

- Vanadium oxide uncooled focal plane detector.
- Ultra-low power consumption.
- Fire detection and alarm.
- Connects to the mobile app through Wi-Fi.
- Connects to the external display through the CVBS port.
- Provides a laser for aiming.
- Calculates distance using video analysis.
- Lightweight and portable.
- IP67 rated.



ACH20-1B and ACH20-TPC-M20 cameras capture sharp thermal images of running targets and moving vehicles at a fast frame rate. These cameras display targets in high resolution, even if they are moving quickly. Designed to increase situational awareness at any time of day, ACH20 series cameras can detect humans, animals, and objects in complete darkness, haze, or through glaring light, equipping law enforcement professionals, hunters, and outdoor enthusiasts with reliable thermal imaging in tough conditions.

Advanced Image Processing

Designed to be precise, this monocular produces vivid video images through its enhanced detector image processing algorithm.

Video Ranging

With its hassle-free distance measurement feature, simply mark the top and bottom of a target on the screen, and the interface will automatically display the distance of the target from the monocular.

Fire Detection

Fire detection is now available for the first time with this monocular through Lorex's core technology. The monocular can automatically detect fires that break out in the scene and track them in real time.

Simultaneous Multi-user Connections

Multiple phones can connect to the monocular through the Wi-Fi at the same time. Through the mobile phone, you can watch the live view, capture images, record videos and configure parameters.

Diopter Adjustment

By using the diopter adjustment knob, the monocular can be set to match the eyesight of different users, ensuring that each user sees a clear image.

Laser Eye Protection

The laser pointer is used to indicate a position. To protect the eyes from being injured, the laser pointer is automatically disabled after 10 s.

Portable and Low Power Consumption

With its small and lightweight design, it functions for longer periods while remaining fully charged, making long-term outdoor use more convenient.

Scene

Widely used in outdoor scenarios for hunting, rescue, animal observation, and more.

Technical Specification

General

Appearance	Thermal Monocular Camera
Type	Monitor

Thermal

Detector Type	Vanadium oxide uncooled focal plane detector
Effective Pixels	256 × 192
Pixel Pitch	12 μm
Spectral Range	8 μm–14 μm
Sensitivity (NETD)	≤50 mK@f/1.0
Focal Length	7.5 mm; 10 mm; 15 mm
Aperture	F1.0
Field of View	7.5 mm (H: 24.0°; V: 18.0°) 10 mm (H: 17.3°; V: 13.1°) 15 mm (H: 11.7°; V: 8.8°)
Focus Control	Fixed-focal

Close Focus Distance	7.5 mm 1 m (3.28 ft) 10 mm 2 m (6.56 ft) 15 mm 3 m (9.84 ft)
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DRI Detection Distance	Focal Length	Detection Distance	Recognition Distance	Identification Distance
	7.5 mm	Vehicle: 777 m (2,549.21 ft) Human: 291 m (954.72 ft)	Vehicle: 194 m (636.48 ft) Human: 75 m (246.06 ft)	Vehicle: 97 m (318.24 ft) Human: 37 m (121.39 ft)
	10 mm	Vehicle: 1,111 m (3,645.01 ft) Human: 416 m (1,364.83 ft)	Vehicle: 277 m (908.79 ft) Human: 107 m (351.05 ft)	Vehicle: 97 m (318.24 ft) Human: 53 m (173.88 ft)
	15 mm	Vehicle: 1,666 m (5,465.88 ft) Human: 625 m (2,050.52 ft)	Vehicle: 416 m (1,364.83 ft) Human: 160 m (524.93 ft)	Vehicle: 208 m (682.41 ft) Human: 80 m (262.47 ft)

Digital Zoom	4 levels
Color Palettes	4 (white hot; alarm; rainbow; iron red)

Display

Video Compression	H.265
Frame Rate	50 Hz
Display Screen Dimensions	0.2 inch
Resolution	720 × 540

Function

Storage	Micro SD card (Max. 256G)
Laser Aiming	180 m (590.55 ft), Class 2 (IEC 60825-1)
Buzzer	Yes

Intelligence

Fire Detection	Yes
Cold/Hot Spot Trace	Yes

Port

Analog Output	1 × CVBS output
Wi-Fi Hotspot	Yes
USB	Micro USB

Power

Power Supply	5 VDC, 0.3 A or built-in battery
Battery Capacity Display	Yes
Power Consumption	<1.5 W
Battery Life	>9 h (Wi-Fi hotspot off, @25°C)
Charging Time	<3 h

Environment

Operating Temperature	–20 °C to +55 °C (–4 °F to +131 °F)
Operating Humidity	≤90%
Storage Temperature	–20 °C to +60 °C (–4 °F to +140 °F)

Physical Characteristics

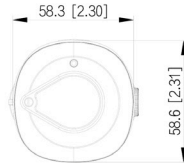
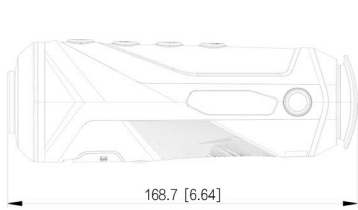
Protection	IP67
Product Dimensions	170.9 mm × 57.6 mm × 58.6 mm (6.73" × 2.27" × 2.31") (L × W × H)
Packaging Dimensions	205 mm × 148 mm × 111 mm (8.07" × 5.83" × 4.37") (L × W × H)
Net Weight	350 g (0.77 lb)
Gross Weight	1 kg (2.20 lb)
Installation	Handheld; tripod
Power Adapter	Included
Lens	Included
Bracket	Optional
Drop Test Height	2 m (6.56 ft)

Certification

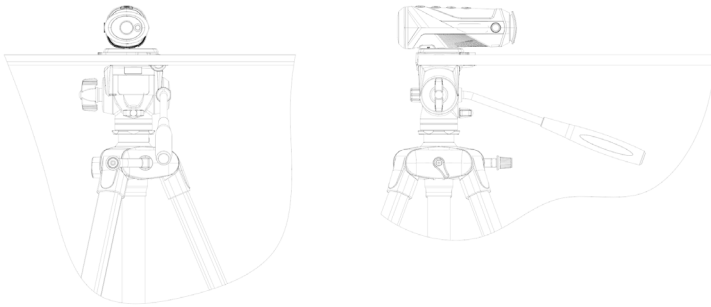
ACH20-TPC-M20	CE_DHQA-ESH-P21060763B FCC_DHQA-ESH-P21060764B
ACH20-1B	FCC: DHQA-ESH-P22030967B CE: 479742742-3 RCM: RCM23245 001 UKCA: 4790742742-1, 4790742742-2, 4790742742-3, 4790742742-4

Dimensions

1/4-20 (UNC)



Installation



Model Information

ACH20-1B	Thermal Monocular Camera	6-95529-04725-6
ACH20-TPC-M20	Thermal Monocular Camera	6-95529-04440-8

Package Dimensions

Package	Plain Box
Package Weight	3.06lb / 1.38kg
Package Dimensions (W x D x H)	8.0 x 5.8 x 4.3" / 203 x 147 x 109mm
Package Cube	0.007 cbf / 0.0002 cbm