SPECTRONIGHT

Master The Dark

DIGITAL LOW LIGHT NIGHT VISION PRODUCT CATALOG

CONTENTS

CONTENTS

Page 1 Advanced Digital Handheld Night Vision Device **D2L-10H**

Page 3 Advanced Digital Low Light Monocular **D2L-14L**

Page 5 Advanced Digital Low Light Monocular **D2L-14**

Page 7 Advanced Digital Low Light Binocular **D2L-31**

Page 9 Advanced Digital Panoramic Night Vision Googles **D2L-18**

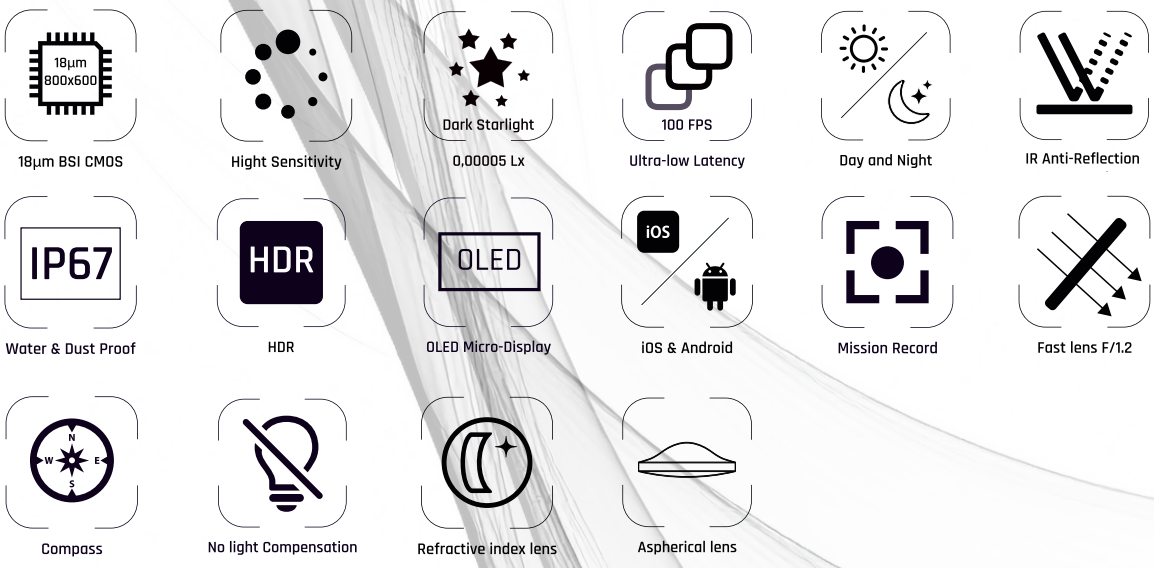
Page 11 Advanced Fusion Sight Digital Night Vision Monocular **D2L-20F**

Page 13 Advanced Fusion Sight Digital Night Vision Goggle-Binocular **D2L-31F**

D2L-10H

Advanced Digital Handheld Night Vision Device





I Product Introduction

The D2L-10H Advanced Digital Handheld Night Vision Device utilizes a high-performance 1-inch target surface solid-state low-light imaging device, featuring high sensitivity, high reliability, resistance to bright light, and suitability for both day and night use. It can achieve low-latency, high-speed, clear continuous imaging under starlight conditions, and is capable of real-time output of low-light images.

I Product Features

- 18μm large pixel, ultra-high sensitivity
- Clear imaging with 800x600 resolution
- Compact structure, lightweight body
- All-weather use, suitable for various environments
- Real-time video streaming
- Monocular alternative to PVS-14
- Binocular alternative to PVS-31
- ASIC-based control, high frame rate, low latency, low power consumption
- Supports photo taking and video recording, with an external micro SD

D2L-10H

Advanced Digital Handheld Night Vision Device



Applications

- Outdoor night vision
- Police enforcement
- Safety rescue
- Forest monitoring
- Camping adventure

