

NDP-7802-Z40L PTZ 2MP HDR 40x IP66 pendant IR AUTODOME 7100i



- ▶ High-performance PTZ with starlight imaging technology and HDR for details in difficult light conditions
- ▶ 300 m (984 ft) IR illuminator detection distance
- ▶ IVA Pro brings highly reliable deep-learning based detection of persons and vehicles to scenes ranging from sterile zones to crowded and congested
- ▶ Built-in artificial intelligence alerts operators of unusual scene activity
- ▶ Fully configurable quad streaming
- ▶ Optional direct fiber connection for increased communications security

This high performance PTZ camera has starlight imaging technology for excellent lowlight sensitivity and fully configurable quad video streaming.

A powerful, embedded processor with dedicated hardware supports advanced machine learning and neural-network-based Intelligent Video Analytics. Built-in, application-specific Intelligent Video Analytics (IVA) Pro packages such as IVA Pro Buildings, IVA Pro Perimeter, and IVA Pro Privacy provide superior intelligence at the edge.

The design gives undistorted, high-resolution video above the horizon, which is helpful in city landscapes that are not flat.

Regulatory information

Electromagnetic compatibility (EMC)	FCC Part 15, ICES-003 EN 55032 (Class A) ICES-003, Class A EN 50130-4 EN 50121-4 (Railway applications) CISPR 32 (Class A)
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Product Safety	Complies with UL, CE, CSA, EN, and IEC standards including: UL 62368-1 EN 62368-1 CAN/CSA-C22.2 No. 62368-1-19
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	IEC 62368-1 Ed.3 IEC 60950-22 Ed.2 IEC 62471
ONVIF conformance	EN 50132-5-2 EN 62676-2
Impact protection	EN 62262 (IK10)
Water/dust protection	EN 60529 (IP66) UL50E (Type 4X)
Cybersecurity	FIPS 140-3
Marks	UL, CE, WEEE, VCCI, FCC, RoHS
Compliance	NDAA and TAA compliant

For a full list of all related certifications/standards, refer to the Product Test Reports, available on the online catalog, on the Documents tab of the product page for your device. If the document is unavailable on the product page, contact your sales representative.

Region	Regulatory compliance/quality marks	
Global	IEC 62443-4-1	Industrial Cyber Security Capability

Installation/configuration notes

For more options, see [Camera Accessories - Quick Selection Guide](#).

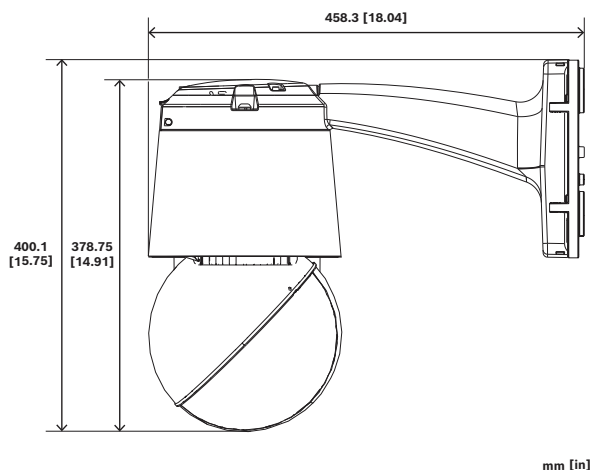


Fig. 1: Dimensions in mm (in.) of camera on NDA-7100-PEN | -F + NDA-PEND-WPLATE

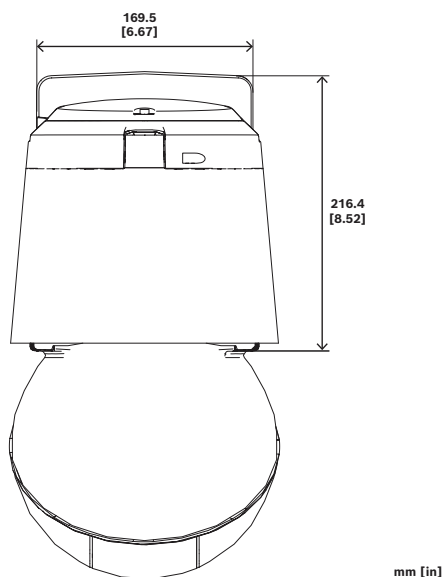


Fig. 2: Dimensions in mm (in.) of the camera on NDA-7100-PEN | NDA-7100-PENF (front view)

