<55
Video output	PAL	PAL
DRI range (m) <sup>1</sup>	2,500/625/313	2,500/625/313
<b>Optics</b>		
Objective focal length (mm)	75	75
Field of view (°)	8.3x6.2	8.3x6.2
Eye relief (mm)	25	25
Dioptric correction	-6 to +2	-6 to +2
Zoom	Fixed 2x, 3x, 4x, plus continuous zoom	
Internal recording module	Optional	Optional
<b>Mechanics, Electronics &amp; Environmental</b>		
Dimensions (mm)	208x89x146	197x145x90
Weight without batteries (g)	1,030	1,375
Battery type	6x AA	6x AA
Battery life (hours)	4 (rechargeable) / 6 (Lithium battery)	4 (rechargeable) / 6 (Lithium battery)
Operating Temperature (°C)	-40 to +50	-40 to +50
Waterproofing	MIL-STD-810G	MIL-STD-810G
<b>Laser Rangefinder</b>		
Laser Wavelength (nm)	-	1,550
Measurement distance to 2.3x2.3m NATO (m)	-	3,000
Distance measuring accuracy (m)	-	±1
Device measurement capability (m)	-	5,500
Azimuth measuring range (°)	-	360 ( ± 60)
Elevation measuring range (°)	-	120 ( ± 60)

<sup>1</sup> 2.3m x 2.3m NATO standard target



# TVS 23 • TVS 13M (640-75)



TVS 23



TVS 13M (640-75)

# THERMAL IMAGING RIFLESCOPES

The TVS 13M thermal riflescope is designed to act as a force multiplier in the most demanding situations faced by border patrol, law enforcement, tactical teams and special operations forces. Advanced built-in ballistics software allows for accurate firing on virtually any weapon platform, while a video output port and internal storage capability enable the capture of video and still images. These riflescopes come with a M1913 quick-release mount and can also be used as hand-held observation tools. Unlike traditional night vision devices, these can operate 24 hours a day without any degradation in performance in daylight, smoke or fog; they can also penetrate camouflage. Other features include image-polarity selection, sepia, rainbow and other colour options, a proximity sensor, and full MIL-SPEC design. **All TVS 13M models are now available with inclinometer and stability sensor.**

Sensor	TVS 23	TVS 13M (640-75)
Resolution (pixels)	640x512	640x480
Pixel size (µ)	12	17
Operating wavelength (µ)	7.5 - 13.5	8 - 14
Full Frame Rates, PAL (Hz)	50	25
Display	1280x1024 OLED	800x600
Sensitivity (mK @F1.0)	≤35	<55
Video Output		PAL
DRI range (m) <sup>1</sup>		2,500/625/313
<b>Optics</b>		
Objective focal length (mm)	50	75
Field of view (°)	8.7×7	8.3x6.2
Eye relief (mm)	30	25
Dioptric correction	5SD	-6 to +2
Zoom	1x,2x,4x	2x, 4x
<b>Mechanics, Electronics &amp; Environmental</b>		
Dimensions (mm) <sup>2</sup>	220x90x77	285x90x112
Weight without batteries (g) <sup>2</sup>	630g (Include battery) without mount	1,320 (with mount)
Battery type	2xCR123	6x AA or battery cassette
Battery life (hours)	4	8
Operating Temperature (°C)	-40° ~ 50°	-40 to +55
Waterproofing	MIL STD 810G	MIL-STD-810G
Shock resistance (G)	750	500
Video Storage	internal 64G, 6hrs video / 20000 images	-
LRF	Side rail attachment (laser crosshairs on the image) 905nm measure 750m	-
Wifi	Optional	-
GPS	Inside GPS +3M	-
Compass	Optional	-
Interface	9-pin LEMO interface Power, video, rs232, USB	-
<b>Ballistics</b>		
# of preprogrammed reticles	-	8
Programmable ballistic profiles	-	4
Automatic reticle color inversion	-	Yes
Proximity sensor	-	Yes

<sup>1</sup> Detection/Recognition/Identification to human-sized target  
<sup>2</sup> Due to frequent updates in design and manufacturing, some specifications are subject to change.