Main Technical Parameters	
Device parameters	
Image sensor dimension	1 inch
Spectral response range	400nm～1100nm
Image resolution	800×600
Pixel size	18μm
Minimum Illumination (No light compensation)	0.00005Lx
OLED resolution	800×600
Frame rate	25Hz/50Hz【1】
Optical Parameters	
Objective lens focal length	19.8mm
F/#	F1.05
FOV	50°（≈40°×30°）
Exit pupil	8mm
Exit relief	23mm
Magnification	1×
Min. Objective focus	250mm
Diopter	-4D～+4D
The parameters of the entire machine	
Boot time	＜4s
Battery	One 18650 rechargeable lithium battery, Compatible with two CR123A/16340 disposable lithium batteries in series for temporary use (Not waterproof in this case)
Operation time	＞7hours
Size	115×48×81 (mm)
Mechanical interface	1/4-20 UNC thread (for use with tripod)
Extensible electrical interface	Type-C
Degree of protection	IP67
Weight (Including battery, excluding holder)	＜365g (Magnesium-Aluminum Alloy,Battery 18650) /＜355g (Magnesium-Aluminum Alloy,Battery 16340 /CR123A)
Environmental adaptability	Operating Temperature：-20℃～55℃ (Expandable to -40℃～60℃)
	Storage Temperature：-25℃～55℃ (Expandable to -45℃～70℃)
DRI for Human	935m (Detection) /468m (Recognition) /234m (Identification)
DRI for Vehicle	1265m (Detection) /633m (Recognition) /316m (Identification)

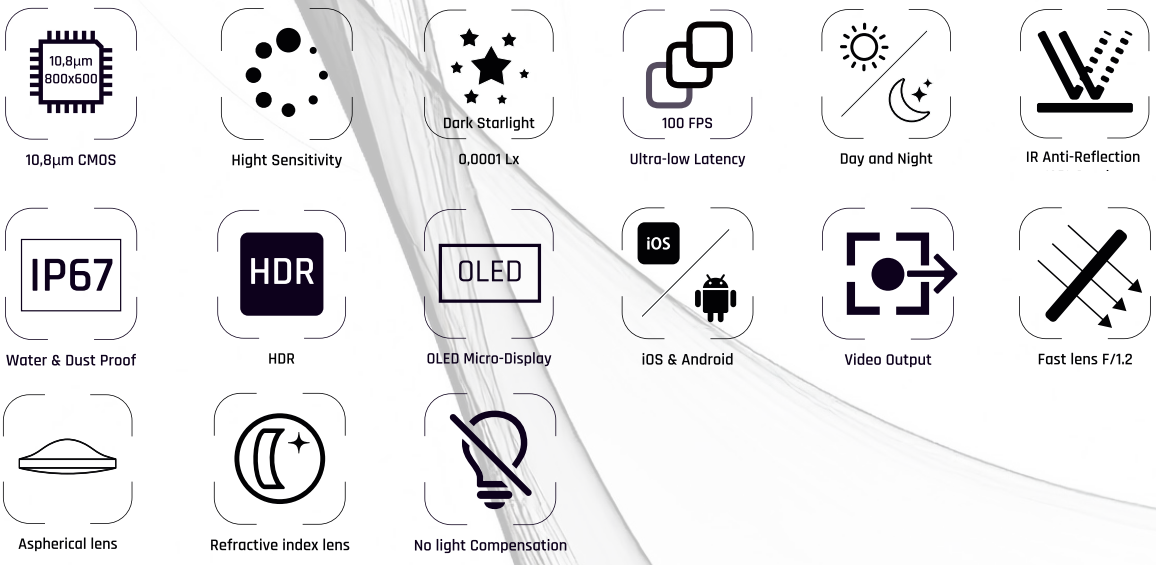
Note：【1】Customizable at 30Hz/60Hz；

D2L-14L

Advanced Digital Low Light Monocular







I Product Introduction

The advanced digital low-light monocular D2S-14L adopts a 2/3-inch second-generation high-performance BSI CMOS solid-state image sensor, featuring ultra-high sensitivity and outstanding reliability. It is capable of low-latency, high-speed, clear and continuous imaging under starlight conditions. Thanks to its excellent performance even in strong-light environments, it works reliably both day and night and can output real-time low-light images at any time.

