



- 1/2.8" 2 Megapixel STARVIS™ CMOS
- Powerful 45x optical zoom
- Max. 50/60fps@1080P
- Auto tracking and IVS
- Supports Hi-PoE
- IR distance up to 550m
- IP67

System Overview

Featuring powerful optical zoom and accurate pan/tilt/zoom performance, this camera provides an all-in-one solution for capturing long distance video surveillance for outdoor applications. Together with infrared illumination and Starlight Technology, the camera is the perfect solution for dark, low light applications. The series combines a day/night mechanical IR cut filter for the highest image quality in variable lighting conditions during the day, and True WDR for applications with direct sunlight or glare.

Functions

Starlight Technology

For challenging low-light applications, Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing color details in low light down to 0.005 lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

Wide Dynamic Range (WDR)

The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology. For applications with both bright and low lighting conditions that change quickly, True WDR (120 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

Auto-tracking

This feature controls the pan/tilt/zoom actions of the camera to automatically track an object in motion and to keep it in the scene. The tracking action can be triggered manually or automatically by defined rules. Once a rule is triggered, the camera can zoom in and track the defined target automatically.

Smart H.265+

Smart H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. Smart H.265+ technology reduces bit rate and storage requirements by up to 70% when compared to standard H.265 video compression.

PFA Technology

PFA technology has innovatively introduced new methods of judgment to ensure the accuracy and predictability of the direction of subject distance adjustment. The result is a set of advanced focusing algorithms. PFA ensures clarity of the image throughout the process of zooming and shortens focus time. The realization of PFA technology substantially improves user experience and increases product value.

Environmental

With a temperature range of -40 °C to +60 °C (-40 °F to +140 °F), the camera is designed for extreme temperature environments. Subjected and certified to rigorous dust and water immersion tests, the IP67 rating makes it suitable for demanding outdoor applications. For environments with rain, sleet, snow and fog, an integrated wiper provides users with clear visibility at all times.

Protection

The camera allows for $\pm 25\%$ input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 8KV lightning rating provides effective protection for both the camera and its structure against lightning.

Interoperability

The camera conforms to the ONVIF (Open Network Video Interface Forum) specifications, ensuring interoperability between network video products regardless of manufacturer.

Technical Specification				
Camera				
Image Sensor	1/2.8" STARVIST™ CMOS			
Effective Pixels	1920(H) x 1080(V), 2 Megapixels			
RAM/ROM	1024M/128M			
Scanning System	Progressive			
Electronic Shutter Speed	1/1s~1/30,000s			
Minimum Illumination	Color: 0.005Lux@F1.6; B/W: 0.0005Lux@F1.6; 0Lux@F1.6 (IR on)			
S/N Ratio	More than 56dB			
IR Distance	Distance up to 550m (1804ft)			
IR On/Off Control	Auto / Manual			
IR LEDs	Laser module			
Wiper	Support			
Lens				
Lens Type	3.95mm~177.7mm			
Max. Aperture	F1.6~ F4.95			
Angle of View	H: 70.3° ~ 1.8°			
Optical Zoom	45x			
Focus Control	Auto/Manual			
Close Focus Distance	100mm~ 1000mm			
DORI Distance	Detect 2345m 7694ft	Observe 938m 3077ft	Recognize 469m 1539ft	Identify 234m 768ft
PTZ				
Pan/Tilt Range	Pan: 0° ~ 360° endless; Tilt: -20° ~ 90°,auto flip 180°			
Manual Control Speed	Pan: 0.1° ~200° /s; Tilt: 0.1° ~120° /s			
Preset Speed	Pan: 240° /s; Tilt: 200° /s			
Presets	300			
PTZ Mode	5 Pattern, 8 Tour, Auto Pan ,Auto Scan			
Speed Setup	Human-oriented focal Length/ speed adaptation			
Power up Action	Auto restore to previous PTZ and lens status after power failure			
Idle Motion	Activate Preset/ Scan/ Tour/ Pattern if there is no command in the specified period			
Protocol	ICR-SD, Pelco-P/D (Auto recognition)			
Intelligence				
Event Trigger	Motion detection, Video tampering , Scene changing, Network disconnection, IP address conflict, Illegal Access, Storage anomaly			
Auto Tracking	Support			
IVS	Tripwire, Intrusion, Object Abandoned/Missing			
Advanced Intelligent Functions	Face Detection, Heat Map			
Video				
Compression	H.265+/H.265/H.264+/H.264			
Streaming Capability	3 Streams			
Resolution	1080P(1920×1080)/1.3M(1280×960)/720P(1280×720)/D1(704×576/704×480)/CIF(352×288/352×240)			
Frame Rate	Main stream: 1080P/1.3M/720P(1~50/60fps) Sub stream1: D1/CIF(1 ~ 25/30fps) Sub stream2: 1080P/1.3M/720P/D1/CIF (1~25/30fps)			

Bit Rate Control	CBR/VBR
Bit Rate	H.265/H.264: 448K ~ 8192Kbps
Day/Night	Auto(ICR) / Color / B/W
Backlight Compensation	BLC / HLC / WDR(120dB)
White Balance	Auto, ATW, Indoor, Outdoor, Manual
Gain Control	Auto / Manual
Noise Reduction	Ultra DNR (2D/3D)
Motion Detection	Support
Region of Interest	Support
Electronic Image Stabilization (EIS)	Support
Defog	Support
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas
Audio	
Compression	G.711a/G.711Mu/AAC/G.722/G.726/G.729/ MPEG2-L2
Network	
Ethernet	RJ-45 (10Base-T/100Base-TX)
Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPoE, DDNS, FTP, IP Filter, QoS, Bonjour, 802.1x
Interoperability	ONVIF Profile S&G, CGI
Streaming Method	Unicast / Multicast
Max. User Access	20 users
Edge Storage	NAS (Network Attached Storage), Local PC for instant recording, Micro SD card 256GB
Web Viewer	IE, Chrome, Firefox, Safari
Management Software	SmartICRSS, DSS
Smart Phone	IOS, Android
Certifications	
Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB, ANSI C63.4- 2014
Interface	
Video Interface	1 port(BNC, 1.0V[p-p], 75Ω)
Audio Interface	1/1 channel In/Out
RS485	1
Alarm I/O	7/2
Electrical	
Power Supply	DC12V, Hi-PoE
Power Consumption	20W, 43W (IR on, Heater on)
Environmental	
Operating Conditions	-40° C ~ +60° C (-40° F ~ +140° F) / Less than 95% RH
Storage Conditions	-40° C ~ +60° C (-40° F ~ +140° F) / Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10
Construction	
Casing	Metal
Dimensions	Ø240mm x 357mm(9.45" x 14.06")
Net Weight	0.41kg (0.91lb)
Gross Weight	0.53 kg (1.17lb)

Accessories

Dimensions (mm/in)