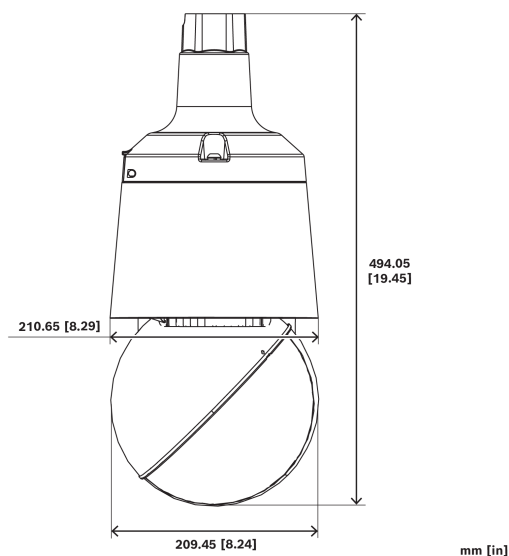


Fig. 3: Dimensions in mm (in.) of camera installed on NDA-7100-PIPE | NDA-7100-PIPEF (pipe mount)

Parts included

Quantity	Component
1	AUTODOME 7100i IR camera
1	Quick Installation Guide
1	Safety instructions
4	MAC address labels

Technical specifications

Sensor

Sensor type	1/2.8 inch CMOS
Total sensor pixels	2 MP approx.
Effective pixels (H x V)	1920 x 1080

Sensitivity

Low light technology	starlight
Measuring method	IEC 62676 Part (1/30, F1.6)
Color (lx)	0.0067 lx
Monochrome (lx)	0.0010 lx
With IR	0.0 lx
WDR technology	HDR
High Dynamic Range (HDR) (dB)	120 dB

Optical

Lens zoom (x)	40x
Digital zoom (x)	32x
Lens focal length (mm)	4.25 mm – 170 mm
Lens aperture (/F)	F/1.60 - F/4.95
Horizontal field of view (°)	66.35° – 1.9°

Night vision

Wavelength (nm)	850 nm
IR horizontal beam angle (° FWHM)	Narrow: 9.4 deg FWHM Medium: 25.7 deg FWHM Wide: 66.9 deg FWHM
IR intensity	Manually adjustable; Automatic
Maximum detection distance IR (m)	300 m
Maximum detection distance IR (ft)	984 ft

Note: To protect the hardware, the illuminators, by design, will not operate if the operating temperature exceeds +55 °C (+131 °F)

PTZ functions

Pan range (°)	0° – 360° continuous
Tilt range (°)	-90 to +20 (Auto-flip 220°)
Pan speed (°/s)	0.01°/s – 400°/s
Tilt speed (°/s)	0.01°/s – 300°/s
Intelligent tracking speed (°/s)	0.01°/s – 400°/s
Number of pre-positions	256, each with 40 characters per title
Pre-position accuracy (average) (°)	± 0.10° typ.
Alarm triggering	Audio detection; Motion detection
Other functions	Snap to zoom

Platform

Common Product Platform	CPP16
Memory (RAM) (MB)	4096 MB RAM, 8192 MB Flash

Video streaming

Resolution	1920 x 1080; 1280 x 720; 704 x 480; 768 x 432; 512 x 288; 704 x 576; 1536 x 864; 720 x 480; 720 x 576
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Frame rate (fps)	1 fps – 60 fps
Streaming	Multiple configurable streams in H.265; Configurable framerate and bandwidth; Bosch Intelligent Streaming
Video compression	H.264 (ISO/IEC 14496-10); M-JPEG; H.265/HEVC
GOP structure	IP

