

# 4MP ePoE Network Dome Camera

Ultra Wide Dynamic Range Vari-focal Network Camera with Analytics+



# System Overview

The Dahua 4 MP ePoE camera offers Analytics+ functions at the edge – performing complex real-time face recognition, people counting, and perimeter protection surveillance. The Dahua Analytics+ algorithms significantly improve accuracy and reliability as compared to standard intelligent features. The camera is ideal for a host of diverse applications — Ultra Wide Dynamic Range and Smart IR technologies allow the camera to operate in any lighting condition and the IP67 and IK10 rating make the camera suitable for the harshest environments.

# Functions

#### Face Recognition

The camera includes human facial feature extraction, real-time facial snapshots, and supports a database of up to 200,000 face images and five (5) libraries. The feature enables a pro-active way to identify persons of interest before an incident occurs. The advanced processor extracts and categorizes various features, including age, gender, expression, and whether the target face wears glasses or sports facial hair. The camera is ideal for applications that require entrance/exit management, where knowing who is coming and going is a valuable asset.

#### People Counting

The camera uses complex real-time people counting algorithms to deliver accurate flow statistics from two distinct people counting functions, Line Crossing and Regional. The line crossing function counts the number of people crossing a defined line, and the regional function counts the number of people in a distinct, user-defined area. People counting is ideal for measuring the number of customers entering or exiting a location and to monitor groups of people in a distinct location.

#### Perimeter Protection

Dahua Analytics+ includes Tripwire and Intrusion functions that offer custom tripwires based on object type for automation in limited access areas. Perimeter Protection requires less pixels to detect an object to deliver improved accuracy and decreased false alarms due to lights, weather, trees, or animals.

- 1/1.8-in. 4 MP Progressive-scan CMOS Sensor
- Five-stream Encoding
- Smart H.265+ and Smart H.264+ Dual Codec
- 4 MP (2688 x 1520) at 60 fps Maximum Resolution
- 2.7 mm to 12 mm Motorized Vari-focal Lens
- Enhanced Power and Data Transmission Distances (ePoE)
- Analytics+ Functions Face Recognition, People Counting, Perimeter Protection, and Image Attribute Extraction
- Ultra Wide Dynamic Range (140 dB) and Day/Night IR Cut Filter
- Maximum IR LED Distance 40 m (131.23 ft)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty\*



#### Image Attribute Extraction

Analytics+ allows the camera to classify images in a video stream and then extract and store attributes and features for a specific image. The camera can distinguish between vehicle and human objects, track the object in real-time, and extract attributes, such as vehicle type, color, and make; or gender, clothing color, and facial attributes for people.

### Enhanced Power over Ethernet (ePoE) Technology

Dahua's innovative ePoE technology offers a plug-and-play solution to transmit power and data over long distances via Ethernet or coaxial cables, reducing installation time and saving money. ePoE technology is a viable, cost-effective solution for extending transmission distances and for converting existing, coax-based analog systems into IP systems. For new installations, ePoE offers the ability to design long-distance applications without the need for additional repeaters.

#### 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.

#### Environmental

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from  $-40^{\circ}$  C to  $+60^{\circ}$  C ( $-40^{\circ}$  F to  $+140^{\circ}$  F). The camera complies with an IK10 impact rating making it capable of withstanding the equivalent of 5 kg (11.02 lbs) of force dropped from a height of 40 cm (15.75 in.). Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating makes it suitable for demanding outdoor applications.



