



INTRODUCTION

The Fusion Vision System – Core (FVS Core) is a helmet-mounted, hands-free Augmented Reality device that provides essential thermal vision for firefighters and industrial users. The FVS Core enables users to see through smoke, locate hotspots, and record up to 80+ hours of video for training and review.

PRODUCT FEATURES

Thermal imaging technology paired with smart visual guidance supports first responders in the field today and in the future.

DISPLAY

640 x 1280 px
In-Plane Switching (IPS) Display

IMAGE MODES & FEATURES

- Hot Spot Mode
- Grayscale Mode
- Digital zoom - x1.1 - x2
- Digital Compass



Example: Grayscale Mode with 3rd Party Gas Detector Link via BLE

RUGGED & READY

All materials selected for the FVS Core have undergone extensive durability testing. The balanced design of the FVS Core ensures minimal neck strain.



Compact, Rugged, and Replaceable Design

COMPARISON

	FVS CORE	FVS
Thermal Resolutions	384x 288 @ 25 hz	320x 256 @ 60 hz
Image Modes	Greyscale, Hotspot	Greyscale, Hotspot, Edge Detect Fusion
Video Recording	X	X
Bluetooth(BLE)	X	X
WiFi, 4G LTE Cellular		X
Video/Data Streaming		X
Mobile device access		X

CONNECTIVITY & STORAGE

- Bluetooth (BLE) 5.2 to link with 3rd party IoT devices
- Video Recording - Minimum 32 GB of Storage (80+ hours)

ENGINEERING DESIGN



Compatible with Various Helmets

AFTER SALES SERVICES & SUPPORT

Longan Vision provides servicing, extended warranty, repair and accessories for the FVS Core. Continuous software and firmware updates will ensure the FVS Core is up-to-date and field-ready.



DETECTORS

Sensor Type	Array Format	Spectral Response	Thermal Sensitivity	Dynamic Range
Uncooled VOx Microbolo-meter	384 x 288 (12µm px) @ 25Hz	Longwave infrared; 8µm – 14µm	<50mK (0.06°C)	-20°C - 550°C (-40°F - 1022°F)

ENVIRONMENTAL DATA

Water Dust Resistance	IP67
Durability	Maximum Operating Temperature: <ul style="list-style-type: none"> 80°C for 30 minutes 120°C for 10 minutes 260°C for 5 minutes
Handling & Storage	From: -20°C (-4°F) Up to: +30°C (104°F) for maximum battery life.

ELECTRICAL DATA

Power Consumption	<4 W typical
Battery Materials	Lithium Iron Phosphate Rechargeable Battery
Battery Capacity	2000 mAh, 6.4V
Standard Battery life	Minimum 2 hours at 22°C (72°F)
Charge Time	1.5 hour
Recharge Cycles	2000 cycles minimum
Charging Environmental Temperature	From: 5°C (41°F) Up to: 40°C (104°F)

MECHANICAL DATA

Front Module Dimensions (HxWxD)	168mm x 172mm x 84mm (6.6" x 6.8" x 3.3")
Front Module Weight	less than 700g/1.54 lbs
Rear Module Dimensions (HxWxD)	106mm x 78mm x 53mm (4.1" x 3.1" x 2.1")
Rear Module Weight	less than 600g/1.34 lbs
Total Weight	less than 1200g/2.6lbs
Charger Type	USB Type-C
Camera Body	LWIR Camera Core
Casing Material	PESU/PPSU, Silicon cover
HUD Window Material	Polyetherimide (PEI)
Camera Lens Window Material	Germanium (2mm) w/ DLC coating

COMPLIANCE DATA

Performance	Designed for the NFPA 1930:2025 Standard: Thermal Imagers for the Fire Service	
Safety	UL 1642 IEC 62133-2 KC 62133-2 (2020-07) GB/XF-T 635 2023	UL 62368 IP67
RFI/EMC Emissions	FCC 47 CFR Part 15 Subpart C 15.247	
RoHS	All parts of the system are compliant with EU directive 2011/65/EC	

CONTACT

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