Video functions

Distance detection (1x zoom) (m)	59 m
Distance detection (1x zoom) (ft)	194 ft
Distance detection at 25 p/m(max zoom) (m)	2316 m
Distance detection at 25 p/m (max zoom) (ft)	7598 ft
Distance of recognition (1x zoom) (m)	12 m
Distance of recognition (1x zoom) (ft)	39 ft
Distance of recognition (max zoom) (m)	463 m
Distance of recognition (max zoom) (ft)	1519 ft
Distance of identification (1x zoom) (m)	6 m
Distance of identification (1x zoom) (ft)	20 ft
Distance of identification (max zoom) (m)	232 m
Distance of identification (max zoom) (ft)	761 ft
Image stabilization	Electronic
Day/night modes	Auto; Color; Monochrome
Gain control	AGC; Fixed; Region per pre-position
Camera functionality	Geolocation; Audio detection; Backlight compensation (BLC); Intelligent auto exposure; Contrast enhancement; Sharpness enhancement; Intelligent defog; Pixel counter; Tamper detection; Saturation; Display stamping
Backlight compensation	On/Off; Intelligent Auto Exposure (IAE)
White balance (K)	2000 K - 10000 K
White balance modes	Manual mode; Indoor; Outdoor; AWB hold; Extended ATW; ATW

Number of privacy masks	32
Privacy masks pattern	Black; White; Gray; Auto color; Mosaic; 16M color; 10 blurred levels
Shutter modes	Automatic Electronic Shutter (AES); 1/1 min; 1/30,000 max
Scene modes	Standard; Vibrant; Fast movement; Sensitivity boost; Color only; Illuminator; Custom modes #1, #2
(Guard) Tours	Custom Recorded tours: two (2), maximum total duration 15 minutes (depending on the amount of commands sent during recording); Pre-position tour - one (1), consisting of up to 256 scenes consecutively, and one (1) customized with up to 256 user-defined scenes
Number of sectors	4, 6, 8, 9, 12, or 16 user-selectable, independent Sectors, each with 40 characters per Title
Virtual masks	24 individually configurable Virtual Masks to hide parts of the scene (background motion such as moving trees, pulsating lights, busy roads, etc.)
Alarms activations	Video loss; System alarm

Video content analysis

Analysis type	Camera trainer; Intelligent Video Analytics Pro: IVA Pro Buildings; Intelligent Video Analytics Pro: IVA Pro Perimeter; IVA Pro Privacy
Supported analytics (license)	Separate licenses are available for IVA Pro Traffic; IVA Pro Intelligent Tracking; IVA Pro Appearance
Configurations	Off; Global VCA, Profiles 1 - 32
Alarm triggers	Any object; Object in field; Line crossing; Enter / leave field; Loitering; Follow route; Idle / removed object; Counting; Occupancy; Condition change; Similarity search; Tampering; Rule based alarms and tracking; Audio detection
Geolocation	Tracking of object locations
Object filters	Duration; Size; Aspect ratio; Speed; Direction; Color
Object classes	Upright persons; Bikes; Cars; Trucks
Additional functionalities	Intelligent tracking; Detect moving objects during PTZ; Tamper detection

Tracking modes	Base tracking (2D); Perimeter tracking (2D); Perimeter tracking (3D); People tracking (3D); Museum mode (2D); Ship tracking (2D); Traffic tracking (2D); Traffic tracking (3D)
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Storage

Internal storage	Memory card SD
Memory card slot	
Memory card capacity	Up to 2TB
Industrial SD cards	Extreme lifetime and health monitoring support that provides early service indication
Recording mode	Manual; Scheduled; Pre-alarm; Alarm

Note: For this camera, Bosch does not recommend the use of microSD to SD adapters.

