CF81-E Fisheye Camera

Expansive 180° Coverage with Clear 12MP Resolution

Overview

The CF81-E fisheye camera features a 1 / 2.3" progressive CMOS image sensor, 12MP of resolution, and 20 meters / 66 feet of IR range for reliable, wide-angle image quality amid varying lighting conditions as well as in inclement weather. For maximum visibility, users can choose from among five different viewing modes: digital pan-tilt-zoom (ePTZ), panoramic, 2-way split, 3-way split, and 4-way split. The CF81-E also includes an onboard CV22S Ambarella processor for advanced analytics like AI-powered search, AI-powered alerts, line crossing, and Person of Interest (POI) detection. The CF81-E is ideal for providing privacy-sensitive overview coverage of large areas like sidewalks, long corridors and hallway intersections, and retail spaces from a single install point.

The CF81-E is built with an in-house industrial design for durability and easy installation. The camera's IP67 weather and IK10 impact ratings help ensure reliable performance in harsh environments. Installation and setup are easy to track using the LED status indicator, while the included mount plate makes it easy to install the camera on ceilings or flat overhangs.

Key features

Excellent image quality

- 1 / 2.3" progressive CMOS image sensor
- 12MP resolution
- 20 meters / 66 feet of IR range for nighttime viewing

Extensive coverage and monitoring

- 180-degree field of view
- ePTZ, panoramic, and split viewing modes for enhanced live monitoring of large areas

Advanced analytics

- Onboard CV22S Ambarella processor enables people and vehicle analytics
- AI-powered search and AI-powered alerts

Durability and weather protection

- IP67 weather rating
- IK10 impact rating
- Operability between -40°C to 50°C / -40°F to 122°F

Hybrid cloud architecture

- Onboard storage and processing for reduced bandwidth consumption and coverage at scale
- 30 - 90 days (512GB - 2TB) of onboard storage
- Redundant cloud backup and unlimited cloud-based archiving of footage

Easy installation

- Mounting plate and screw pack included
- LED light status indicator
- Digital mute switch to quickly enable or disable audio

CF81-E
Tech specs

Camera features

Image sensor	1 / 2.3" Progressive CMOS	**Shutter speed**	1 / 30 sec. to 1 / 16,000 sec.
Sensor resolution[1]	12MP (4056 x 3040); resolution (3008 x 3008)	**Day/night**	IR-cut filter for day and night function
Lens type	Fixed	**IR-cut filter**	Yes
Focal length	1.18mm	**IR range**	20m / 66ft
Aperture	F2.18	**Minimum illumination**	0.009 lux @ F1.9 (Color) 0 lux with IR Illuminators on
Iris	Fixed	**Onboard storage**	Capacity: From 512GB to 2TB Card: MicroSD, SDXC
Field of view (after LDC[2]**)**	Horizontal: 180° Vertical: 180° Diagonal: 180°	**CPU**	Ambarella CV22S88
Camera movement	N/A		

Standard video settings

Compression	H.265, H.264	**Historical video settings**	Adaptive quality[1]
Frame rate[2]	24fps	**WDR Technology**	120dB dynamic range, true WDR, dual exposure
Live streaming settings	High quality (HQ): Up to 4,500 Kbps (default) Standard quality (SQ): Up to 600 Kbps		

Standard audio settings

Audio	Supported	**Interface**	Built-in microphone
Audio capacity	One-way audio	**Effective range**	5m / 15ft

Power and network

Power input[3]	With IR: IEEE 802.3af Type 1 PoE/IEEE 802.3at Type 2 PoE+ Extended temperature range: IEEE 802.3at Type 2 PoE+	**Connectivity**	RJ-45 cable connector for network/PoE connection; 10 / 100 Mbps
Power consumption[3]	With IR: 43-57V, 0.41-0.31A, 17.6W Without IR: 43-57V, 0.12-0.09A, 5.2W Extended temperature range: 43-57V, 0.57-0.42A, 24.1W	**RTSP**	RTSP 1.0 RFC 2326 Max concurrent streams: 2 Audio support: No

1. All our cameras record in "adaptive quality," capturing both standard (SQ) and high quality (HQ) streams. SQ video is stored up to the amount of retention specified by the customer. The amount of HQ video stored on the camera will depend on the amount of motion detected by the camera over time. To learn more, visit our website: https://docs.verkada.com/docs/adaptive-quality-recording-whitepaper.pdf.
2. Frame rate can be adjusted by support.
3. Extended temperature range includes operating temperatures below -8.5°C / 16.7°F and assumes IR will be enabled.

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Tech specs

General

Operating temperature	-40°C to 50°C / -40°F to 122°F	**LED indicator**	System power and status indicator
Humidity	0 to 90%	**Warranty**	10 years
Certifications	FCC, ICES, CE, UKCA, RCM, VCCI, KCC, BIS, NOM, UL/cUL/IEC 62368-1, CB, NCA, IK10 impact rating, IP67 weather rating, FY2019 NDAA compliant	**Included accessories**	Quick installation guide, screw packs, mount plate, mounting template, water-proof connectors, conduit adapter, T10 security driver, cable gland wrench

Mechanical

Weight	Camera: 1023g / 36.10oz Mount plate: 179g / 6.30oz	**Body**	Aluminum, plastic dome trim
Dimensions	Ø: 155.0mm / 6.10in, H: 71.6mm / 2.82in with mount plate Ø: 155.0mm / 6.10in, H: 64.4mm / 2.54in without mount plate		

Dimensions

Software capabilities

Alerts	Camera status, motion detection, people detection, vehicle detection, person of interest detection, crowd detection, AI-powered alerts	**Streaming and storage**	Cloud backup, configurable retention days, selectable storage location, low bandwidth mode, timelapse, RTSP
People analytics	People search, attribute search, face search, motion search, trajectory analysis,[4] selective face blurring, AI-powered search	**Sharing and privacy**	Live Links, privacy regions, audit log
Vehicle analytics	Vehicle search, attribute search, motion search, trajectory analysis,[4] AI-powered search		

4. Trajectory analysis is supported in four-way split, panoramic, and ePTZ circle mode.

Product information

CF81-E models

Model number	MP[1]	WDR	Lens	IR range	Onboard storage	Maximum SQ onboard retention[1]	People/ vehicle analytics
CF81-30E-HW	12MP	✓	Fixed	20m / 66ft	512GB	30 Days	✓
CF81-60E-HW	12MP	✓	Fixed	20m / 66ft	1TB	60 Days	✓
CF81-90E-HW	12MP	✓	Fixed	20m / 66ft	2TB	90 Days	✓

1. All our cameras record in "adaptive quality," capturing both standard and high quality streams. Standard quality (SQ) video is stored up to the amount of retention specified by the customer. The amount of high quality video stored on the camera will depend on the amount of motion detected by the camera over time. To learn more, visit our website: https://docs.verkada.com/docs/adaptive-quality-recording-whitepaper.pdf