

DINION IP ultra 8000 MP

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Invented for life



- ▶ 12MP (4K UHD) for exceptional detail at fast speeds
- ▶ Built-in Intelligent Video Analytics to trigger relevant alerts and quickly retrieve data
- ▶ Low network strain and storage costs
- ▶ Outstanding wide dynamic range (92+16 dB)
- ▶ Long distance identification with telephoto lenses

The DINION IP ultra 8000 MP with 12 megapixel resolution offers crisp, clear and extremely detailed images for the most demanding IP video surveillance requirements. It captures 12 megapixel at 20 fps, and 4K UHD at 30 fps, so providing images of fast moving objects in high resolutions. The content-rich image allows effective retrospective analysis at the level of detail that makes the difference when collecting forensic evidence.

System overview

Advanced image processing techniques take the DINION IP ultra 8000 MP to the next level. Intelligent Video Analytics tracks and focuses on relevant situations and adds sense and structure to stored video, allowing you to quickly retrieve the correct data. Intelligent Auto Exposure gives superb front and back light compensation, providing you with the perfect picture every time.

Intelligent Dynamic Noise Reduction saves bitrate at the source and only uses bandwidth when needed. This results in up to 50% less bitrate and significantly reduces storage costs and network strain without compromising on video quality.

Functions

Measured dynamic range

The dynamic range of the camera is outstanding and is obvious in real world performance comparisons – 92 dB wide dynamic range for 4K UHD mode (plus an extra 16 dB when combined with Intelligent Auto Exposure).

The actual dynamic range of the camera is measured using Opto-Electronic Conversion Function (OECF) analysis with a standardized test chart based on ISO standards. This method provides more realistic and verifiable results in comparison with the theoretical approximations sometimes used.

Intelligent Video Analytics

The built-in video analytics is both robust and intelligent. The Intelligence-at-the-Edge concept now delivers even more powerful features:

- False alarm reduction
- Extended range identification
- Crowd and queue management
- Density and flow counting

The mission critical video analytics reliably detects, tracks, and analyzes objects, and alerts you when predefined alarms are triggered. A smart set of alarm rules, together with object filters and tracking modes, makes complex tasks easy.

The system is also extremely robust and is able to reduce false alarms, for example from foliage or shaking objects, even in harsh weather conditions. The next step in video analytics is taken with the incorporation of machine learning capabilities. With Camera Trainer you can tailor the built-in Intelligent Video Analytics to detect new user-defined moving or stationary objects and situations, or any subsequent changes.

Metadata is attached to your video to add sense and structure. This enables you to quickly retrieve the relevant images from hours of stored video. Metadata can also be used to deliver irrefutable forensic evidence or to optimize business processes based on people counting or crowd density information.

Intelligent Auto Exposure

Fluctuations in backlight and front light can ruin your images. To achieve the perfect picture in every situation, Intelligent Auto Exposure automatically adjusts the exposure of the camera. It offers superb front light compensation and incredible backlight compensation by automatically adapting to changing light conditions.

Intelligent Dynamic Noise Reduction

Quiet scenes with little or no movement require a lower bitrate. By intelligently distinguishing between noise and relevant information, Intelligent Dynamic Noise Reduction reduces bitrate by up to 50%. Because noise is reduced at the source during image capture, the lower bitrate does not compromise on video quality.

With the release of FW6.40 an extra level of intelligence is added with Intelligent Streaming. The camera provides the most usable image possible by cleverly optimizing the detail-to-bandwidth ratio. The smart encoder continuously scans the complete scene as well as regions of the scene and dynamically adjusts compression based on relevant information like movement. Together with Intelligent Dynamic Noise Reduction, which actively analyzes the contents of a scene and reduces noise artifacts accordingly, bitrates are reduced by up to 80%. Because noise is reduced at the source during image capture, the lower bitrate does not compromise image quality. This results in substantially lower storage costs and network strain and still retain a high image quality and smooth motion.

Area-based encoding

Area-based encoding is another feature which reduces bandwidth. Compression parameters for up to eight user-definable regions can be set. This allows uninteresting regions to be highly compressed, leaving more bandwidth for important parts of the scene.