# THERMAL CLIP-ON SIGHT

## TVC 60

The TVC 60 is a clip-on thermal weapon sight designed to be used in conjunction with a magnified day optic. When in use, the shooter relies on the zeroing of the day optic and does not need to re-zero when attaching or detaching the unit.

The TVC 60 utilizes an uncooled thermal sensor that allows for the detection of camouflaged targets at long range. Equipped with a video output, the image captured by the TVC 60 can be viewed in real time by friendly forces, recorded and transmitted.

Multiple image polarities and colour schemes, adjustable contrast and variable digital magnification all contribute to making the TVC 60 a valuable addition to any sniper's kit.

Sensor	TVC 60
Resolution (pixels)	640x512
Frame rate (Hz)	50
Pixel size (um)	12
<b>Optics</b>	
Display type	OLED
Display resolution	1920x1080
Magnification	1X
Zoom	2X/PIP/4X
Objective focal length (mm)	50
Objective F number	1.1
Field of view (°)	8.7x7
Daytime scope compatibility	1x to 12x
<b>Mechanics, Electronics &amp; Environmental</b>	
Dimensions (mm)	156x80x71
Weight with mount and no batteries (g)	630
Onboard recorder	128G
Wifi	Optional
Battery type	1x 18650
Power supply	6~12V
Video output	Via Ethernet port
Battery life (hours)	4
Operating Temperature (°C)	-40 to +60
Storage temperature (°C)	-50 to +70
Shock resistance (G)	900
Weapon mounting system	MIL-STD-1913
Weapon compatibility	Assault rifles, Sniper rifles

1. Detection/Recognition/Identification to human-sized target





The Sentinel ODS detects forward observers, while most sniper detection systems are acoustic and help operators respond to a threat after it has already inflicted damage, Sentinel ODS functions on optical principles and can therefore pinpoint the location of a threat before it has a chance to act. This system is ideal for border and perimeter security as well as VIP protection details. The device can be handheld or mounted on a tripod and when an optical reflector of any kind is detected, its position is marked in field of view. The Sentinel ODS can reliably detect snipers and other optical equipment in a variety of tactical situations.

<b>Optical parameters:</b>	
Objective lens focal distance, mm	6-130
CCD resolution, pixels	1920x1080
Field of view, degrees	61.04° x 36.89° to 2.36° x 1.33°
Diopter adjustment of the eyepiece	± 4
<b>Infrared sensors</b>	
Detector type, Resolution (pixels)	Vox 640 x 512
Pitch size (µm)	12
Field of View (°)	8.8 x 7.0
Detection/Recognition of tank target (km)	6.3/1.6
Detection/ Recognition of human target (km)	2.3/0.6
<b>Detection parameters:</b>	
Maximum detection range, 7x50 weapon sight (m)	2,500
Angular size of the detection zone, degrees	0.8° x 72° (Horizontal field of view)
<b>LRF</b>	
Laser type	Solid State, Class I 1,535 µm
Detection range (m)	20 - 10,000
<b>Laser Dazzler</b>	
Wavelength	515 to 520nm
<b>Compass:</b>	
Measured azimuth range	360°
Accuracy	±1.0° RMS at level ±1.3° RMS inclined (±30°)
<b>Inclinometer:</b>	
Accuracy	±1.0° RMS (within ±80°)
<b>Capabilities</b>	
Global position sensor	GNSS
User GPS coordinates	Yes
Target GPS coordinates	Yes
<b>Electrical parameters:</b>	
Voltage range	6-12VDC
Power supply	4x 18650
Battery life continuous operation, min, hours	4
<b>Environmental parameters:</b>	
Tripod mount	¼"
Dimensions, mm	204x160x83
Weight, kg	2.3
Operating temperature range (°C)	-40 to +60
Storage temperature range (°C)	-40 to +65
Relative humidity	≤ 98 % under + 25°
Waterproofing	IP67