I Product Features

- 10.8μm large pixel size with super-sensitivity
- Clear imaging with 800x600 resolution
- Compact structure, lightweight body
- All-weather use, suitable for various environments
- Real-time video streaming
- Monocular alternative to PVS-14
- Binocular alternative to PVS-31
- ASIC-based control, high frame rate, low latency, low power consumption
- many more

D2L-14L

Advanced Digital Low Light Monocular



Applications

- Outdoor night vision
- Police enforcement
- Safety rescue
- Forest monitoring
- Camping adventure

Main Technical Parameters	
Device parameters	
Image sensor dimension	2/3 inch
Spectral response range	400nm～1100nm
Image resolution	800×600
Pixel size	10.8μm
Minimum Illumination (No light compensation)	0.0001Lx
OLED resolution	800×600
Frame rate	50Hz/100Hz【1】
Optical Parameters	
Objective lens focal length	12mm
F/#	F1.2
FOV	50°（>40°×30°）
Exit pupil	8mm
Exit relief	23mm
Magnification	1×
Min. Objective focus	250mm
Diopter	-4D～+4D
The parameters of the entire machine	
Boot time	<4s
Battery	One 16340 rechargeable lithium battery Compatible with CR123A disposable lithium battery and 18650 rechargeable lithium battery【2】
Operation time	>16hours【3】
Size	109×57×66 (mm) Battery 18650 90×57×66 (mm) Battery 16340 /CR123A
Mechanical interface	Helmet mounting with a standard wilcox interface
Extensible electrical interface	9-core aviation socket
Degree of protection	IP67
Weight (Including battery, excluding holder)	<286g (Magnesium-Aluminum Alloy,Battery 18650) /<250g (Magnesium-Aluminum Alloy,Battery 16340 /CR123A)
Environmental adaptability	Operating Temperature：-20℃～55℃ (Expandable to -40℃～60℃)
	Storage Temperature：-25℃～55℃ (Expandable to -45℃～70℃)
DRI for Human	633m (Detection) /312m (Recognition) /156m (Identification)
DRI for Vehicle	843m (Detection) /422m (Recognition) /211m (Identification)

Note：【1】Customizable at 60Hz/120Hz；

【2】The product image shows a short battery cap for a 16340 battery. When using an 18650 battery, a longer battery cap needs to be replaced；

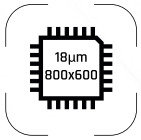
【3】Normal temperature 25℃, default working frame rate 100Hz, 18650 rechargeable lithium battery (voltage 3.7V, capacity 3400mAh) continuous working time > 16 hours; normal temperature 25℃default working frame rate 100Hz, CR123A disposable lithium battery continuous working time > 5hours; normal temperature 25℃,default working frame rate 100Hz, 16340 rechargeable lithium battery (voltage 3.7V, capacity 900mAh) continuous working time > 5hours. When the working frame is 50Hz, the power consumption will decrease and the continuous working time will increase.

D2L-14

Advanced Digital Low Light Monocular







18μm BSI CMOS


Hight Sensitivity



0,00005 Lx



Ultra-low Latency


Day and Night


IR Anti-Reflection



Water & Dust Proof



HDR



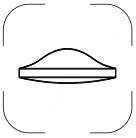
OLED Micro-Display



iOS & Android


Video Output


Fast lens F/1.2


Aspherical lens


Refractive index lens


No light Compensation

I Product Introduction

The advanced digital low-light monocular D2L-14 adopts 1-inch second-generation high-performance BSI CMOS solid-state image sensor, featuring super sensitivity and high reliability. It's capable of low-latency, high-speed, clear and continuous imaging under starlight conditions. By well-functioning also in strong light environment, it works day and night, and can output low-light images in real time.

I Product Features

- 18μm large pixel size with super-sensitivity
- Clear imaging with 800x600 resolution
- Compact structure, lightweight body
- All-weather use, suitable for various environments
- Real-time video streaming
- Monocular alternative to PVS-14
- Binocular alternative to PVS-31
- ASIC-based control, high frame rate, low latency, low power consumption
- many more

D2L-14

Advanced Digital Low Light Monocular



Applications

- Outdoor night vision
- Police enforcement
- Safety rescue
- Forest monitoring
- Camping adventure

