DDZ5000DN-IR Series

Ultra high definition PTZ network camera, 5/8 MP, H.265, day/night, WDR/HDR, PoE++, 40× zoom, integrated IR illumination, integrated heater, variable Mountera® mounting system

| Domera® OS | 40x Zoom | Infrared | HDR / WDR | EdgeStorage | Mountera® | Weatherproof | Privacy | Security | ONVIF | S T |

The DDZ5000DN-IR series offers high-speed PTZ network cameras with 40× zoom and integrated IR Illumination. Both models are equipped with a high-performance PTZ mechanism and provide high-resolution video streams with up to 60/30 fps at a resolution of up to 5/8 MP with excellent contrast, brilliant clarity as well as highest detail resolution.

Domera® OS

The cameras are equipped with the hardened Linux operating system Domera® OS. In addition to a kernel with long-term support, it offers extensive security functions such as the deactivation of unused ports or the enforcement of strict passwords. In addition, Domera® OS supports secure network authentication (IEEE 802.1X) and encrypted data transmission (TLS 1.2/AES-256). All software components are subject to permanent monitoring, maintenance and updating, while the effectiveness of all measures is ensured by regular external penetration tests.

PTZ home position EdgeAnalytics

In the PTZ home position, the camera optionally supports the use of the EdgeAnalytics Essential Apps (AI Motion Detection, AI Tamper Detection, AI Loitering Detection, AI Intrusion Detection, AI Line Crossing) based on Deep AI object classification using intensively trained neural networks. In the home position, the Essential Apps offer the complete range of functions already integrated in the 6000 camera series and deliver precise results for triggering actions with the integrated Domera® event management, even under difficult conditions (backgrounds with green areas, water surfaces, etc.).

Event-controlled recording

Dallmeier recording systems usually record the video stream of PTZ cameras permanently. If the EdgeAnalytics Essential Apps are used in the PTZ home position, it is possible to switch to event-controlled recording. In this case, when leaving the home position, the entire camera pan is recorded as well as every object detected in the new position.

Integrated IR illumination

The day/night operation is supported by an integrated wide-ranging IR illumination that is automatically adjusted to the selected zoom ratio. In the IR mode at night, the cameras provide excellent results due to the high infrared sensitivity and thus meets even the most demanding requirements in a 24-hour operation.

EdgeStorage

The cameras are equipped with a RAM memory that is used by the EdgeStorage function to store the video stream in case of a network failure (e.g. Spanning Tree, Bursts). When the network is restored, the SmartBackfill function ensures fast transmission to the Dallmeier recording system. This stores the video stream with high speed and then continues to record the live stream seamlessly.

Further features

- High-speed pan/tilt/zoom mechanism
- 40× zoom with autofocus
- Digital image stabilization (EIS)
- Range of IR lighting up to 100 m
- Minimum illumination 0 lux (with IR LED On)
- Memory expansion with microSDXC card
- Wide Dynamic Range (WDR/HDR)
- Video Compression H.264, H.265, MJPEG
- 128 programmable preset positions
- GDPR-compliant functions for data protection and security
- Compatible with ONVIF Profile S and Profile T
- Network protocol MQTT supported
- Weatherproof IP69 housing with heater
- Compatible with the Mountera® mounting system

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Camera		
	009087	**DDZ5540DN-IR** High definition PTZ network camera, 5 MP, H.265, day/night, WDR/HDR, PoE++, 40× zoom, integrated IR illumination, integrated heater, Mountera® outdoor dome housing
	009086	**DDZ5840DN-IR** Ultra high definition PTZ network camera, 8 MP, H.265, day/night, WDR/HDR, PoE++, 40× zoom, integrated IR illumination, integrated heater, Mountera® outdoor dome housing

Accessories		
	007054	**Mountera® Box with PSU** Mountera® Box with power supply unit, 48 V DC, 5.4 A, 260 W, IP69, white
	006979	**Mountera® Wall Bracket** Mountera® bracket for the installation of camera systems on walls or on a Mountera® Box, Quick-Lock System included, robust aluminium construction, internal cable routing, vandal-resistant, powder-coated, white
	006980	**Mountera® Ceiling Bracket** Mountera® bracket for installation of camera systems on ceilings, Quick-Lock System included, robust aluminium construction, internal cable routing, vandal-resistant, powder-coated, white
	007428	**Mountera® Cable Set C** Preassembled cable set for the connection of a camera system to a Mountera® Box, 1× cable seal, 1× cable power supply/grounding, 1× cable network (copper RJ45), each with matching plug, UV-resistant and flexible, length 80 cm