# THERMAL IMAGING BINOCULARS

# SENTINEL UMLRF

The SENTINEL UMLRF is the most effective cooled handheld multi-functional thermal laser rangefinder binocular available. It serves a wide variety of tactical, law enforcement, border security and special forces applications. SENTINEL UMLRF binoculars use a high-resolution cooled thermal sensor to perceive differences in the thermal signature of objects within the field of view. The unit can detect objects at remote distances 24 hours a day, through smoke, fog or camouflage. The unit's eye-safe laser rangefinder and digital magnetic compass instantly measure distance, azimuth and inclination of far-off targets.

<b>Thermal Channel</b>	
Type	MCT Cooled
Resolution (pixels)	640 x 512
Spectrum (µm)	3 to 5
NETD (mk)	≤25
Field of view (°)	18.2x14.6 to 2.3x1.8 (±5%)
Zoom	1x - 8x
<b>Daytime Channel</b>	
Resolution	1920x1080
Zoom	36x
<b>Functionality</b>	
Gain/Brightness	Manual/Auto
Calibration	Auto calibration when camera startup Manual calibration during camera operation
Polarity	Hot black/Hot white
Focus	Motorized
Storage capacity	Image : ≥ 10000 , Video : ≥ 4 hours
<b>Positioning system</b>	
Type & Accuracy (RMS)	GNSS, Lng & Lat: 5m , Elevation: 10m
<b>Digital Compass</b>	
Horizontal range (°)	360
Pitching (°)	± 40
Angle accuracy (RMS)	Azimuth: 0.6° , Pitch angle : 0.5°
<b>Laser Range Finder</b>	
Laser Band (nm)	1535 eye-safe
Ranging	50m~8km
Accuracy	≤2m (Target > 50m)
<b>Environmental Protection</b>	
Working Temperature (°C)	-40 to +60
Protection class	IP67
Power	Rechargeable Li-ion Battery, > 5 hours (@25°C)
<b>Physical Parameters</b>	
Resolution	1024x768
Eyepiece diopter	-4 to +4
Weight (kg)	≤2.8
Dimension (mm)	360x230x115
External Power	Yes
Communication	Built-in WIFI, RS232
Tripod Interface	1/4"

DRI: >6 >3





# TACTICAL OPTICS

# ILLUMINATED TACTICAL VARIABLE-ZOOM RIFlescOPES

NC 3-12x56 • NC 4-24x56 • NC 5-30x56

The NC 4-24x56 and NC 5-30x56 are daytime riflescopes which feature variable magnification and are designed for use on a variety of weapon platforms. The riflescopes feature a Mil-Dot reticle positioned in the first focal plane of the eyepiece, ensuring a consistent reticle size, regardless of the magnification being utilized.

Ideal for acquiring small targets at long distances, the riflescopes are equipped with a central system parallax adjustment effective for ranges of 50 metres to infinity. The riflescopes incorporate windage adjustment (the multi-revolving scheme) and elevation adjustment (single-revolving scheme). The units have tactile/audible step adjustments.