Main Technical Parameters	
Device parameters	
Image sensor dimension	1 inch
Spectral response range	400nm～1100nm
Image resolution	800×600
Pixel size	18μm
Minimum Illumination (No light compensation)	0.00005Lx
OLED resolution	800×600
Frame rate	50Hz/100Hz【1】
Optical Parameters	
Objective lens focal length	19.8mm
F/#	F1.05
FOV	50°（≥40°×30°）
Exit pupil	8mm
Exit relief	23mm
Magnification	1×
Min. Objective focus	250mm
Diopter	-4D～+4D
The parameters of the entire machine	
Boot time	≤4s
Battery	One 16340 rechargeable lithium battery Compatible with CR123A disposable lithium battery and 18650 rechargeable lithium battery【2】
Operation time	≥18hours【3】
Size	113×57×66 (mm) Battery 18650 95×57×66 (mm) Battery 16340 /CR123A
Mechanical interface	Helmet mounting with a standard wilcox interface
Extensible electrical interface	9-core aviation socket
Degree of protection	IP67
Weight (Including battery, excluding holder)	≤299g (Magnesium-aluminium alloy,Battery 18650) /≤263g (Magnesium-aluminium alloy,Battery 16340 /CR123A)
Environmental adaptability	Operating Temperature：-20℃～55℃ (Expandable to -40℃～60℃)
	Storage Temperature：-25℃～55℃ (Expandable to -45℃～70℃)
DRI for Human	935m (Detection) /468m (Recognition) /234m (Identification)
DRI for Vehicle	1265m (Detection) /633m (Recognition) /316m (Identification)

Note：【1】Customizable at 60Hz/120Hz；

【2】The product image shows a short battery cap for a 16340 battery. When using an 18650 battery, a longer battery cap needs to be replaced；

【3】Normal temperature 25℃, default working frame rate 100Hz, 18650 rechargeable lithium battery (voltage 3.7V, capacity 3400mAh) continuous working time > 18 hours; normal temperature 25℃default working frame rate 100Hz, CR123A disposable lithium battery continuous working time > 6hours; normal temperature 25℃,default working frame rate 100Hz, 16340 rechargeable lithium battery (voltage 3.7V, capacity 900mAh) continuous working time > 5hours. When the working frame is 50Hz, the power consumption will decrease and the continuous working time will increase.

D2L-31

Advanced Digital Low Light Binocular





18μm BSI CMOS

Hight Sensitivity

Dark Starlight
0,00005 Lx

100 FPS
Ultra-low Latency

Day and Night

IR Anti-Reflection

Aspherical lens

IP67
Water & Dust Proof

HDR
HDR

OLED
OLED Micro-Display

iOS
iOS & Android

Mission Record

Fast lens F/1.2

Refractive index lens

No light Compensation

Compass

Stereoscopic

Wireless

Wireless Videostream

I Product Introduction

The advanced digital low-light binocular D2L-31 adopts 1-inch second-generation high-performance BSI CMOS solid-state image sensor, featuring super sensitivity and high reliability. It's capable of low-latency, high-speed, clear and continuous imaging under starlight conditions. By well-functioning also in strong light environment, it works day and night, and can output low-light images in real time.

I Product Features

- 18μm large pixel size with super-sensitivity
- Automatic power off when side flipped
- Real-time image storage and transmission to the rear
- Receive and display external image sources
- Real-time image storage and transmission to the rear an App
- Receive and display external image sources
- ASIC controller, ultra-low power consumption, extended working time

D2L-31

Advanced Digital Low Light Binocular



Applications

- Outdoor night vision
- Police enforcement
- Safety rescue
- Forest monitoring
- Camping adventure