# **Technical Specification**

<table-container>Image Sensor1/1.8 in. 4 MP CMOSEffective Pixels268/1 ts C50Scanning Sytem2 68/1 ts C50Scanning Sytem2 68/1 ts C50Electronic Shutter SpeetAuto, Manual, Lifa's to 1/100, S is 30 IRE)IR Distance0 laix at F1.2 (u/i) filo is 30 IRE)IR DistanceDistance up to 40.0 m (131.2 is 1/100 is 1/100</table-container>						
Iffective Pice IRAM/ROMC6B/16 GBScanning SystemProgressiveElectronic Shutter SpeedAuto, Manual, I/3 sto 1/100,	Camera					
Scannig y=terGG/ 1G GBScannig y=terHorgressueElectronic Sutter SpeedGlor: 0.001 [ut at F1.2 (1/3 s, u / 100, 000]IR DistanceGlor: 0.001 [ut at F1.2 (1/3 s, u / 100, 000]IR DistanceColor: 0.001 [ut at F1.2 (1/3 s, u / 100, 000]IR DistanceGlor: 0.001 [ut at F1.2 (1/3 s, u / 100, 000]IR DistanceColor: 0.001 [ut at F1.2 (1/3 s, u / 100, 000]IR DistanceColor: 0.001 [ut at F1.2 (1/3 s, u / 100, 000]IR DistanceColor: 0.001 [ut at f1.2 (1/3 s, u / 100, 000]IR LEDSColor: 0.001 [ut at f1.2 (1/3 s, u / 100, 000]IR LEDSColor: 0.001 [ut at f1.2 (1/3 s, u / 100, 000]IR Augle of Uro: 0.001 [ut at f1.2 (1/3 s, u / 100, 000]Mount TypeColor: 0.001 [ut at f1.2 (1/3 s, u / 100, 000]Mount TypeF1.2 (100 [ut at f1.2 (1/3 s, u / 100, 000]Angle of ViceKaraYotical SourceKaraCose FocusNational (110 (ut at f1.2 (100, 000))Moltical Cose focusQu / 100, 000]Moltical Cose focusQu / 100, 000]Moltical Cose focusQu / 100, 000]Moltical Cose focusQu / 100, 000]InstallectureSub (100, 000)InstallectureSub (100, 000)InstallectureSub (100, 000)InstallectureSub (120, 000)InstallectureSub (120, 000)InstallectureSub (120, 000)InstallectureSub (120, 000)InstallectureSub (120, 000)InstallectureSub (120, 000)Ino	Image Senso	or	1/1.8-in. 4 MP CMOS			
In series of the series of t	Effective Pixels		2688(H) x 1520(V)			
Interval Electronic Sutter SpeedAuto, Manual, 1/3 sto 1/10.000 Sutter SpeedMinimum III minationGolor: 0.001 [ux at F1.2 (1/3 s, 3) IRE] Office SpeedSpeedIR DistanceDistance up to 4.0 m (131.23 ft)IR DistanceAuto, ManualIR CON/Off ControlAuto, ManualIR LEDSThere (3)Lens TypeElectric ZoomMount TypeElectric ZoomMax. ApertureElectric ZoomMax. ApertureF1.2Focal LengthModule InterfaceMax. ApertureF1.2Max. ApertureF1.2Max. ApertureKataAngle of ViewMoizontal: 111* to 47* Vertuia: 59* to 26* Diagonal: 135* to 51*Optical ZoomAutoAperture ConsolAutoAperture ConsolAutoMarkerMide: 1.0 m (3.2 ft) (19.2 ft) (28.2 ft)DORI Distance*Lens (18.2 ft) (19.2 ft)Mide60.10 m (187.18 ft) (19.2 ft)PORI Distance*Lens (18.2 ft) (19.2 ft)InstallationS1.40 m (187.18 ft) (28.2 ft)InstallationS1.40 m (18.2 ft) (19.9 ft)Streaming ConsolSint (19.2 ft) (19.9 ft)ResolutionSint (19.2 ft) (19.2 ft)Streaming ConsolSint (19.2 ft) (19.2 ft)Miniter ConsolSint (19.2 ft) (19.2 ft)Streaming ConsolSint (19.2 ft) (19.2 ft)Streaming ConsolSint (19.2 ft) (19.2 ft)Streaming ConsolSint (19.2 ft) (19.2 ft) <td colspan="2">RAM/ROM</td> <td>2 GB / 16 GB</td> <td></td> <td></td> <td></td>	RAM/ROM		2 GB / 16 GB			
Autonional International Operational	Scanning Sy	stem	Progressive			
Minimum illuminationO lux at F1.2 (with IR on)IR DistanceDistance up to 40.0 m (131.23 H)IR DistanceAuto, ManualIR LEDsThree (3)IR LEDsThree (3)Lens TypeElectric ZoomLens TypeElectric ZoomMount TypeModule Inter	Electronic S	hutter Speed	Auto, Manual,	1/3 s to 1/100,	000 s	
Auto, ManualIR LEDsThree (3)LensSince (3)Lens Type IElectric ZoomModul Intyre Colspan="2">Performance (3)Monut Type IModule Interformance (3)Module Intyre Colspan="2">Performance (3)Module Intyre Colspan="2">Performance (3)Module Intyre Colspan="2">Performance (3)Max. Aperture Colspan="2">Performance (3)Mark Aperture Colspan=(3)AvAppenture Colspan=(3)Mide: 1.0 m (3)Optical ZoomAvAppenture Colspan=(3)Mide: 1.0 m (3)Mark Aperture Colspan=(3)Mide: 1.0 m (3)Mark Aperture Colspan=(3)Mide: 1.0 m (2)Mark Aperture Colspan=(3)Mide: 1.0 m (2)Ma	Minimum III	umination				