Optics	NC 3-12x56	NC 4-24x56	NC 5-30x56
Minimum magnification (x)	3	4	5
Maximum magnification (x)	12	24	30
Objective lens diameter (mm)	56	56	56
Tube diameter (mm)	30	30	30
Exit pupil diameter @ min magnification (mm)	18.6	7	7
Exit pupil diameter @ max magnification (mm)	4.7	1.85	1.55
Field of view @100 y @ min magnification (m)	36	23.9	21.6
Field of view @100 y @ max magnification (m)	9	2.7	3.67
Eye relief (mm)	100	100	100
Diopter adjustment range	±3	±2	±2
<b>Ballistics</b>			
Reticle pattern	Mil-Dot	MOA or Mil-Dot	
Lit reticle	Yes	Yes	
Windage adjustment step (MOA)	0.25	0.25	
Windage adjustment range (MOA)	120	60	
Elevation adjustment step (MOA)	0.25	0.25	
Elevation adjustment range (MOA)	340	60	
<b>Mechanics, Electronics &amp; Environmental</b>			
Dimensions (mm)	328x69x65	386x70x70	391x70x70
Weight (g), (w/o mount)	695	<800	795
Shock resistance (g)	500	1,000	1,000
Battery type	CR 2032 (3 V)	CR 2032 (3 V)	CR 2032 (3 V)
Battery life, maximum (hours)	100	100	100
Operating temperature range (°C)	-50 to +50	-30 to +50	-30 to +50
Storage temperature range (°C)	-52 to +55	-35 to +60	-35 to +60
Humidity (%)	98	98	98
Waterproofing	MIL-STD-810G	MIL-STD-810G	MIL-STD-810G



NC 5-30x56



NC 3-12x56



NC 1x21



HDS 3AA

The NC 1x21 and HDS 3AA red dot sights were designed and built for tactical law enforcement and military applications. Both sights allow rapid, accurate target acquisition for close-quarters battle (CQB) and are built with rugged, durable single-piece frames. The extremely compact NC 1x21 is ideal for use in confined spaces or as a backup optic. It has a variety of brightness settings and is fully compatible with magnifiers and night vision devices.

The tried-and-tested HDS 3AA is a perfect standard-issue red dot sight. Its multiple brightness settings and precise step adjustments make it well-suited for use with any assault rifle. Fully compatible with night vision devices, the HDS 3AA can also be used with a 3x or 5x magnification flip-to-side add-on lens, allowing for extended viewing and engagement capability.

Optics	NC 1x21	HDS 3AA
Magnification (x)	1	1 (3 or 5 with add-on)
Objective lens diameter (mm)	21	30
Parallax free	Yes	Yes
Eye relief (mm)	Unlimited	Unlimited
Diopter adjustment range	-	±3 (with add-on)
<b>Ballistic Specifications</b>		
Reticle pattern	Red Dot	Red Dot
Red dot size (MoA)	2	2
Lit reticle	Yes	Yes
Lit reticle colour	Red	Red
Adjustable reticle brightness	11 Settings	11 Settings
Windage adjustment step (MoA)	0.5	0.5
Elevation adjustment step (MoA)	0.5	0.5
Night vision compatible	Yes	Yes
<b>Mechanics, Electronics &amp; Environmental</b>		
Housing material type	Extruded High Strength Aluminum	
Co-witness with iron sights	Yes	-
Dimensions (mm)	68x41x47	128x55x70
Weight (g)	107	332
Shock resistance (G)	500	500
Battery type	1x CR2032	1x AA
Battery life, minimum (hours)	160	800
Operating temperature range (°C)	-40 to +50	-40 to +60
Storage temperature range (°C)	-40 to +63	-55 to +75
Humidity (%)	95	95
Waterproofing	Standard 1m / 30min Optional 10m / 2h	10m / 1 hour
Mounting	MIL-STD-1913	MIL-STD-1913

# MAGNIFIED DAY SIGHTS

# NC 4x32 • NC 6x50 • NC BURD

With crystal-clear lenses, the NC 4x32 and NC 6x50 are highly sought-after weapon-mounted riflescopes. These devices feature 4x and 6x fixed-magnification respectively and are therefore ideal for short- to medium-range target acquisition. Both units feature an LED-lit Mil-Dot ranging reticle with multiple brightness settings. These units can be used in conjunction with night vision devices and are compatible with virtually all assault rifles.

The NC 4x32 and NC 6x50 are highly precise, ruggedized sights and have been battle-tested in a wide variety of environmental conditions. These are the right choice for military and police professionals requiring a fixed-magnification weapon sight for assault rifles. Compatibility with Newcon's optional Back-Up Red Dot sight (NC BURD) or NC 1x21 enable rapid target acquisition even at close range.