Inputs and outputs

Alarm inputs	2
Alarm outputs (relay)	1 dry contact relay, 27 VAC, 1 A, rms 30 VDC, 2 A, rms; 3 output lines (selectable N.O./N.C./Common)
Ethernet	Shielded RJ45

Audio

Audio input	Line-in
Audio output	Line-out
Audio streaming	Full duplex
Compression and sampling rate	G.711 8 kHz; L16 16 kHz; AAC-LC 80kbps 16 kHz; AAC; AAC-LC 48kbps 16 kHz

Network

Protocols / standards	IPv4; IPv6; UDP; TCP; HTTP; HTTPS; RTP/RTCP; IGMP V2/V3; ICMP; ICMPv6; RTSP; FTP; ARP; DHCP; SNMP (V3, MIBII); DNS; DNSv6; DDNS (DynDNS.org, selfHOST.de, no-ip.com); SMTP; iSCSI; UPnP (SSDP); Diff-Serv (QoS); SOAP; CHAP; Digest authentication; HSTS; RTSPS; MQTT; SRTP
Ethernet type	Auto-sensing; 100BASE-TX; 1000BASE-T; Full duplex
Conformity	ONVIF Profile S; ONVIF Profile G; ONVIF Profile T; ONVIF Profile M
Cloud services	Stratocast Genetec; Remote Portal
Integration tools	Video SDK; RCP+ SDK

Overall IP delay	30 fps: <200 ms (typical); 60 fps: <150 ms (typical)
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Support for optional Fiber SFP modules

Note: Refer to the camera installation manual for details.

Description	Third-party SFP fiber modules are supported when used with the optional mounts NDA-7100-PENF NDA-7100-PIPEF.
Data rate	Must use 1 Gbps SFP modules.
Compatibility	The SFP modules used on the end-to-end system (AUTODOME camera/media converter) must be compatible, if not the same exact brand and part number. The fiber used must be compatible with the SFP modules in mode (single-mode or multi-mode) and wavelengths.

Data security

Crypto coprocessor (TPM)	RSA 3072 bit for TLS; RSA 4096 bit for device identity; AES/CBC 256 bit
Encryption	TLS 1.2; AES 256; AES 128; TLS 1.3
End-to-end encryption	Full end-to-end with supported VMS
Local storage encryption	XTS-AES
Security	HTTPS
Video authentication	Off; Watermark; MD5; SHA-1; SHA-256
PKI	X.509 certificates
Firmware protection	Signed firmware; Secure boot; Software Sealing

Electrical

Input voltage (VAC)	24 VAC 50/60 Hz (IEC 62368-1 Limited Power Source)
Input voltage (VDC)	36 VDC (IEC 62368-1 Limited Power Source)
PoE nominal voltage (VDC)	54 VDC
PoE input	IEEE 802.3bt Type 4, Class 8, 90W
Power consumption VAC (VA) (typical - maximum)	3.5 VA at 24VAC, 50/60Hz
Power consumption VAC (W) (typical - maximum)	53 W at 24VAC, 50/60Hz
Power consumption VDC (W) (typical - maximum)	66.6 W at 36VDC
Power consumption PoE (W) (typical - maximum)	64.8 W at PoE 54VDC
Current consumption VAC (A) (typical - maximum)	3.5A

Current consumption VDC (A) (typical - maximum)	1.2A
Current consumption PoE (A) (typical - maximum)	1.85A

Environmental

IP rating	IP66
Degree of protection	UL type 4X
Operating temperature (°C) (IR on)	-40 °C – 50 °C
Operating temperature (°F) (IR on)	-40 °F – 122 °F
Operating temperature (°C) (IR off)	-40 °C - 60 °C
Operating temperature (°F) (IR off)	-40 °F - 140 °F
NEMA TS2 Section 2.2.7 temperature (°C)	Compliant to -34 °C to +74 °C.
NEMA TS2 Section 2.2.7 temperature (°F)	Compliant to -29 °F to +165 °F.
Storage temperature (°C)	-40 °C – 70 °C
Storage temperature (°F)	-40 °F – 158 °F
Operating relative humidity, condensing (%)	0% – 100%
Operating relative humidity, non-condensing (%)	0% – 95%
Storage relative humidity (%)	0% – 95%
Cold start temperature (°C)	-35 °C
Cold start temperature (°F)	-31 °F
Wind load (km/h)	Camera will hold its position in gusts up to 274 km/h
Wind load (mph)	Camera will hold its position in gusts up to 170 mph
Effective projected area (EPA) (camera with pendant arm)	0.17 m² (0.57 ft²)
Effective projected area (EPA) (camera with pipe mount)	0.31 m² (1.01 ft²)
Vibration	IEC 60068-2-6; NEMA TS2 Section 2.2.8
Shock	IEC 60068-2-27; NEMA TS2 Section 2.2.9
Power service	NEMA TS2 Section 2.2.7.2
Power interruption	NEMA TS2 Section 2.2.10
Salt mist spray (corrosion test)	EN 50130-5: IEC 60068-2-42, Sulfur Dioxide, 21 days; IEC 60068-2-52, Salt Mist, Test Method 1, 4 cycles