Inte (3)Inte (3)Optical ZoomAutoInte (3)Inte (3)Int	IR Distance		Distance up to 40.0 m (131.23 ft)			
Image of the set of the	IR On/Off Co	ontrol	Auto, Manual			
Lens Type       Electric Zoom         Mount Type       Module Inter/accounce         Focal Length       2.7 mm to 12 module         Max. Aperture       F1.2         Max. Aperture       F1.2         Angle of View       Reformed to 47°         Optical Zoom       4x         Aperture Curol       Auto         Close Focus       Wide: 1.0 m (3.2 module)         Maide       Close formed to a figure	IR LEDs		Three (3)			
Module Interface         Focal Length       Module Interface         Focal Length       2.7 mm to 12 mm         Max. Aperture       F1.2         Magle of View       F1.2         Angle of View       4x         Aperture Control       4x         Aperture Control       Auto         Close Focus       Vide: 1.0 m (3.29 ft) Tele: 2.50 m (8.20 ft)       [dentify (76 ppf)         DORI Distance       Detect (8 ppf)       Observe (19 ppf)       Recognize (38 ppf)       [dentify (76 ppf)         DORI Distance       Uide       6.0 m (42.19 ft)       12.0 m (38.37 ft)       6.0 m (39.37 ft)         Installation       Telephoto       128.0 m (128.0 ft)       25.7 m (138.64 ft)       12.8 m (28.3 m)         Installation       Amger (9 m): °t o 355' Tilt: °t o 80'; FUE       12.8 m (84.32 ft)       12.8 m (14.9 ft)         Streaming Capability       Five (5) Stream:       Streaming Cabelity       Five (5) Stream:       12.8 m (1900 rt) 13 MP (128.0 spo), r20p (1280 x 720), 13 MP (128.0 x 50), VAG (640 x 480), r20p (1280 x 720), D1 (704 x 480), VAG (640 x 480), r20p (1280 x 720), D1 (704 x 480), VAG (640 x 480), r20p (1280 x 720), D1 (704 x 480), VAG (640 x 480), r20p (1280 x 720), D1 (704 x 480), VAG (640 x 480), r20p (1280 x 720), D1 (704 x 480), VAG (640 x 480), r20p (1280 x 720), D1 (704 x 480), VAG (640 x 480), r20p (1280 x 720), D1 (704 x 480), VAG (640 x 480), r20p (1280 x 720), D1 (704 x 480), VAG (640 x 480),	Lens					
Focal Length       2.7 mm to 12 mm         Max. Aperture       F1.2         Max. Aperture       F1.2         Angle of View       Reize introduction is 5° to 26° biagonal: 135° to 51°         Optical Zoom       4x         Aperture Control       Auto         Close Focus Distance       Vide: 1.0 m (3.29 ft) rele: 2.50 m (8.20 ft)         DORI       Distance       Observe (19 ppf)       Recognize (19.69 m)         DORI       Detect (19.07 m)       (12.0 m)       6.0 m)         DORI       Wide       6.0 10 m       24.0 m)       12.0 m)       6.0 m)         DORI       Wide       (187.18 ft)       (78.74 ft)       (19.93.7 ft)       12.80 m)         Installation       Auges of to 355', Tilt: 0° to 80°; Texture (19.93.7 ft)       12.80 m)       12.80 m)       12.80 m)         Installation       Miges (19.27 th)       12.40 m)       12.80 m)       12.80 m)       12.80 m)         Installation       Miges (19.27 th)       12.90 m)       12.80 m)	Lens Type		Electric Zoom			
Max. Aperture (Max. Apprture (Max.	Mount Type		Module Interfa	ace		
Angle of ViewHorizontal: 111° to 47° Vertical: 59° to 25° Diagonal: 135° to 51°Optical Zoom4xAperture OrtrolAutoClose Focus DistanceWide: 1.0 m (3.29 ft) Tele: 2.50 m (8.20 ft)DORI Distance1Detect (8 ppf)Observe (19 ppf)Recognize (38 ppf)MuideDetect (8 ppf)Observe (19 ppf)I.0 o m (39.37 ft)MuideColor (187.18 ft)12.0 m (78.74 ft)6.0 m (39.37 ft)DORI Distance1Telephoto128.60 m (187.18 ft)25.70 m (8.432 ft)12.80 m (41.99 ft)InstallatTelephoto128.60 m (187.18 ft)25.70 m (8.432 ft)12.80 m (41.99 ft)Installator Streaming CompressionSmart H.265+t, H.265, Smart H.264+, H.264, H.264 H, MPEG (sub stream only)25.70 m (19.52 x 240)Streaming CompressionFive (5) StreamSmart H.265 + J.255, Smart H.264+, H.264, H.264, H.264, H.264, H.264, H.264, H.265 x Stream only)Streaming CompressionFive (5) StreamSime (19.20 x + Sime), Sime (19.20 x	Focal Length	ı	2.7 mm to 12	mm		