Optics	NC 4x32	NC 6x50	NC BURD
Maximum magnification (x)	4	6	1
Objective lens diameter (mm)	32	50	-
Eye relief (mm)	72	72	-
Exit Pupil Diameter (mm)	8	-	-
Field of view (°)	4.5	3	unlimited
Diopter adjustment range	±3	±3	-
Anti-reflective lenses	Yes	Yes	-
<b>Ballistic Specifications</b>			
Reticle pattern	Rangefinding reticle	Rangefinding reticle	Red dot
Lit reticle	Yes	Yes	Yes
Lit reticle colour	Red/Green	Red/Green	Red
Adjustable reticle brightness	Yes	Yes	Yes
Windage adjustment step (MoA)	0.33	0.25	-
Elevation adjustment step (MoA)	0.33	0.25	-
<b>Mechanics, Electronics &amp; Environmental</b>			
Dimensions (mm)	137x48x79	168x75x81	46x38x35
Weight (g)	467	583	63
Shock resistance (G)	500	500	-
Battery type	1x CR2032	1x CR2032	1x CR2032
Battery life, minimum (hours)	150	160	60 max
Operating temperature range (°C)	-30 to +50	-40 to +50	-40 to +60
Storage temperature range (°C)	-30 to +60	-40 to +50	-
Humidity (%)	95	95	-
Waterproofing	Standard 3m/ 30min (20m waterproofing available)	Standard 1m/ 30min Optional 10m/ 2h	1m/ 30min
Night vision / thermal compatible	Yes	Yes	-
Mount type	MIL-STD-1913	MIL-STD-1913	MIL-STD-1913



NC 4x32



NC 6x50

## SPOTTER ED • SPOTTER M



SPOTTER ED



SPOTTER M

## SPOTTING SCOPES

On the range or in the field, Newcon Optik spotter scopes will bring your targets into clear, consistently sharp and high-contrast focus. Both our Spotter ED and Spotter M are fully MIL-SPEC and feature etched reticles which allow for highly accurate adjustments.

The Spotter ED features an 85mm objective lens with Extra-low Dispersion glass, ensuring high clarity along the 20-60x magnification range. Designed with a low-profile straight eyepiece, the Spotter ED comes standard with eyepiece/objective covers, an all-weather case and table-top tripod. The Spotter ED can be paired with night vision devices via Newcon Optik's proprietary NVS U Coupler set, allowing users 24 hour observation and shot correction capability.

Newcon Optik's Spotter M is a handheld pocket scope with an 8x magnification and unsurpassed clarity in an extremely small size. In situations where a pair of binoculars may be too bulky, the Spotter M and its internal M22 reticle are the perfect solution for medium-range observation.

Optics	SPOTTER ED	SPOTTER M
Magnification (x)	20 - 60	8
Objective lens diameter (mm)	85	42
Focus range (m)	7 - ∞	3 - ∞
Exit pupil (mm)	4.25 - 1.4	5.25
Eye relief, (mm)	20 - 18	17.5
Field of view @ 1,000yd min mag/ max mag (feet)		
Field of view @ 1,000m (m)	105 / 53	1008.0
Diopter adjustment range	±5	±3
Twilight factor	41.2 / 71.4 (min mag / max mag)	18.3
Relative brightness	18 / 2 (min mag / max mag)	27.6
Reticle type	Mil-Dot	M22
<b>Mechanics &amp; Environmental</b>		
Weight (g)	1,300	336
Dimensions (mm)	432x105x174	142x60x57
Eyepiece type	Straight	Straight
Operating temperature range (°C)	-30 to +60	-30 to +60
Storage temperature range (°C)	-40 to +65	-30 to +60
Nitrogen purged	Yes	Yes
Waterproofing	IP67	IP67



# MULTI-FUNCTIONAL LASER SYSTEM

## LAM 3G • 4G

Newcon Optik's LAM series of weapon-mounted laser aimers and illuminators are used by professional military and police organizations worldwide. These military-grade devices utilize powerful visible and infrared lasers to provide accurate aiming and bright night vision illumination for any weapon system or optical platform.