Bitrate optimized profile

The average typical optimized bandwidth in kbits/s for various frame rates is shown in the table:

fps	12MP (4:3)	4K UHD	1080p
30	-	3000	800
25	-	2839	757
15	2712	2389	637
10	2306	2031	541
5	1612	1420	379
2	694	611	163

Selectable resolution and aspect ratio

The camera has three basic application variants that can be chosen at start-up to provide the best possible performance for typical applications:

- 12MP (4:3)
- 4K UHD (16:9)
- 1080p (16:9)

The 12MP variant can be used in applications where the highest resolution possible is required. The 4K UHD variant is suitable for applications where the 16:9 4K standard is required with a frame rate of 30 fps. The 1080p30 (16:9) variant is for applications that require extra sensitivity and dynamic range. Each of these variants selects the best possible tuning parameters for the application so that you get the best performance possible from your camera.

Scene modes

The camera has a very intuitive user interface that allows fast and easy configuration. Nine configurable modes are provided with the best settings for a variety of applications. Different scene modes can be selected for day or night situations.

Multiple streams

The innovative multi-streaming feature delivers various H.264 streams together with an M-JPEG stream. These streams facilitate bandwidth-efficient viewing and recording, plus easy integration with third-party video management systems.

Depending on the resolution and frame rate selected for the first stream, the second stream provides a copy of the first stream or a lower resolution stream. The third stream uses the I-frames of the first stream for recording; the fourth stream shows a JPEG image at a maximum of 10 Mbit/s.

Regions of interest and E-PTZ

Regions of Interest (ROI) can be user defined. The remote E-PTZ (Electronic Pan, Tilt and Zoom) controls allow you to select specific areas of the parent image. These regions produce separate streams for remote viewing and recording. These streams, together with the main stream, allow the operator to separately monitor the most interesting part of a scene while still retaining situational awareness.

Intelligent Tracking continuously analyses the scene for moving objects. If a moving object is detected, the camera automatically adjusts its settings, including field of view, to optimally capture details of the object of interest.

Easy installation

Power for the camera can be supplied via a Power-over-Ethernet compliant network cable connection. With this configuration, only a single cable connection is required to view, power, and control the camera. Using PoE makes installation easier and more cost-effective, as cameras do not require a local power source.

The camera can also be supplied with power from +12 VDC power supplies. To increase system reliability, the camera can be simultaneously connected to both PoE and +12 VDC supplies. Additionally, uninterruptible power supplies (UPS) can be used to ensure continuous operation, even during a power failure.

For trouble-free network cabling, the camera supports Auto-MDIX which allows the use of straight or cross-over cables.

Storage management

Recording management can be controlled by the Bosch Video Recording Manager (Video Recording Manager) or the camera can use iSCSI targets directly without any recording software.

Edge recording

Insert a memory card into the card slot to store up to 2 TB of local alarm recording. Pre-alarm recording in RAM reduces recording bandwidth on the network, and extends the effective life of the memory card.

Cloud-based services

The camera supports time-based or alarm-based JPEG posting to four different accounts. These accounts can address FTP servers or cloud-based storage facilities (for example, Dropbox). Video clips or JPEG images can also be exported to these accounts.

Alarms can be set up to trigger an e-mail or SMS notification so you are always aware of abnormal events.

Data security

Special measures are necessary to ensure the highest level of security for device access and data transport. On initial setup, the camera is only accessible over secure channels. You must set a service-level password in order to access camera functions. Web browser and viewing client access can be protected using HTTPS or other secure protocols that support state-of-the-art TLS 1.2 protocol with updated cipher suites including AES encryption with 256 bit keys. No software can be installed in the camera, and only authenticated firmware can be uploaded. A three-level password protection with security recommendations allows users to customize device access. Network and device access can be protected

using 802.1x network authentication with EAP/TLS protocol. Superior protection from malicious attacks is guaranteed by the Embedded Login Firewall, on-board Trusted Platform Module (TPM) and Public Key Infrastructure (PKI) support.

The advanced certificate handling offers:

- Self-signed unique certificates automatically created when required
- Client and server certificates for authentication
- Client certificates for proof of authenticity
- Certificates with encrypted private keys

Complete viewing software

There are many ways to access the camera's features: using a web browser, with the Bosch Video Management System, with the free-of-charge Bosch Video Client, with the video security mobile app, or via third-party software.

System integration and ONVIF conformance

The camera conforms to the ONVIF Profile S, ONVIF Profile G and ONVIF Profile T specifications. Third-party integrators can easily access the internal feature set of the device for integration into large projects. Visit the Bosch Integration Partner Program (IPP) website (ipp.boschsecurity.com) for more information.

Lens options

The camera has a C/CS lens mount and motorized focus adjustment.