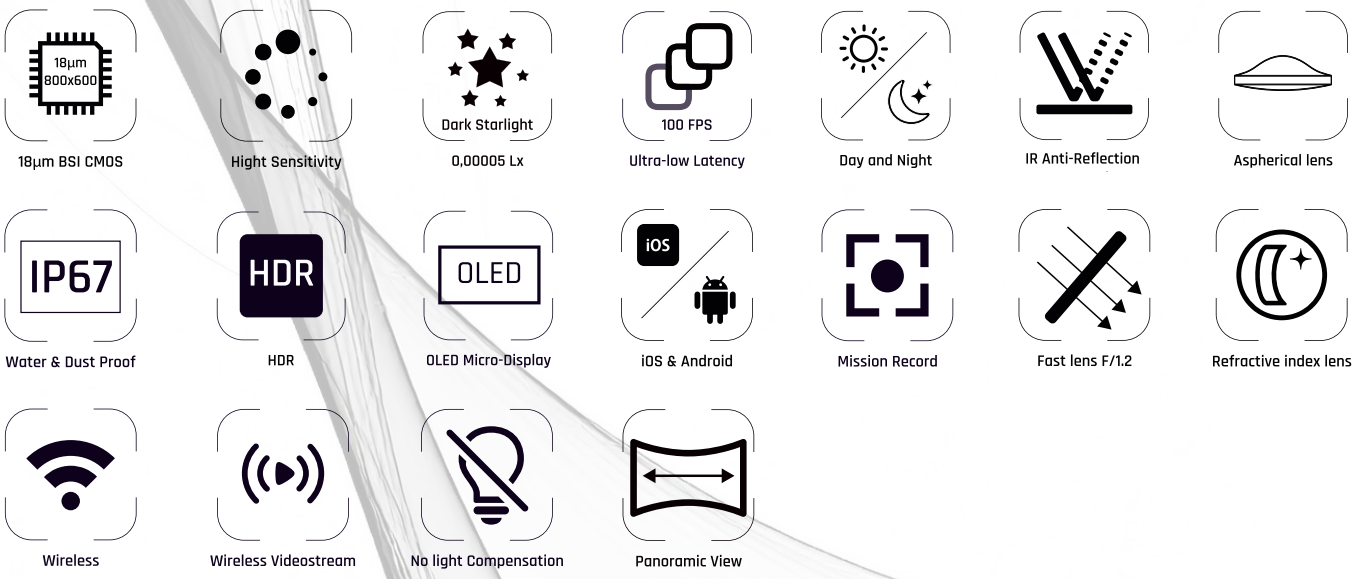
Main Technical Parameters	
Device parameters	
	Low light
Image sensor dimension	1 inch
Spectral response range	400nm～1100nm
Image resolution	800×600
Pixel size	18μm
Minimum illumination (No light compensation)	0.00005 Lx
OLED resolution	800×600
Frame rate	50Hz/100Hz【1】
Optical parameters	
Objective lens focal length	19.8mm
F/#	F1.05
FOV	50° (>40°×30°)
Exit pupil	8mm
Exit relief	23mm
Magnification	1×
Min. Objective focus	250mm
Diopter	-4D～+4D
The parameters of the entire machine	
Boot time	<4s
Battery	Four 18650 rechargeable lithium batteries
Max. Operation time	>38hours
Size	107×106×89 (mm)
Mechanical interface	Standard wilcox interface
Extensible electrical interface (Battery compartment)	Type-C
Degree of protection	IP67
Weight (Goggle only)	<590g (Aluminium alloy)
System weight (Including four batteries)	<1120g (Aluminium alloy, Composite resin)
Environmental adaptability	Operating Temperature：-20℃～55℃ (Expandable to -40℃～60℃)
	Storage Temperature：-25℃～55℃ (Expandable to -45℃～70℃)
DRI for Human	935m (Detection) /468m (Recognition) /234m (Identification)
DRI for Vehicle	1265m (Detection) /633m (Recognition) /316m (Identification)

Note：【1】Customizable at 60Hz/120Hz；

D2L-18

Advanced Digital Panoramic Night Vision Googles





I Product Introduction

The D2L-18G Advanced Digital Wide Field of View Night Vision Goggles utilize a high-performance 1-inch target surface solid-state low-light imaging device, characterized by high sensitivity, high reliability, resistance to bright light, and suitability for both day and night use. They can achieve low-latency, high-speed, clear continuous imaging under starlight conditions and are capable of real-time output of low-light images.