The LAM 3G is a triple-channel device featuring a green visible laser aimer, IR laser aimer, and an IR illuminator. The LAM 4G is a next-generation multifunctional Laser Aiming Module featuring a visible green laser aimer, IR laser aimer, variable-focus IR (InfraRed) laser illuminator and tactical 300-lumen white LED flashlight condensed in a lightweight, compact housing. The LAM 3G and LAM 4G are designed for extreme ruggedness and longevity, featuring unsurpassed operating time and temperature ranges. Both units have solid audible/tactile step adjustment mechanisms that are easy to use and hold position after thousands of shots. Built for modularity, either unit can be activated via the integral push-button or by a remote cable switch. The LAM 3G and LAM 4G feature a low-power "training" setting for safe use among friendly forces.

Laser Aimer	LAM 3G	LAM 4G
Eye safety	IIIb	IIIb
Distance, low/high (m)	150/500	500
Beam divergence, FWHM (mrad)	0.5	1.2
Spot size @ 100m (mm)	50	60
Wavelength (nm)	532 ±10	530 ±20
Laser colour	Green	Green
Output power, low/high (mW)	<4/≥8	<5
Infrared Laser Aimer		
Eye safety	IIIb	IIIb
Distance, low/high (m)	400/2,000	400/2,000
Beam divergence, FWHM (mrad)	0.5	1.2
Wavelength (nm)	830 ±15	830 ±20
Output power, low/high (mW)	<2/≥20	<2/<20
Flashlight		
Bulb	-	CREE, V6HD
Light output (lumens)	-	300 (low), 500 (high)
Infrared Laser Illuminator		
Eye safety	IIIb	IIIb
Distance, low/high (m)	200/2,000	200/2,000
Beam divergence, FWHM (mrad)	1 - 105	1.3 - 60
Wavelength (nm)	830 ±15	830 ±20
Output power, low/high (mW)	<2/≥25	<2/<20
Ballistics		
Windage adjustment step (mrad)	0.25	0.5
Windage adjustment range (mrad)	60	40
Elevation adjustment step (mrad)	0.25	0.5
Elevation adjustment range (mrad)	60	40
Retention after 1,000 shots (mrad)	1	1
Mechanics, Electronics & Environmental		
Dimensions (mm)	102x72x42	108x76x37
Weight without batteries (g)	315	285
Weight with batteries (g)	330	-
Shock resistance (G)	300	300
Quick release	Yes	-
Battery type	CR 123	1 x 18650
Battery life, high / low (hours)	8 / 16	8 / 16
Operating temperature range (°C)	-20 to +50	-40 to +60
Waterproofing	MIL-STD 810G	IP67



LAM 3G



LAM 4G



High Power LED Flashlight

Visible Laser

NCFL 9 RI shown in photo

The NCFL Series is comprised of compact, mountable illumination/aiming systems that can be utilized on a wide variety of weapons including handguns and assault rifles. Each model in this series has a distinctly unique feature set, ensuring there is an NCFL unit perfectly suited to every application.