Angle of ViewVertical: 59° to 26° Diagonal: 135° to 51°Optical Zoom4xAperture C+TrolAutoClose Focus DistanceWide: 1.0 m (3-27 ft) Tele: 2.50 m (8-27 ft) Tele: 2.50 m (8-27 ft)DORI Distance*Detect (8 ppf)Observe (19 ppf)Recognize (38 ppf)Identify (76 ppf)DORI Distance*Detect (8 ppf)Observe (19 ppf)Recognize (38 ppf)Identify 	Max. Apertu	ıre	F1.2			
Aperture CorrAutoClose Focus DistanceWide: 1.0 m (3.2 y ft) Tele: 2.50 m (8.2 v ft)DORI Distance1LensDetect (8.010 m (187.18 ft)Observe (19.0pf)Recognize (38.0pf)Identify (76.0pf) (76.0pf)DORI Distance1Wide60.10 m (187.18 ft)24.0 m (187.18 ft)12.0 m (39.07 ft)12.80 m (19.66 ft)Telephoto12.860 m (421.92 ft)51.40 m (186.64 ft)25.70 m (84.32 ft)12.80 m (41.99 ft)InstallationPan: 0' to 355' Tilt: 0' to 80'; Rotation: 0' to 355'12.80 m (41.99 ft)KangePan: 0' to 355' Tilt: 0' to 80'; Rotation: 0' to 'to 355'VideOPan: 0' to 355' Tilt: 0' to 80'; Rotation: 0' to 'to 'to 'to 'to 'to 'to 'to 'to 'to	Angle of View		Vertical: 59° to 26°			
Close Focus Distance       Wide: 1.0 m (3.29 ft) Tele: 2.50 m (8.20 ft)         DORI Distance*       Lens       Detect (8 ppf)       Observe (19 ppf)       Recognize (38 ppf)       Identify (76 ppf)         DORI Distance*       Wide       60.10 m (187.18 ft)       24.0 m (78.74 ft)       12.0 m (39.97 ft)       6.0 m (19.69 ft)         Telephoto       128.60 m (421.92 ft)       51.40 m (168.64 ft)       25.70 m (84.32 ft)       12.80 m (41.99 ft)         Installationary       Pan: 0* to 355"; Tilt: 0* to 80"; Rotation: 0* to 35"       12.80 m (41.99 ft)         Video       Smart H.265+, H.265, Smart H.264+, H.264, H	Optical Zoor	n	4x			
Close Focus Distance         Tele: 2.50 m (8.20 ft)           Tele: 2.50 m (8.20 ft)         Lens         Detect (8 ppf)         Observe (19 ppf)         Recognize (38 ppf)         Identify (76 ppf)           DORI         Wide         60.10 m (187.18 ft)         24.0 m (139.37 ft)         12.0 m (19.69 ft)           Distance <sup>1</sup> Telephoto         128.60 m (421.92 ft)         S1.40 m (84.32 ft)         12.80 m (41.99 ft)           Installation Angle         Pan: 0" to 355"; Tilt: 0" to 80"; Rotation: 0" to 35"         12.80 m (41.99 ft)           Kange         Pan: 0" to 355"; Tilt: 0" to 80"; Rotation: 0" to 35"         Streamine: 0" to 355"; Tilt: 0" to 80"; Rotation: 0" to 35"           Video         Smart H.265+, H.265, Smart H.264+, H.264, H.26	Aperture Co	ontrol	Auto			
Lens         (8 ppf)         (19 ppf)         (38 ppf)         (76 ppf)           DORI Distance <sup>1</sup> Wide         60.10 m (187.18 ft)         24.0 m (78.74 ft)         12.0 m (39.37 ft)         6.0 m (19.69 ft)           Telephoto         128.60 m (421.92 ft)         51.40 m (168.64 ft)         25.70 m (84.32 ft)         12.80 m (41.99 ft)           Installationary         Ange         Pan: 0* to 355"; Tilt: 0* to 80"; Nettion: 0* to 355"         12.80 m (41.99 ft)           Video         Smart H.265, Smart H.264, H.264, H.264B, H.264B, H.264H, MJPEG (sub stream only)         Streaming C*         Smart H.265; Smart H.264, H.264B, H.264H, MJPEG (sub stream only)           Streaming Capability         Five (5) Streams         Five (5) Streams         Stream only)         Stream (Add edu), V.GA (640 x 480), CIF (352 x 240)         Stream 2: 0, 0, 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480), CIF (352 x 240)         Main Stream: 4 MP (2688 x 1520) at 30 fps         Sto Stream 1: 04 x 576 at 30 fps           Frame Rate         Main Stream: 1080p (1920 x 1080) at 30 fps         Sub Stream 1: 04 x 576 at 30 fps         Sto Stream 3: 0400 (1920 x 1080) at 30 fps         Sto Stream 3: 0400 (1920 x 1080) at 30 fps         Sto Stream 3: 0400 (1920 x 1080) at 30 fps         Sto Stream 3: 0400 (1920 x 1080) at 30 fps         Sto Stream 3: 0400 (1920 x 1080) at 30 fps         Sto Stream 3: 0400 (1920 x 1080) at 30 fps         Sto Stream 3: 0400 (1920 x 1080) at 30 fps         Sto Stream 3: 0400 (192	Close Focus Distance		. ,			