Included Support and License Interval

PTZ Camera Support and License Interval Basic
License for the use of the support services of the Support Level Basic for 60 months,
license for the update of Domera® OS with updates, upgrades and security updates[1] for 12 months,
license for the update of neural networks for object classification for 12 months,
bring-in warranty for 24 months

Optional Support and License Interval

009143   **PTZ Camera Support and License Interval Premium (Total of 60 Months)**
License for the use of the support services of the Support Level Premium for 60 months
license for the update of Domera® OS with updates, upgrades and security updates[1] for 60 months
license for the update of neural networks for object classification for 60 months
unlimited license for the use of EdgeAnalytics AI Apps (Essentials) with object classification

Optional Maintenance

009144   **PTZ Camera Software Maintenance (Plus 12 Months)**
License for the update of Domera® OS with updates, upgrades and security updates[1] for 12 months,
license for the update of neural networks for object classification for 12 months

Optional License

009145   **DLC - PTZ Camera EdgeAnalytics AI Apps (Essentials)**
Perpetual license for the use of EdgeAnalytics AI Apps (Essentials) with object classification
in the PTZ home position (AI Motion Detection, AI Tamper Detection, AI Loitering Detection,
AI Intrusion Detection, AI Line Crossing, AI People Counting, AI Vehicle Counting)

[1]   Security updates for relevant CVE vulnerabilities that become known will be provided (subject to technical feasibility) for the entire runtime of the software maintenance.

Dallmeier

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Sensor	DDZ5540DN-IR	DDZ5840DN-IR
Type	1/2.8" CMOS	1/2.8" CMOS
Number of sensor pixels	5MP	8MP
Light sensitivity	IR LED OFF: 0,002 lux (F1.6, AGC ON) IR LED ON: 0 lux	IR LED OFF: 0,005 lux (F1.8, AGC ON) IR LED ON: 0 lux
Dynamic range	WDR/HDR	WDR/HDR

Lens	DDZ5540DN-IR	DDZ5840DN-IR
Zoom	40×	40×
Focal length	4.25 – 170 mm (40×)	4.5 – 135 mm (30× with 1.33 digital zoom)
Aperture range	F1.6	F1.8
IR corrected	Yes	Yes
Available angle of view at wide end (H × V)	62.6° × 48.8°	62.7° × 37.1°
Available angle of view at tele end (H × V)	1.9° × 1.4°	2.5° × 1.4°

PTZ Functions	
Pan range	0° to 360° endless
Tilt range	−10° to 190°[3]
Auto Flip	Supported
Pan speed	Manual speed 0.1° – 90°/sec Preset speed 300°/sec
Tilt speed	Manual speed 0.1° – 55°/sec Preset speed 300°/sec
Speed adjustment	Supported
Presets	128
Patrols	32 (each with up to 32 presets)

Format and Encoding	DDZ5540DN-IR	DDZ5840DN-IR
Video standard	SDTV (PAL/NTSC) HDTV (SMPTE 296M, SMPTE 274M)	SDTV (PAL/NTSC) HDTV (SMPTE 296M, SMPTE 274M)
Resolution 4:3	5 MP (2592 × 1944) @ 50/60[2] fps 4 MP (2336 × 1744) @ 50/60[2] fps 1.9 MP (1600 × 1200) @ 50/60[2] fps 1.5 MP (1440 × 1080) @ 50/60[2] fps 1.2 MP (1280 × 960) @ 50/60[2] fps	-- -- -- -- --
Resolution 16:9	3.6 MP (2560 × 1440) @ 50/60[2] fps 1080p (1920 × 1080) @ 50/60[2] fps 720p (1280 × 720) @ 50/60[2] fps 720 × 400 @ 50/60[2] fps	8 MP (3840 × 2160) @ 25/30 fps 5.3 MP (3072 × 1728) @ 25/30 fps 1080p (1920 × 1080) @ 25/30 fps 720p (1280 × 720) @ 25/30 fps
Video compression	H.264, H.265, MJPEG	H.264, H.265, MJPEG
Frame rate	Up to 60[2] fps	Up to 30 fps
Video bit rate	Encoder 1: 1 – 12 Mbps Encoder 2: 0.1 – 12 Mbps	Encoder 1: 1 – 12 Mbps Encoder 2: 0.1 – 12 Mbps
Bitrate mode	CBR (constant bit rate), VBR (variable bit rate), each with priority setting for image quality[4]	CBR (constant bit rate), VBR (variable bit rate), each with priority setting for image quality[4]
Audio compression	G.711, AAC, Opus	G.711, AAC, Opus
Audio sample rate	8, 16, 24 or 48 kHz	8, 16, 24 or 48 kHz
Audio bit rate	48, 64 or 96 kbps	48, 64 or 96 kbps
Live streaming transmission method	Unicast, Multicast	Unicast, Multicast
Number of live streams / clients	Up to 5 streams with up to 8 Mbps simultaneously	Up to 5 streams with up to 8 Mbps simultaneously

2) 60 fps is available only when WDR/HDR is disabled.
3) At extreme inclination (towards -10°) and extreme wide angle setting, shadowing may occur at the edge of the picture. This is construction-related and does not constitute a defect.
4) If the total available bit rate is not sufficient, not the image quality but the number of frames is adjusted.