I Product Features

- 18μm large pixel size with super-sensitivity
- Clear imaging with a resolution of 800×600
- 103° horizontal panoramic field of view, seamless connection, no blind spots
- ASIC main control, ultra-low power consumption, extended operating time
- Lightest panoramic NVG
- Compact structure, lightweight body
- All-weather use, suitable for various environments

D2L-18

Advanced Digital Panoramic Night Vision Googles



Applications

- Outdoor night vision
- Police enforcement
- Safety rescue
- Forest monitoring
- Camping adventure

Main Technical Parameters	
Device parameters	
Image sensor dimension	1 inch
Spectral response range	400nm～1100nm
Image resolution	800×600
Pixel size	18μm
Minimum illumination (No light compensation)	0.00005Lx
OLED resolution	800×600
Frame rate	50Hz/100Hz【1】
Optical Parameters	
Objective lens focal length	19.8mm
F/#	F1.2
FOV	103° (Horizontal)
Exit pupil	8mm
Exit relief	21mm
Magnification	1×
Min. Objective focus	250mm
Diopter	External diopter piece
The parameters of the entire machine	
Boot time	＜4s
Battery	Four 18650 rechargeable lithium batteries
Operation time	＞22hours
Size	209×98×90 (mm)
Mechanical interface	Standard wilcox interface
Extensible electrical interface	Type-C
Degree of protection	IP67
Weight (Goggle only)	＜635g (Magnesium-aluminium alloy, Aluminium alloy, Composite resin)
System weight (Including four batteries and cables)	＜1180g (Magnesium-aluminium alloy, Aluminium alloy, Composite resin)
Environmental adaptability	Operating Temperature：-20℃～55℃ (Expandable to -40℃～60℃)
	Storage Temperature：-25℃～55℃ (Expandable to -45℃～70℃)
DRI for Human	935m (Detection) /468m (Recognition) /234m (Identification)
DRI for Vehicle	1265m (Detection) /633m (Recognition) /316m (Identification)

Note：【1】Customizable at 60Hz/120Hz；

D2L-20F

Advanced Fusion Sight Digital Night Vision Monocular





18μm BSI CMOS

Hight Sensitivity

Dark Starlight
0,00005 Lx

100 FPS
Ultra-low Latency

Day and Night

IR Anti-Reflection

Aspherical lens

IP67
Water & Dust Proof

HDR
HDR

OLED
OLED Micro-Display

iOS
iOS & Android

Mission Record

Fast lens F/1.2

Refractive index lens

12μm LWIR

Compass

Wireless

Wireless Videostream

No light Compensation

I Product Introduction

The advanced fusion sight digital night vision monocular D2L-20F is a monocular fusion goggle that combines digital low-light and thermal observation, as well as target positioning functions. It features high sensitivity, digital fusion, compatibility for day and night use, high refresh rate, and low latency. It can be quickly connected to a helmet with a helmet bracket. This product can achieve fusion of low-light and thermal images, fully combining their respective advantages in the field of night vision, and has stronger image capture
capability.

I Product Features

- 18μm large pixel size with super-sensitivity
- 640×512 infrared thermal imaging
- Real-time fusion of low-light and thermal (infrared) digital pixel-level imagery, with no misalignment
- Real-time image storage and transmission to the rear and App
- Receive and display external image sources
- ASIC controller, ultra-low power consumption, extended working time

D2L-20F

Advanced Fusion Sight Digital Night Vision Monocular



Applications

- Outdoor night vision
- Police enforcement
- Safety rescue
- Forest monitoring
- Camping adventure

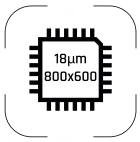
Main Technical Parameters		
Device parameters		
	Low light	Thermal
Image sensor dimension	1 inch	-
Spectral response range	400nm～1100nm	8μm～14μm
Image resolution	800×600	640×512
Pixel size	18μm	12μm
Minimum illumination (No light compensation)	0.00005 Lx	-
OLED resolution	800×600	
Frame rate	50Hz/100Hz	
Optical parameters		
Objective lens focal length	19.8mm	10.6mm
F/#	F1.05	F1.0
FOV	50° (›40°×30°)	
Exit pupil	8mm	
Exit relief	23mm	
Magnification	1×	
Min. Objective focus	250mm	
Diopter	-4D～+4D	
The parameters of the entire machine		
Boot time	‹4s	
Battery	Four 18650 rechargeable lithium batteries	
Max. Operation time	›75hours (Low-power mode)	
Size	98×61×80 (mm)	
Mechanical interface	Standard wilcox interface	
Extensible electrical interface (Battery compartment)	Type-C	
Degree of protection	IP67	
Weight (Goggle only)	‹348g (Aluminium alloy)	
System weight (Including four batteries and mount)	‹1020g (Aluminium alloy, Composite resin)	
Environmental adaptability	Operating Temperature：-20℃～55℃ (Expandable to -40℃～60℃)	
	Storage Temperature：-25℃～55℃ (Expandable to -45℃～70℃)	
DRI for Human	935m (Detection) /468m (Recognition) /234m (Identification)	751m (Detection) /375m (Recognition) /188m (Identification)
DRI for Vehicle	1265m (Detection) /633m (Recognition) /316m (Identification)	1016m (Detection) /508m (Recognition) /254m (Identification)