Distance*       Wide       (187.18 ft)       (78.74 ft)       (39.37 ft)       (19.69 ft)         Distance*       Telephoto       128.60 m       51.40 m       25.70 m       12.80 m       (41.99 ft)         Installation       Angle       Pan: 0* to 355* Tilt: 0* to 80*; Reaction: 0* to 35*       25.70 m       12.80 m       (41.99 ft)         Range       Pan: 0* to 355* Tilt: 0* to 80*; Reaction: 0* to 35*       Station: 0* to 35*       Station: 0* to 35*       Station: 0* to 35*         Video       Samart H.265+, H.265, Smart H.264+, H.264+, H.264+, MJPEG (sub stream only)       Station: 0* to 35*       Stati		Lens			•	,
relephoto       (421.92 ft)       (168.64 ft)       (84.32 ft)       (41.99 ft)         Installation Angle       Pan: 0' to 355'; Tilt: 0' to 80'; Rotation: 0' to 355'       (168.64 ft)       (84.32 ft)       (41.99 ft)         Range       Pan: 0' to 355'; Tilt: 0' to 80'; Rotation: 0' to 355'       (168.64 ft)       (84.32 ft)       (41.99 ft)         Range       Pan: 0' to 355'; Tilt: 0' to 80'; Rotation: 0' to 355'       (168.04 ft)       (168.04 ft)       (168.04 ft)         Video       Streaming Compression       Simart H.265+, H.265, Smart H.264+, H.264H, H.264B, H.264B, H.264H, MJPEG (sub stream only)       (169.05)       (169.05)         Streaming Capability       Five (5) Stream: and only)       Five (5) Stream: and only)       (168.05)       (169.05)         Resolution       Five (5) Stream: 250), 3 MP (1280 × 720), 11 (704 × 41296), 10800 (1920 × 1080), 1.3 MP (1280 × 960), 7200 (1280 × 720), 11 (704 × 4576 at 30, VGA (640 × 480), (CF (352 × 240))       Sub Stream 1: 704 × 576 at 30 (ps       Sub Stream 1: 704 × 576 at 30 (ps       Sub Stream 1: 0800 (1920 × 1080) at 30 fps       Sub Stream 3: 10800 (1920 × 1080) at 30 fps       Sub Stream 4: 704 × 576 at 30 (ps       Sub Stream 4: 704 × 576 at 30 (ps       Sub Stream 4: 704 × 576 at 30 (ps       Sub Stream 4: 704 × 576 at 30 (ps       Sub Stream 4: 704 × 576 at 30 (ps       Sub Stream 4: 704 × 576 at 30 (ps       Sub Stream 4: 704 × 576 at 30 (ps       Sub Stream 4: 704 × 576 at 30 (ps       Sub Stream 4: 704 × 576 at 30 (ps		Wide				
RangePan: 0' to 355"; Tilt: 0' to 80'; Rotation: 0' to 355"VideoCompressionSmart H.265+, H.265, Smart H.264+, H.264, H.264B, H.264H, MJPEG (sub stream only)Streaming CapabilityFive (5) StreamsResolution4 MP (2688 x 1520), 3 MP (2304 x 1296), 1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480), CIF (352 x 240)Frame RateMain Stream: 4 MP (2688 x 1520) at 60 fps Sub Stream 1: 704 x 576 at 30 fpsFrame RateSub Stream 2: 1080p (1920 x 1080) at 30 fps Sub Stream 3: 1080p (1920 x 1080) at 30 fpsBit Rate ControlCBR/VBRBit RateH.264: 32 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 KbpsDay/NightAuto (ICR), Color, B/W		Telephoto				
VideoVideoCompressionSmart H.265+, H.265, Smart H.264+, H.264, H.264B, H.264H, MJPEG (sub stream only)Streaming CapabilityFive (5) StreamsResolutionGass x 1520), 3 MP (2304 x 1296), 1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480), CIF (352 x 240)Frame RateMain Stream: 4 MP (2688 x 1520) at 60 fps Sub Stream 1: 704 x 576 at 30 fpsFrame RateSub Stream 2: 1080p (1920 x 1080) at 30 fps Sub Stream 4: 704 x 576 at 30 fpsBit Rate ControlCBR/VBRBit RateH.264: 32 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 KbpsDay/NightAuto (ICR), Color, B/W	Installatio	on Angle				