There are four megapixel lenses optionally available for the camera body version, one varifocal and three fixed focal length versions:

- a 4-13 mm P-iris varifocal lens (LVF-8008C-P0413)
- a 35 mm fixed telephoto lens (LFF-8012C-D35)
- a 50 mm fixed telephoto lens (LFF-8012C-D50)
- a 75 mm fixed telephoto lens (LFF-8012C-D75)

The camera body includes an auto-focus lens wizard to ensure that lenses can be easily focused. The automatic motorized focus adjustment with 1:1 pixel mapping ensures that the camera with these telephoto lenses is always focused accurately.

Housing options

To protect the camera, two housings are optionally available (UHO-POE-10 and UHO-HBGS-x1). When choosing a housing keep the following in mind:

- A camera with a 75 mm telephoto lens is too long for the UHO-POE-10 housing; use the UHO-HBGS-x1 housing instead.

DORI coverage

DORI (Detect, Observe, Recognize, Identify) is a standard system (EN-62676-4) for defining the ability of a camera to distinguish persons or objects within a covered area. The maximum distance at which a camera/lens combination can meet these criteria is shown below:

12MP Camera with 4-13 mm lens (29°-90°)

DORI	DORI definition	Distance 4 mm / 13 mm	Horizontal width
Detect	25 px/m (8 px/ft)	80 m (262 ft) / 309 m (1013 ft)	160 m (525 ft)
Observe	63 px/m (19 px/ft)	32 m (104 ft) / 123 m (403 ft)	63 m (207 ft)
Recognize	125 px/m (38 px/ft)	16 m (52 ft) / 62 m (203 ft)	32 m (105 ft)
Identify	250 px/m (76 px/ft)	8 m (26 ft) / 31 m (101 ft)	16 m (53 ft)

12MP Camera with 35 mm lens (9.8°)

DORI	DORI definition	Distance	Horizontal width
Detect	25 px/m (8 px/ft)	933 m (3061 ft)	160 m (525 ft)
Observe	63 px/m (19 px/ft)	370 m (1214 ft)	63 m (207 ft)
Recognize	125 px/m (38 px/ft)	187 m (590 ft)	32 m (105 ft)
Identify	250 px/m (76 px/ft)	93 m (295 ft)	16 m (53 ft)

12MP Camera with 50 mm lens (6.8°)

DORI	DORI definition	Distance	Horizontal width
Detect	25 px/m (8 px/ft)	1347 m (4419 ft)	160 m (525 ft)
Observe	63 px/m (19 px/ft)	534 m (1752 ft)	63 m (207 ft)
Recognize	125 px/m (38 px/ft)	269 m (883 ft)	32 m (105 ft)
Identify	250 px/m (76 px/ft)	135 m (443 ft)	16 m (53 ft)

12MP Camera with 75 mm lens (4.7°)

DORI	DORI definition	Distance	Horizontal width
Detect	25 px/m (8 px/ft)	1949 m (6394 ft)	160 m (525 ft)
Observe	63 px/m (19 px/ft)	774 m (2539 ft)	63 m (207 ft)

DORI	DORI definition	Distance	Horizontal width
Recognize	125 px/m (38 px/ft)	390 m (1280 ft)	32 m (105 ft)
Identify	250 px/m (76 px/ft)	195 m (640 ft)	16 m (53 ft)

Certifications and approvals

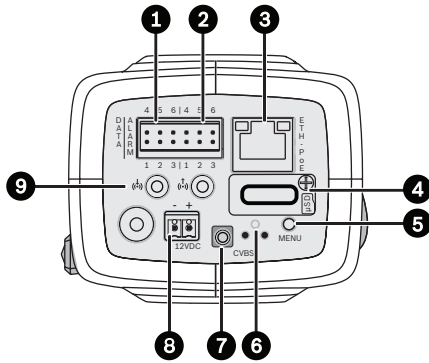
Standards	Type
Emission	EN 55032:2010 / AC:2013, Class B CFR 47 FCC part 15:2010-10-1, Class B
Immunity	EN 50130-4:2011* / A1:2014 EN 50121-4 (2016), +AC: (2008)
Environmental	EN 50130-5 Class II (2011)
Safety	EN 60950-1:2006 / A11:2009 / A1:2010 / A12:2011 / A2:2013 IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013 UL 60950-1, 2nd edition, 2011 CAN/CSA-C22.2 No. 60950-1-07, 2nd edition EN 62368-1 :2014 /AC:2015 IEC 62368-1:2014 (Second Edition) UL 62368-1, Ed. 2, 2014 CSA C22.2 NO. 62368-1-14
Vibration	Camera with 500 g (1.1 lb) lens as per IEC 60068-2-6 (5 m/s ² , operational)
UHD	SMPTE 2036-2012 Resolution: 3840 × 2160 (UHDTV1) 4K UHD (2160p)
HD	SMPTE 274M-2008 Resolution: 1920 × 1080
Color representation	ITU-R BT.2020
ONVIF conformance	EN 50132-5-2; IEC 62676-2-3
Marks	CE, cULus, WEEE, RCM, EAC and China RoHS, KCC (South Korea), BIS (India)

* All systems where this camera is used must comply with this standard as well.