Optics	NCFL 9	NCFL 9 RI
Modes	OFF, Flashlight, Infrared Aimer	OFF, Flashlight, Red Laser Aimer, Infrared Aimer, Flashlight+ Red Laser
Material	6061 Aviation Grade Aluminum and high-strength Zytel polymer	
Color	Hard anodizing, matte black	
<b>Flashlight</b>		
Bulb	C4 LED	C4 LED
Light output (lumens)	>180	>225
<b>Visible Laser</b>		
Visible laser distance (m)	-	75
IR distance (m)	250	250
Visible laser / IR laser	830±10nm, <15mW	650±10nm at <5mW / 835±10nm at <10mW
Laser beam size (mm @ 10m)	<10	<10
<b>Mechanics, Electronics &amp; Environmental</b>		
Mounting	MIL-STD-1913 Picatinny Mount	
Battery	2 x CR 123 Lithium	2 x CR 123 Lithium
Hours of operation (hours)	40 (IR mode) 1.7 (Flashlight)	≥5
Operating temperature range (°C)	-20 to +50	-20 to +50
Storage temperature range (°C)	-40 to +60	-40 to +60
Dimensions (mm)	87x41x50	80x55x51
Weight w/o batteries (g)	106	115
Waterproofing	IP67 / 1m / 30min	IP67 / 1m / 30min

# HIGH-POWERED VISIBLE AND INFRARED AIMER/ILLUMINATOR

## IRIL 1000M

The IRIL 1000M long-range infrared aimer and illuminator now features a high-powered visible laser aiming channel. This device is designed to reach out to extreme distances to aid in target identification and engagement from ground- and air-based platforms. Equipped with a Picatinny quick release mount, the IRIL series of illuminators can be mounted on virtually any rifle or crew-served weapon system. The IRIL 1000M has 5 in-built laser patterns to select from to aid in laser identification.

The IRIL 1000M has an adjustable beam divergence between 1 and 20 mrad, allowing for immediate transition between wide-area spot scene illuminator and accurate IR laser aimer. Its extremely long maximum range provides significant optical advantage to professional operators in all environmental conditions.

Visible Laser Aimer	IRIL 1000M
Eye safety	3R
Distance, high (m)	500 (night)
Beam divergence, FWHM (mrad)	1
Spot size @ 100m (cm)	100
Wavelength (nm)	532 ±10
<b>Infrared laser illuminator</b>	
Eye safety	4
Distance, high (m)	30,000
Beam divergence, FWHM (mrad)	2 - 60
Spot size @ 100m, min divergence / max divergence (mm)	200-6000
Wavelength (nm)	810 ±10
<b>Ballistics</b>	
Windage adjustment step (MOA)	1.6
Windage adjustment range (MOA)	±120
Elevation adjustment step (MOA)	1.6
Elevation adjustment range (MOA)	±120
Retention after 1,000 shots (MOA)	2
<b>Mechanics, Electronics &amp; Environmental</b>	
Dimensions (mm)	154x65x57
Weight without batteries (g)	425
Shock resistance (G)	500
Quick release	Yes
Battery type	1x 18650 Lithium
Battery life, high / low (hours)	2 / 4
Operating temperature range (°C)	-20 to +50 (IR) -10 to +50 (Green)
Storage temperature range (°C)	-40 to +60
Waterproofing	IP67



IRIL 1000M mounted on M134 Minigun

The AN series of binoculars incorporates Porro prisms and multi-coated lenses, delivering impressive light transmission and resolution for brilliantly clear vision.

Non-slip UV-resistant rubber armoring makes these binoculars comfortable to operate even in cold weather. They are waterproof and shockproof, feature an M-22 reticle and compass (AN 7x50 MC only) and adhere to the latest military standards while remaining light and compact.