CompressionSmart H.265+, H.265, Smart H.264+, H.264, H.264B, H.264B, MJPEG (sub stream only)Streaming CapabilityFive (5) StreamsResolution4 MP (2688 x 1520), 3 MP (2304 x 1296), 1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480), CIF (352 x 240)Frame RateMain Stream: 4 MP (2688 x 1520) at 60 fps Sub Stream 1: 704 x 576 at 30 fpsFrame RateSub Stream 2: 1080p (1920 x 1080) at 30 fps Sub Stream 3: 1080p (1920 x 1080) at 30 fpsBit Rate ControlCBR/VBRBit RateH.264: 32 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 KbpsDay/NightAuto (ICR), Color, B/W	Range		Pan: 0° to 355°; Tilt: 0° to 80°; Rotation: 0° to 355°			
CompressionSmart H.265+, H.265, Smart H.264+, H.264, H.264B, H.264B, MJPEG (sub stream only)Streaming CapabilityFive (5) StreamsResolution4 MP (2688 x 1520), 3 MP (2304 x 1296), 1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480), CIF (352 x 240)Frame RateMain Stream: 4 MP (2688 x 1520) at 60 fps Sub Stream 1: 704 x 576 at 30 fpsFrame RateSub Stream 2: 1080p (1920 x 1080) at 30 fps Sub Stream 3: 1080p (1920 x 1080) at 30 fpsBit Rate ControlCBR/VBRBit RateH.264: 32 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 KbpsDay/NightAuto (ICR), Color, B/W	Video					
Resolution         A MP (2688 x 1520), 3 MP (2304 x 1296), 1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480), CIF (352 x 240)           Main Stream: 4 MP (2688 x 1520) at 60 fps           Sub Stream 1: 704 x 576 at 30 fps           Sub Stream 2: 1080p (1920 x 1080) at 30 fps           Sub Stream 3: 1080p (1920 x 1080) at 30 fps           Sub Stream 4: 704 x 576 at 30 fps           Bit Rate Control         CBR/VBR           H.264: 32 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 Kbps           Day/Night         Auto (ICR), Color, B/W	Compressio	n				
Resolution         1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480), CIF (352 x 240)           Main Stream: 4 MP (2688 x 1520) at 60 fps           Sub Stream 1: 704 x 576 at 30 fps           Sub Stream 2: 1080p (1920 x 1080) at 30 fps           Sub Stream 3: 1080p (1920 x 1080) at 30 fps           Sub Stream 4: 704 x 576 at 30 fps           Bit Rate Control         CBR/VBR           Bit Rate         H.264: 32 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 Kbps           Day/Night         Auto (ICR), Color, B/W	Streaming C	apability				
Frame RateSub Stream 1: 704 x 576 at 30 fpsSub Stream 2: 1080p (1920 x 1080) at 30 fpsSub Stream 3: 1080p (1920 x 1080) at 30 fpsSub Stream 4: 704 x 576 at 30 fpsBit Rate ControlCBR/VBRBit RateH.264: 32 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 KbpsDay/NightAuto (ICR), Color, B/W			4 MP (2688 x 1520), 3 MP (2304 x 1296), 1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480),			
Frame Rate       Sub Stream 2: 1080p (1920 x 1080) at 30 fps         Sub Stream 3: 1080p (1920 x 1080) at 30 fps         Sub Stream 4: 704 x 576 at 30 fps         Bit Rate Control       CBR/VBR         Bit Rate       H.264: 32 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 Kbps         Day/Night       Auto (ICR), Color, B/W						
Sub Stream 3: 1080p (1920 x 1080) at 30 fps       Sub Stream 4: 704 x 576 at 30 fps       Bit Rate Control     CBR/VBR       Bit Rate     H.264: 32 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 Kbps       Day/Night     Auto (ICR), Color, B/W						
Sub Stream 4: 704 x 576 at 30 fps       Bit Rate Control     CBR/VBR       Bit Rate     H.264: 32 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 Kbps       Day/Night     Auto (ICR), Color, B/W	Frame Rate		Sub Stream 2: 1080p (1920 x 1080) at 30 fps			
Bit Rate ControlCBR/VBRBit RateH.264: 32 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 KbpsDay/NightAuto (ICR), Color, B/W			Sub Stream 3: 1080p (1920 x 1080) at 30 fps			
Bit RateH.264: 32 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 KbpsDay/NightAuto (ICR), Color, B/W			Sub Stream 4: 704 x 576 at 30 fps			
Bit Rate     H.265: 12 Kbps to 10240 Kbps       Day/Night     Auto (ICR), Color, B/W	Bit Rate Control		CBR/VBR			
	Bit Rate					
BLC, HLC, Ultra WDR (140 dB), SSA	Day/Night		Auto (ICR), Color, B/W			
	BLC Mode		BLC, HLC, Ultra WDR (140 dB), SSA			