Region	Regulatory compliance/quality marks
Europe	CE

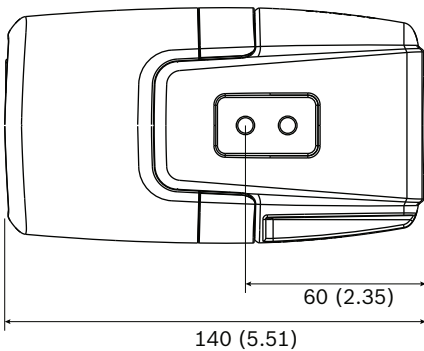
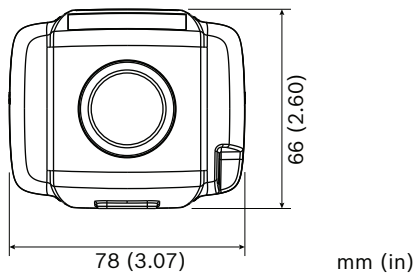
Installation/configuration notes

Controls



1	Data (RS485/422/232)	6	Reset button
2	Alarm in, alarm out	7	Video out (SMB connector)
3	10/100 Base-T Fast Ethernet	8	Power supply input (12 VDC only)
4	MicroSD card slot	9	Audio in / Audio out
5	Menu button		

Dimensions



Technical specifications

Power

Power Supply 12 VDC;

Power

	Power-over-Ethernet 48 VDC nominal
Current Consumption	750 mA (12 VDC); 200 mA (PoE 48 VDC)
Power Consumption	9 W
PoE	IEEE 802.3af (802.3at Type 1) Class 3

Sensor

Type	1/2.3-inch CMOS
Pixels	12 MP

Video performance - Dynamic range

12 MP (4:3) mode	92 dB WDR (92+16 dB with IAE)
4K UHD (16:9) mode	92 dB WDR (92+16 dB with IAE)
1080p mode	98 dB WDR (98+16 dB with IAE)

Video performance - Sensitivity (3200K, 89% reflectivity, 30% IRE, F1.2)

Color (12MP / 4K UHD mode)	0.11 lx
Color (1080p mode)	0.09 lx
Mono (12MP / 4K UHD mode)	0.037 lx
Mono (1080p mode)	0.030 lx

Video streaming

Video compression	H.264 (MP); M-JPEG
Streaming	Multiple configurable streams in H.264 and M-JPEG, configurable frame rate and bandwidth. Regions of Interest (ROI)
Overall IP Delay	Min. 120 ms, Max. 340 ms
GOP structure	IP, IBP, IBBP
Encoding interval	1 to 30 [25] fps
Encoder regions	Up to 8 areas with encoder quality settings per area

Video resolution (H x V)

12MP	4000 x 3000 (at 20 fps)
4K UHD	3840 x 2160 (at 30 fps)
7.3MP	3584 x 2016 (at 30 fps)
1080p HD	1920 x 1080 (at 30 fps)
720p HD	1280 x 720 (at 30 fps)

Video resolution (H x V)	
SVGA	800 x 600
D1 4:3 (downscaled/cropped)	704 x 480
480p SD	Encoding: 704 x 480; Displayed: 854 x 480
432p SD	768 x 432
288p SD	512 x 288
240p SD	Encoding: 352 x 240; Displayed: 432 x 240
144p SD	256 x 144
Video functions	
Day/Night	Color, Monochrome, Auto (adjustable switchover points)
Adjustable picture settings	Contrast, Saturation, Brightness
White Balance	2500 to 10000K, 4 automatic modes, manual mode and measure
Shutter	Automatic Electronic Shutter (AES) Fixed (1/30 [1/25] to 1/15000) selectable Default shutter
Backlight compensation	Off, Auto, Intelligent Auto Exposure
Noise reduction	Intelligent Dynamic Noise Reduction Intelligent Streaming
Contrast enhancement	On/off
Sharpness	Sharpness enhancement level selectable
Intelligent defog	Intelligent Defog automatically adjusts parameters for best picture in foggy or misty scenes (switchable)
Privacy Masking	Eight independent areas, fully programmable
Video Motion Analysis	Intelligent Video Analytics
Scene modes	Nine pre-defined modes
Other functions	Image flip, Pixel counter, Video watermarking, Display stamping, Positioning
Audio streaming	
Standard	G.711, 8 kHz sampling rate L16, 16 kHz sampling rate AAC-LC, 48 kbps at 16 kHz sampling rate AAC-LC, 80 kbps at 16 kHz sampling rate
Signal-to-Noise Ratio	>50 dB
Audio Streaming	Full-duplex / half duplex