Optics	AN 8x30M22	AN 7x50MC	AN 7x50M22	AN 10x50M22	AN 20x80M22
Magnification (x)	8	7	7	10	20
Objective lens diameter (mm)	30	50	50	50	80
Focus range (m)	4 - ∞	5 - ∞	5 - ∞	6 - ∞	18 - ∞
Exit pupil (mm)	3.8	7	7	5	4
Eye relief (mm)	18.5	23	23	19	16
Field of view - Angular (°)	8	7.2	8	7	3.3
Apparent field of view (°)	64	50.4	56	70	66
Field of view @ 1,000yd (feet)	421	379	421	368	173
Field of view @ 1,000m (metres)	140	126	140	123	58
Diopter adjustment range	±5	±5	±5	±5	±10
Twilight factor	15.5	19	19	22.4	40
Relative brightness	16	49	49	25	16
Transmission (%)	85	95	95	95	95
Resolution (Center) (inches)	-	-	-	-	≤3
Lens & Prism coating	FMC	FMC	FMC	FMC	FMC
Prism Type	Porro	Porro	Porro	Porro	Porro
Prism Glass Material	BAK-4	BAK-4	BAK-4	BAK-4	BAK-4
Reticle type	M22	M22	M22	M22	M22
<b>Mechanics &amp; Environmental</b>					
Interpupillary distance (mm)	52-76	56-74	56-74	56-74	56-74
Weight (g)	685	1,046	1,363	1,309	2,498
Dimensions	125x162x62	152x190x83	195x195x75	180x190x73	298x230x95
Illuminated compass	No	Yes	No	No	No
Tripod mountable	Yes	Yes	Yes	Yes	Yes
Battery type	n/a	LR44	n/a	n/a	n/a
Operating temperature range (°C)	-30 to +55	-30 to +60	-40 to +70	-40 to +70	-40 to +80
Storage temperature range (°C)	-40 to +65	-45 to +75	-45 to +75	-45 to +75	-45 to +85
Nitrogen purged	Yes	Yes	Yes	Yes	Yes
Waterproofing	MIL-STD-810G				6m / 30 min

# ULTRA LONG-RANGE OBSERVATION BINOCULAR

The BIG EYE 28x100ED is designed to meet the most demanding specifications and is capable of withstanding extreme maritime weather. It is useful as a marine binocular, a border-guarding instrument, or for other observational applications where long-range viewing is required.

The BIG EYE 28x100ED has massive 100mm objective lenses, BAK-6 prisms, and precision-ground, multi-coated optics. Optical quality is extraordinary with true edge-to-edge image clarity. Oversized, individually-focusing ocular lenses are set at an angle for comfortable viewing and have foldable eyecups. The mounted device swivels a full 360° horizontally and 135° vertically. The BIG EYE 28x100ED is nitrogen-filled to prevent fogging and is supplied with a hard case equipped with a lock. It can also be coupled with one or two NVS 14 series night vision monoculars for night operation.

Optics	BIG EYE 28x100 ED
Magnification (x)	28
Objective lens diameter (mm)	100
Focus range (m)	30 - ∞
Exit pupil (mm)	3.6
Eye relief (mm)	16
Apparent field of view (°)	70
Real field of view (°)	2.5
Field of view @ 1000m (m)	43.7
Interpupillary distance (mm)	53-76
Relative brightness	13
Diopter adjustment range	-5 to +2
Lens coating	FMC, ED Glass
<b>Mechanics &amp; Environmental</b>	
Weight, g	6,800
Dimensions	553x270x172
Tripod mountable	Yes
Operating temperature range (°C)	-35 to +50
Storage temperature range (°C)	-50 to +60
Humidity (%)	90
Nitrogen purged	Yes
Waterproofing	MIL-STD-810G



# BIG EYE 28x100ED



Newcon Optik's accessories multiply the usefulness of tactical devices by protecting them from glare, and/or by allowing them to be tripod- or weapon-mounted. Newcon Optik also offers optional magnifying lenses for use with the HDS 3AA and NC 1x21.



**HDS 3x Lens**

Flip-to-side 3x magnification add-on lens for use with HDS 3AA and NC 1x21.



**HDS 5x Lens**

Flip-to-side 5x magnification add-on lens for use with HDS 3AA and NC 1x21.



**Tripods**

Series of optional tripods for use with all tripod-mountable devices



**NC 4x32 ARF, NC 6x50 ARF, & HDS 3AA ARF**

Anti-reflection filter for use with NC 4x32, NC 6x50, and HDS 3AA



**30mm QR Scope Mount & 34mm QR Scope Mount**

Quick-release Picatinny sniperscope mounts



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