D2L-31F

Advanced Fusion Sight Digital Night Vision Goggle-Binocular







18μm BSI CMOS


Hight Sensitivity



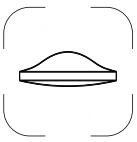
0,00005 Lx



Ultra-low Latency


Day and Night


IR Anti-Reflection


Aspherical lens



Water & Dust Proof



HDR



OLED Micro-Display

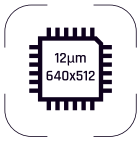


iOS & Android


Mission Record


Fast lens F/1.2


Refractive index lens



12μm LWIR



Compass


Stereoscopic


Wireless


Wireless Videostream


No light Compensation

I Product Introduction

The advanced fusion sight digital night vision goggle-binocular D2L-31F is a binocular fusion goggle that combines digital low-light and thermal (infrared) observation, as well as target positioning functions. It features high sensitivity, digital fusion, compatibility for day and night use, high refresh rate, and low latency. It can be quickly connected to a helmet with a helmet bracket. This product can achieve fusion of lowlight and infrared images, fully combining their respective advantages in the field of night vision, and has stronger image capture capability.

I Product Features

- 18μm large pixel size with super-sensitivity
- 640×512 infrared thermal imaging
- Real-time fusion of low-light and thermal (infrared) digital pixel-level imagery, with no misalignment
- Automatic power off when side flipped
- Real-time image storage and transmission to the rear an App
- Receive and display external image sources
- ASIC controller, ultra-low power consumption, extended working time
- Intelligent recognition of personnel targets, automatic selection, tracking and locking

D2L-31F

Advanced Fusion Sight Digital Night Vision Goggle-Binocular



Applications

- Outdoor night vision
- Police enforcement
- Safety rescue
- Forest monitoring
- Camping adventure

Main Technical Parameters		
Device parameters		
	Low light	Thermal / Infrared
Image sensor dimension	1 inch	-
Spectral response range	400nm～1100nm	8μm～14μm
Image resolution	800×600	640×512
Pixel size	18μm	12μm
Minimum illumination (No light compensation)	0.00005 Lx	-
OLED resolution	800×600	
Frame rate	50Hz/100Hz	
Optical parameters		
Objective lens focal length	19.8mm	10.6mm
F/#	F1.05	F1.0
FOV	50° (≥40°×30°)	
Exit pupil	8mm	
Exit relief	23mm	
Magnification	1×	
Min. Objective focus	250mm	
Diopter	-4D～+4D	
The parameters of the entire machine		
Boot time	≤4s	
Battery	Four 18650 rechargeable lithium batteries	
Max. Operation time	≥32hours	
Size	107×105×89 (mm)	
Mechanical interface	Standard wilcox interface	
Extensible electrical interface (Battery compartment)	Type-C	
Degree of protection	IP67	
Weight (Goggle only)	≤535g (Magnesium-aluminium alloy)	
System weight (Including battery and holder)	≤1080g (Magnesium-aluminium alloy、composite resin)	
Environmental adaptability	Operating Temperature：-20℃～55℃ (Expandable to -40℃～60℃)	
	Storage Temperature：-25℃～55℃ (Expandable to -45℃～70℃)	
DRI for Human	935m (Detection) /468m (Recognition) /234m (Identification)	751m (Detection) /375m (Recognition) /188m (Identification)
DRI for Vehicle	1265m (Detection) /633m (Recognition) /316m (Identification)	1016m (Detection) /508m (Recognition) /254m (Identification)

SPECTRONIGHT
Master The Dark

: www.spectronight.com

: info@spectronight.com

CEBAR INDUSTRIES
Prestige Tower 17, 10th floor
Al Barraq St.
MBZ city - Abu Dhabi