Input/output	
Analog video out	SMB connector, CVBS (PAL/NTSC), 1 Vpp, 75 Ohm
Audio line in	1 Vrms max, 18 kOhm typical,
Audio line out	0.85 Vrms at 1.5 kOhm typical,
Audio connectors	3.5 mm mono jack
Alarm input	2 inputs
Alarm input activation	+5 VDC nominal; +40 VDC max. (DC-coupled with 50 kOhm pull-up resistor to +3.3 VDC) (< 0.5 V is low; > 1.4 V is high)
Alarm output	1 output
Alarm output voltage	30 VAC or +40 VDC max. Maximum 0.5 A continuous, 10VA (resistive load only)
Ethernet	RJ45
Data port	RS-232/422/485
Local storage	
Internal RAM	10 s pre-alarm recording
Memory card slot	Supports up to 32 GB microSDHC / 2 TB microSDXC card. Extreme lifetime and health monitoring support that provides early service indication. Recommended: Industrial microSD cards with health monitoring
Recording	Continuous recording, ring recording. Alarm/events/schedule recording
Network	
Protocols	IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP V2/V3, ICMP, ICMPv6, RTSP, FTP, ARP, DHCP, APIPA (Auto-IP, link local address), NTP (SNTP), SNMP (V1, V3, MIB-II), 802.1x, DNS, DNSv6, DDNS (DynDNS.org, selfHOST.de, no-ip.com), SMTP, iSCSI, UPnP (SSDP), DiffServ (QoS), LLDP, SOAP, Dropbox™, CHAP, digest authentication
Encryption	Full end-to-end encryption with supported VMS Network: TLS1.0/1.2, AES128, AES256 Local storage: XTS-AES
Ethernet	10/100 Base-T, auto-sensing, half/full duplex
Connectivity	Auto-MDIX
Interoperability	ONVIF Profile S, ONVIF Profile G, ONVIF Profile T GB/T 28181

Environmental

Operating Temperature	-20°C to +50°C (-4°F to 122°F)
Storage Temperature	-30°C to +70°C (-22°F to +158°F)
Operating Humidity	20% to 93% RH
Storage Humidity	up to 98% RH

Optical

Lens mount	CS mount (C-mount with adapter ring)
Lens connector	Standard 4-pin P-iris* connector
Focus control	Motorized back-focus adjustment
Iris control	P-iris* control

* P-iris control supported in combination with Bosch LVF-8008C-P0413 lens

Mechanical

Dimensions (W × H × L)	78 × 66 × 140 mm (3.07 × 2.6 × 5.52 inch) without lens
Weight	840 g (1.85 lb) without lens
Color	RAL 9007 Metallic Titanium
Tripod Mount	Bottom (isolated) and top 1/4-inch 20 UNC
Sustainability	PVC free

Ordering information

NBN-80122-CA Fixed camera 12MP

High-performance 12 MP box cameras for intelligent 4K UHD surveillance (without lens) with audio/motion detection and motorized auto-focus.

Order number **NBN-80122-CA**

EWE-D8IPUL-IW 12mths wrty ext DINION IP ultra 8000 MP

12 months warranty extension

Order number **EWE-D8IPUL-IW**

Accessories

LFF-8012C-D35 Fixed lens, 35mm, telephoto, megapixel

Fixed telephoto megapixel lens ; manual iris; IR corrected; C-mount; 2/3" ; F1.8; 35mm

Order number **LFF-8012C-D35**

LFF-8012C-D50 Fixed lens, 50mm, telephoto, megapixel

Fixed telephoto megapixel lens ; manual iris; IR corrected; C-mount; 2/3" ; F2.0; 50mm