External mechanical impact	IEC 62262: IK10
Sustainability	PVC Free

Construction

Dimensions (Ø x H) (mm)	210.65 mm x 324 mm
Dimensions (Ø x H) (in)	8.3 in x 12.8 in
Weight (kg)	5.62 kg
Weight (lb)	12.40 lb
Color (RAL)	RAL 9003 Signal white
Material	Aluminum
Bubble material	Clear polycarbonate
Bubble size (mm)	Ø 209.60 mm
Bubble size (in)	Ø 8.25 in
Country of origin	Portugal

Ordering information

NDP-7802-Z40L PTZ 2MP HDR 40x IP66 pendant IR
PTZ dome camera, 2MP, 40x Optical zoom, integrated IR, starlight imaging, IP66, IK10, IVA Pro Buildings, IVA Pro Perimeter
NDAA compliant
Order number **NDP-7802-Z40L**

Accessories

NPD-9001-E Midspan, bt, 90W, IP67
Outdoor midspan with Power-over-Ethernet for use with PoE-enabled cameras; 90 W, single-port
Order number **NPD-9001-E**

NPD-9001-EBT Midspan bt 90W IP67 TAA
Outdoor midspan with Power-over-Ethernet for use with PoE-enabled cameras; 90 W, single-port
TAA compliant
Order number **NPD-9001-EBT**

NDA-6090-PMA Pole mount for midspan, bt, outdoor
Pole mount for outdoor PoE midspans NPD-6001C-E / NPD-6001C-EBT and NPD-9001-E / NPD-9001-EBT
Order number **NDA-6090-PMA**

NDA-7100-PA0H Wall arm & PSU for AD7100i 24VAC
Wall arm + Power supply unit for AUTODOME 7100i cameras, IK10 rating
24 VAC
Order number **NDA-7100-PA0H**

NDA-7100-PA0HF Wall arm & PSU for AD7100i fiber 24VAC

Wall arm + Power supply unit for AUTODOME 7100i cameras, IK10 rating
24 VAC
Direct fiber connection
Order number **NDA-7100-PA0HF**

NDA-7100-PA1H Wall arm & PSU for AD7100i 120VAC

Wall arm + Power supply unit for AUTODOME 7100i cameras, IK10 rating
120 VAC
Order number **NDA-7100-PA1H**

NDA-7100-PA1HF Wall arm & PSU for AD7100i fiber 120VAC

Wall arm + Power supply unit for AUTODOME 7100i cameras, IK10 rating
120 VAC
Direct fiber connection
Order number **NDA-7100-PA1HF**

NDA-7100-PA2H Wall arm & PSU for AD7100i 230VAC

Wall arm + Power supply unit for AUTODOME 7100i cameras, IK10 rating
230 VAC
Order number **NDA-7100-PA2H**

NDA-7100-PA2HF Wall arm & PSU for AD7100i fiber 230VAC

Wall arm + Power supply unit for AUTODOME 7100i cameras, IK10 rating
230 VAC
Direct fiber connection
Order number **NDA-7100-PA2HF**

NDA-U-PSU0H PSU, IR, 24VAC

Power supply unit without transformer, 24 VAC, IK10, for AUTODOME 7100i IR cameras
Order number **NDA-U-PSU0H**

NDA-U-PSU1H PSU, IR, 120VAC

Stand-alone power supply unit without transformer, 120 VAC, IK10, for AUTODOME 7100i IR cameras
Order number **NDA-U-PSU1H**