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Functions	
Day/Night switching	Removable IR cut filter (ICR), switching threshold level adjustable
Black-and-white mode	Automatic (at low light or in night mode), On, Off
Automatic Electronic Shutter	1/1 – 1/30,000 s
Slow Shutter Limit	1/25 – 1/1,000 s
Lens control	Auto focus (optimized for distances from 10 m[5])
Digital flip function	Horizontal, vertical or both axes
Digital Noise Reduction	3D-DNR (adjustable by 3 levels)
Exposure presets	Universal, Indoor, Outdoor, Casino, Low-Light, User-Defined (with automatic day/night switching)
Backlight compensation	Automatic (BLC), manual
Brightness adjustment	Automatic (ALC), manual
Gain control	Automatic (AGC) with adjustable Gain Limit
White balance	Automatic (ATW), manual
Image stabilization	Automatic (EIS)
Privacy Zone Masking	Up to 20 protected areas (up to 100% of the entire image)[6]
Alarm notification	Via DaVid protocol to PGuard advance
Alarm trigger	EdgeStorage status, contact input, certificate expiry, service interval
EdgeAnalytics AI Apps (Essentials)[7]	In the PTZ home position: AI Motion Detection, AI Tamper Detection, AI Loitering Detection, AI Intrusion Detection, AI Line Crossing, AI People Counting, AI Vehicle Counting[6]
EdgeAnalytics object classes	Person, animal[8], car, large vehicle, two-wheeler
EdgeAnalytics actions	PTZ action (preset/tour), switching of relays, audio output, message via MQTT, HTTP and e-mail

Protocols	
Ethernet protocols	IPv4 (ARP, ICMP, IGMPv2/IGMPv3), UDP, TCP, LLDP, CDP (v1,v2), DSCP (QoS), DNS, DHCP, NTP, HTTP/HTTPS[9], RTSP/RTP/RTCP, SNMP (v1, v2c, v3)
Ethernet protocols in preparation	IPv6 (NDP, ICMPv6, MLDv1/MLDv2, SLAAC, RDNSS), UDPv6, TCPv6, DNSv6, DHCPv6, LDAP
Communication protocols	DaVid, DaVidS, ONVIF Profile S, Profile T, SNMP (v1, v2c, v3)
Security	HTTPS[9] encryption, SSL/TLS[9] 1.2 (AES), network access control according to IEEE 802.1X[9]

Connections	
Ethernet	1× RJ45, 1000BASE-T (PoE++) on Telegärtner STX V4 socket with STX RJ45 coupling Cat.6
Power IN	1× on HARTING connector (5-pole)
Audio Line IN	1× on connector (10-pole)
Audio Line OUT	1× on connector (10-pole)
Contact IN	2× on connector (10-pole)
Relay OUT	2× on connector (10-pole)

IR Illumination	
IR Range	Up to approx. 100 m
Day/Night switching threshold	Adjustable

5) At an object distance of less than 10 m and a high zoom factor (greater than 25×), the autofocus may slow down. This is due to technical reasons and does not constitute a defect.
6) While controlling the lens (pan, tilt, zoom), slight shifts of the private zones and the marked areas for EdgeAnalytics may occur.
7) Optional license DLC - EdgeAnalytics AI Apps (Essentials) or AI Camera Support and License Interval Premium required.
8) If the lens is oriented vertically downwards, the object class "animal" is not available because the neural network is not yet trained for animal recognition from above.
9) This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org) and cryptographic software written by Eric Young (eay@cryptsoft.com).