Order number **LFF-8012C-D50**

LFF-8012C-D75 Fixed lens, 75mm, telephoto, megapixel

Fixed telephoto megapixel lens ; manual iris; C-mount; 1/1.8" ; F1.8; 75mm

Order number **LFF-8012C-D75**

LVF-8008C-P0413 Varifocal lens, 4-13mm, 12MP, CS mount

Varifocal megapixel lens; P-iris; CS-mount; 1/1.8" ; F1.5; 4-13mm

Order number **LVF-8008C-P0413**

NBN-MCSMB-03M Cable, SMB to BNC, camera-cable, 0.3m

0.3 m (1 ft) analog cable, SMB (female) to BNC (female) to connect camera to coaxial cable

Order number **NBN-MCSMB-03M**

NBN-MCSMB-30M Cable, SMB to BNC, camera-monitor/DVR

3 m (9 ft) analog cable, SMB (female) to BNC (male) to connect camera to monitor or DVR

Order number **NBN-MCSMB-30M**

UPA-1220-60 Power supply, 120VAC 60Hz, 12VDC 1A out

Power supply for camera. 100-240 VAC, 50/60 Hz In; 12 VDC, 1 A Out; regulated.

Input connector: 2-prong, North American standard (non-polarized).

Order number **UPA-1220-60**

UPA-1220-50 Power supply, 220VAC 50Hz, 12VDC 1A out

Power supply for camera. 110-240 VAC, 50/60 Hz In; 12 VDC, 1 A Out; regulated.

Input connector: 2-prong, European Europlug standard (4 mm / 19 mm).

Order number **UPA-1220-50**

TC9210U Camera mount, 6", indoor

A universal 6-inch wall/ceiling grid with off-white finish for 4.5 kg (10 lb) max load, incl. T-Bar ceiling clip and wall/ceiling mount flange.

Order number **TC9210U**

UHO-HBGS-51 Outdoor housing, blower, 230VAC/35W

Outdoor housing for (230 VAC / 12 VDC) camera with 230 VAC power supply, blower and feed-through cabling.

Order number **UHO-HBGS-51**

UHO-HBGS-61 Outdoor housing, blower, 120VAC/35W

Outdoor housing for (120 VAC / 12 VDC) camera. 120 VAC power supply; blower; feed-through cabling

Order number **UHO-HBGS-61**

UHO-HBGS-11 Outdoor housing, 24VAC, feed-through

Outdoor housing for (24 VAC / 12 VDC) camera with 24 VAC power supply, blower and feed-through cabling.

Order number **UHO-HBGS-11**

UHO-POE-10 Outdoor housing, POE + power supply

Outdoor camera housing with PoE+ power supply.

Order number **UHO-POE-10**

LTC 9215/00 Wall mount with cable feed through, 12"

Wall mount for camera housing, cable feed-through, 30 cm (12 in.)

Order number **LTC 9215/00**

LTC 9215/00S Wall mount for UHI/UHO

Wall mount for camera housing, cable feed-through, 18 cm (7 in.)

Order number **LTC 9215/00S**

LTC 9219/01 Feed through J mount

J-mount for camera housing, 40 cm (15 in).

Order number **LTC 9219/01**

LTC 9210/01 Column mount, 8", 9KG/20lb load

Feed-through column mount for 20 cm (8 in.), 9 kg (20 lb) maximum load. Light gray finish.

Order number **LTC 9210/01**

LTC 9213/01 Pole mount adapter for LTC9210,9212,9215

Flexible pole mount adapter for camera mounts (use together with the appropriate wall mount bracket). Max. 9 kg (20 lb); 3 to 15 inch diameter pole; stainless steel straps

Order number **LTC 9213/01**

NPD-5001-POE Power over ethernet , 15.4W, 1-port

Power-over-Ethernet midspan injector for use with PoE enabled cameras; 15.4 W, 1-port

Weight: 200 g (0.44 lb)

Order number **NPD-5001-POE**

NPD-5004-POE Power over ethernet, 15.4W, 4-port

Power-over-Ethernet midspan injectors for use with PoE enabled cameras; 15.4 W, 4-ports

Weight: 620 g (1.4 lb)

Order number **NPD-5004-POE**

UPA-1220-60 Power supply, 120VAC 60Hz,12VDC 1A out

Power supply for camera. 100-240 VAC, 50/60 Hz In; 12 VDC, 1 A Out; regulated.

Input connector: 2-prong, North American standard (non-polarized).

Order number **UPA-1220-60**

Services

EWE-D8IPUL-IW 12mths wrty ext DINION IP ultra 8000 MP

12 months warranty extension

Order number **EWE-D8IPUL-IW**