NDA-U-PSU2H PSU, IR, 230VAC

Power supply unit without transformer, 230 VAC, IK10, for AUTODOME 7100i IR cameras
Order number **NDA-U-PSU2H**

NDA-7100-PEN Pendant arm for AUTODOME 7100i

Pendant arm mount for AUTODOME 7100i and AUTODOME 7100i IR cameras
Order number **NDA-7100-PEN**

NDA-7100-PENF Pendant arm fiber AUTODOME 7100i

Pendant arm with direct fiber connection for AUTODOME 7100i and AUTODOME 7100i IR cameras
Order number **NDA-7100-PENF**

NDA-7100-PIPE Pipe mount for AUTODOME 7100i

Pipe mount for AUTODOME 7100i and AUTODOME 7100i IR cameras
Order number **NDA-7100-PIPE**

NDA-7100-PIPEF Pipe mount fiber for AUTODOME 7100i

Pipe mount with direct fiber connection for AUTODOME 7100i and AUTODOME 7100i IR cameras

Order number **NDA-7100-PIPEF**

NDA-PEND-WPLATE Mounting plate for NDA-7100-PEN/ PENF

Mounting plate for NDA-7100-PEN and NDA-7100-PENF for AUTODOME 7100i and AUTODOME 7100i IR cameras

Order number **NDA-PEND-WPLATE**

NDA-U-WMP Wall mount plate

Back plate for universal wall mount, corner mount and pole mount, white, IP66

Order number **NDA-U-WMP**

NDA-U-CMT Corner mount adapter

Universal corner mount, white

Order number **NDA-U-CMT**

NDA-U-PMT Pendant pipe mount, 12" (31cm)

Universal pipe mount for dome cameras, 31 cm, white

Order number **NDA-U-PMT**

NDA-U-PMAL Pole mount adapter large

Universal pole mount adapter, white; large

Order number **NDA-U-PMAL**

NDA-U-RMT Pendant parapet mount

Universal roof mount for dome cameras, white, for outdoor usage

Order number **NDA-U-RMT**

LTC 9230/01 Parapet roof mount adapter

Flat roof mount adapter for mounting NDA-U-RMT on a flat surface.

Order number **LTC 9230/01**

NDA-7100-CBL Spare bubble for AUTODOME 7100i IR

Replacement bubble for AUTODOME 7100i and AUTODOME 7100i IR cameras

Order number **NDA-7100-CBL**

NDA-7100-TBL Bubble, tinted for AUTODOME 7100i

Tinted replacement bubble for AUTODOME 7100i and AUTODOME 7100i IR cameras

Order number **NDA-7100-TBL**

NDA-7100-HCBL Bubble, clear hydrophilic AUTODOME 7100i

Clear, hydrophilic replacement bubble for AUTODOME 7100i and AUTODOME 7100i IR cameras

Order number **NDA-7100-HCBL**

SD-064G IP SECURITY SD CARD 64GB

64 GB industrial SD card with health status monitoring

Order number **SD-064G**

SD-128G IP SECURITY SD CARD 128GB

128 GB industrial SD card with health status monitoring

Order number **SD-128G**

SD-256G IP SECURITY SD CARD 256GB

256 GB industrial SD card with health status monitoring

Order number **SD-256G**

NDA-7100-WP Weather protector for AUTODOME 7100i

On-camera weather protector for AUTODOME 7100i and AUTODOME 7100i IR cameras

Order number **NDA-7100-WP**

Software Options**MVC-IVA-TRA IVA Pro Traffic**

Video analytics software based on deep neural network technology for traffic monitoring and Automatic Incident Detection.

Order number **MVC-IVA-TRA**

MVC-IVA-IT IVA Pro Intelligent Tracking

AI-based Intelligent Tracking and video analytics while the camera is moving for applications in crowds and traffic scenes.

Order number **MVC-IVA-IT**

MVC-IVA-APC IVA Pro Appearance

Video analytics software based on deep neural network technology for detailed person appearance attributes allowing advanced forensic search.

Order number **MVC-IVA-APC**



<https://www.boschsecurity.com>