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Electrical Data	
Voltage supply	48 V DC ±5% PoE++ Class 6 Type 3
PoE standard	IEEE 802.3bt
Power consumption	Max. 51 W (including heater)

Mechanical Data	
Dimensions (W × H × D)	245 mm × 450 mm × 245 mm
Weight	Approx. 10 kg
Material	Aluminium
Adjustment	Stepless on 3-axes up to ±5°
IK protection	IK10 (glass pane excluded)
IP rating	IP66
Color	White with black housing ring

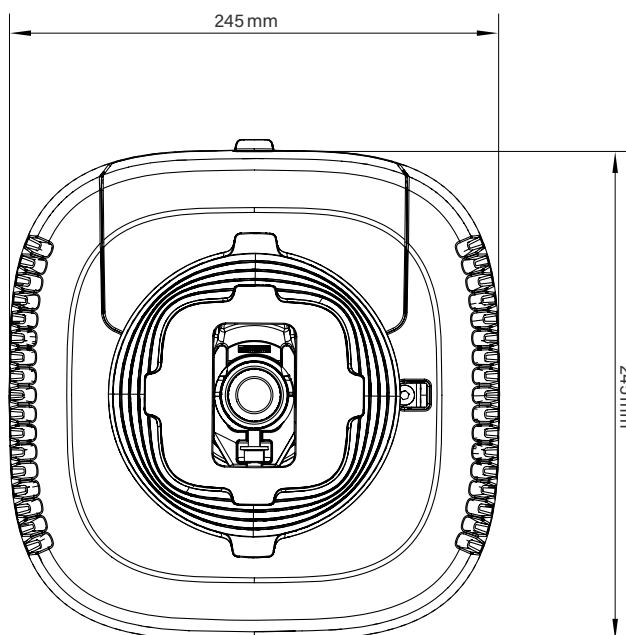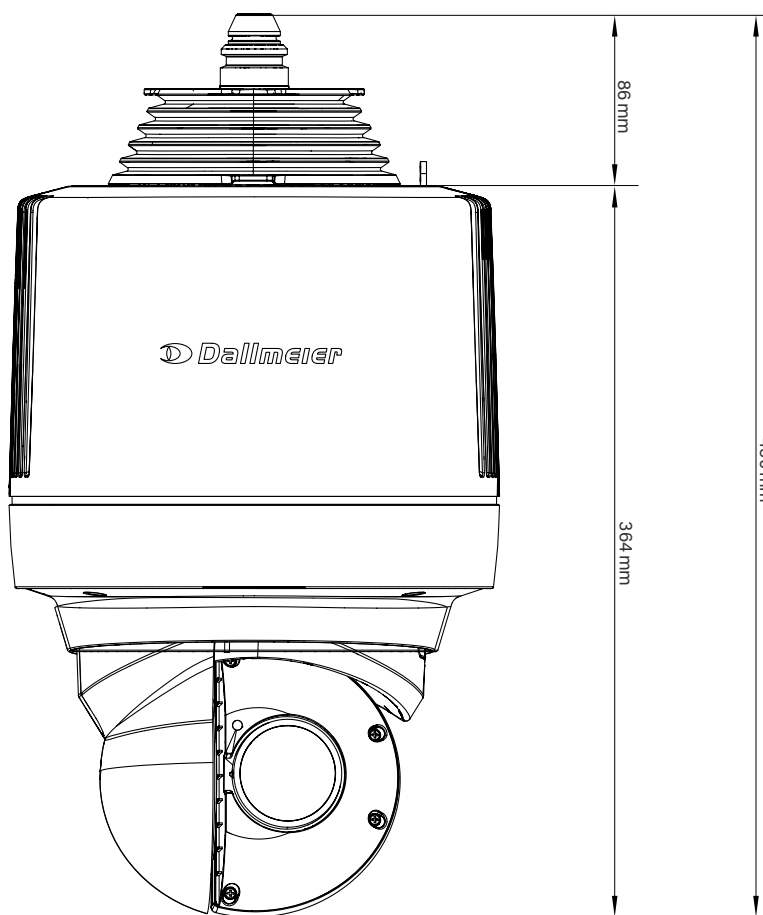| Environmental Conditions	
Installation sites	Indoor and outdoor
Operating temperature	−40°C to +50°C
Relative humidity	10% – 90% RH, non-condensing

Compatibility	
Recording	SMAVIA Recording Server V8.x.x SMAVIA Recording Server V9.x.x SeMSy® Recording Server V10.x.x
Evaluation	SMAVIA Viewing Client SeMSy® Workstation Software SeMSy® Compact

Miscellaneous	
Ambient light sensor	Integrated
Local memory	30 MB RAM memory
Memory extension	microSDXC mind. Class 10, UHS Class 1, App Performance Class 1 (optional, adapter for SD slot 25 mm required)
Configuration and live video	Via web browser (all major platforms)
Languages	German, English
Programming interface	Open platform for integration into 3rd party systems using API
ONVIF compliance	Profile S, Profile T
GDPR compliance	Supported

Approvals/Certifications	
Type	CE, FCC, RCM

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See more.

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