White Balance		Auto, Natural, Street Lamp, Outdoor, Manual, Regional Custom		
Gain Control		Auto, Manual		
Noise Reduction		3D DNR		
Motion Detecti	ion	Off, On (4 Zones, Rectangular)		
Region of Inter	est	Off, On (4 Zones)		
Advanced Feat	ures	Electronic Image Stabilization (EIS), Smart IR, Defog		
Flip		0°, 90°, 180°, 270° (supports 90° and 270° with 1080p resolution or lower)		
Mirror		Off, On		
Privacy Maskin	g	Off, On (4 Areas, Rectangular)		
Audio				
Compression		G.711a, G.711Mu, AAC, G.726		
Network				
Ethernet		RJ-45 (100/1000 Base-T)		
Protocol		HTTP, HTTPS, TCP, ARP, RTSP, RTP, UDP, SMTP, FTP, DHCP, DNS, DDNS, PPPOE, IPv4/v6, QoS, UPnP, NTP, ICMP, IGMP, 802.1x		
Interoperability	ý	ONVIF Profile S and G, CGI, P2P, RTMP		
Maximum User Access		20 Users		
Edge Storage		Network Attached Storage (NAS) FTP, SFTP Micro SD Slot, maximum 256 GB		
Web Viewer		IE (Version 9 and higher), Chrome (Version 42 and higher), Firefox (Version 48.0.2 or higher)		
Management Software		SmartPSS, DSS Pro, IVSS		
Mobile Operating System		IOS, Android		
Certification	าร			
Safety		UL60950-1 CAN/CSA C22.2 No.60950-1-07 EN60950-1		
Electromagnetic Compatibility (EMC)		FCC CFR 47 Part 15 Subpart B Electromagnetic Compatibility Directive 2014/30/EU		
Interface				
Video		One (1) Channel CVBS, BNC (for adjustment only)		
Audio		Input: One (1) Channel Output: One (1) Channel		
Alarm		Input: Three (3) Channels (5 mA, 5 VDC) Output: Two (2) Channels 1000 mA, 30 VDC 500 mA, 50 VAC		
RS485		One (1) Port (Bit rate: 1200 bps to 115200 bps)		
Electrical				
Power Supply		12 VDC, 24 VAC, or PoE (IEEE 802.3af, Class 0)		
	12 VDC	Standard: 5.4 W with IR and ICR ON: 16.7 W		
Power Consumption	24 VAC	Standard: 5.0 W with IR and ICR ON: 15.7 W		
	PoE	Standard: 4.9 W with IR and ICR ON: 15.6 W		

 The DORI distance is a measure of the general proximity for a specific classification to help pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specifications and lab test results according to EN 62676-4, the standard that defines the criteria for the Detect, Observe, Recognize and Identify classifications.

#### Environmental

Operating Temperature		$-40^{\circ}$ C to +60° C (−40° F to +140° F), ≤ 95% RH	
Storage Temperature		$-40^\circ$ C to +60° C (–40° F to +140° F), $\leq 95\%$ RH	
Ingress Protection		IP67	
Vandal Resistance		IK10	
Construction			
Casing		Metal and Plastic	
Dimensions	Camera	ø157.90 mm x 129.10 mm (ø6.22 in. x 5.08 in.)	
Dimensions	Package	212.0 mm x 212.0 mm x 200.0 mm (8.35 in. x 8.35 in. x 7.87 in.)	
Gross Weight		1.60 kg (3.53 lb)	

#### Analytics+ Functions<sup>2</sup>

Face Recognition	<ul> <li>Supports five group libraries that store up to 200,000 faces on the camera.</li> <li>Captures faces, compares to stored images, and produces match statistics.</li> <li>Extracts six attributes and eight expressions from a face capture.</li> <li>Offers face enhancement, face exposure, and a face angle filter for clear facial images.</li> </ul>
People Counting	<ul> <li>Delivers accurate flow statistics from the following methods: Line Crossing: counts a person as they cross a threshold in a defined direction. Region: counts the number of people in a defined area.</li> <li>Produces daily, monthly, and annual reports for both methods.</li> </ul>
Perimeter Protection	<ul> <li>Detects human or vehicle violations using the following methods: Tripwire: a target crosses a defined line. Intrusion: a target enters or exits a defined perimeter.</li> </ul>
Image Attribute Extraction	<ul> <li>Distinguishes between motor vehicle, non-motor vehicle, and human targets.</li> <li>Optimizes images and takes a snapshot of each target.</li> <li>Extracts attributes specific to a target: Vehicles: make, color, type Human: gender, face attributes, clothing colors</li> </ul>

Intelligent Video System Functions<sup>2</sup>

IVS triggers an alarm and takes a defined action for the following events:

Standard Features	<ul> <li>Tampering with the camera.</li> <li>Error writing to an onboard Micro SD card.</li> <li>Error sending or receiving data over the network.</li> <li>Unauthorized access to the camera.</li> <li>IP Address Conflict</li> </ul>
Premium Features	
Motion	An object moves through any part of the scene.
Scene Change	A person or object moves the camera to change the scene or covers the camera to obscure the scene.
Abandoned/Missing Object	A target leaves an object in designated area, or a target removes an object from the same designated area.

 The Face Capture, Perimeter Protection, and IVS functions cannot be used at the same time, only one Analytics+ or IVS function can be used at a time. In addition, the Smart H.265+ and the Smart H.264+ cannot be used simultaneously with either an Analytics+ or an IVS feature.

#### ePoE Transmission Distances

Via CAT5E/CAT6 Ethernet Cable ePoE supply voltage 48 V Maximum DC resistance < 10  $\Omega$ /100 m

Cable Length, m (ft)	Bandwidth, Mbps	PoE Load Capacity, W	Hi-PoE Load Capacity, W	Working Mode
100 (328)	100	25.5	53	IEEE/E100
200 (656)	100	25.5	33	E100
300 (984)	100	19	19	E100
400 (1312)	10	17	17	E10
500 (1640)	10	13	13	E10
800 (2625)	10	7	7	E10

# Via CAT5E/CAT6 Ethernet Cable

ePoE supply voltage 53 V Maximum DC resistance < 10 Ω/100 m

Cable Length, m (ft)	Bandwidth, Mbps	PoE Load Capacity, W	Hi-PoE Load Capacity, W	Working Mode		
100 (328)	100	25.5	53	IEEE/E100		
200 (656)	100	25.5	47	E100		
300 (984)	100	25.5	32	E100		
400 (1312)	10	23	26	E10		
500 (1640)	10	20	20	E10		
800 (2625)	10	13	13	E10		

Via RG-59 Coaxial Cable

ePoE supply voltage 48 V

Maximum DC resistance < 5  $\Omega$ /100 m

Cable Length, m (ft)	Bandwidth, Mbps	PoE Load Capacity, W	Hi-PoE Load Capacity, W	Working Mode
100 (328)	100	25.5	50	IEEE/E100
200 (656)	100	25.5	30	E100
300 (984)	100	18	18	E100
400 (1312)	100	15	15	E100
500 (1640)	10	12	12	E10
800 (2625)	10	6	6	E10
1000 (3281)	10	5	5	E10

#### Via RG-59 Coaxial Cable

ePoE supply voltage 53 V Maximum DC resistance < 5 Ω/100 m

Cable Length, m (ft)	Bandwidth, Mbps	PoE Load Capacity, W	Hi-PoE Load Capacity, W	Working Mode
100 (328)	100	25.5	52	IEEE/E100
200 (656)	100	25.5	48	E100
300 (984)	100	25.5	30	E100
400 (1312)	100	20	23	E100
500 (1640)	10	16	16	E10
800 (2625)	10	10	10	E10
1000 (3281)	10	8	8	E10

