Modernizácia, rozširovanie a poskytovanie servisných služieb mestského kamerového systému hlavného mesta SR Bratislavy

Obsah ponuky

Priložené dokumenty

1.0	Obsah ponuky
1.1	Priloha c. 2 - Navrh na plnenie kriteria a vykazy vymer_upravy FB Group
1.2	Priloha c. 5 - Dokument na preukazanie splnenia podmienok ucasti_vzor
1.3	1.3 zoznam_hospodarskych_subjektov
1.4	IP PTZ TYP 1 Dahua SD5A432XA-HNR
1.5	IP PTZ TYP 2 Dahua SD5A232XA-HNR
1.6	IP PTZ TYP 3 Dahua SD49225XA-HNR
1.7	IP pevná k. TYP 1 iDS-2CD7A26G0-P-IZHSY(8-32mm)
1.8	IP pevná k. TYP 2 iDS-2CD7A46G0-P-IZHSY(8-32mm)
1.9	IP pevná k. TYP 3 Dahua IPC-HFW5241E-ZE-27135
1.10	IP pevná k. TYP 4 Dahua IPC-HFW5442E-ZE-2712
1.11	IP pevná k. TYP 5 Dahua IPC-HFW5241T-ASE-0280B
1.12	IP pevná k. TYP 6 DS-2CD5A46G1-IZS(2.8-12mm)
1.13	lokálny kam. syst. pevná IP kam. Dahua IPC-HDW2431T-AS-0280B-S2
1.14	PCVS Rack TSS 8HDD sk Datasheet - alternatíva pre zariadenia NVH-2608XR a NVH-2608XRD
1.15	alternatíva DELL OptiPlex 3080 s konfiguráciou zhodnou alebou lepšou ako NVH-1001, konfigurácia vyznačená v katalógovom liste
1.16	alternatíva DELL OptiPlex 5080 MT s konfiguráciou zhodnou alebou lepšou ako NVH-1101, konfigurácia vyznačená v katalógovom liste
1.17	NVIDIA Quadro P620 alternatíva ku NVH-QUAD

Vytvoril : dňa 16.6.2021 Branislav Filipovič

BRATISLAVA	**Príloha č. 2 - Návrh na plnenie kritéria a výkazy výmer**
Obchodné meno uchádzača:	FB Group s. r. o.
Sídlo uchádzača:	Bancíkovej 1/A, Bratislava - mestská časť Ružinov, 821 03
Štatutárny zástupca:	Branislav Filipovič
IČO:	50898299
IČ DPH:	SK2120523889
Tel. číslo:	[redacted]
Email:	[redacted]

Návrh na plnenie kritéria

	Cena celkom za predmet zákazky v EUR bez DPH	Výška DPH	**Cena celkom za predmet zákazky v EUR s DPH**
návrh uchádzača	225 437,75 €	45 087,55 €	**270 525,30 €**

Som – ~~Nie som~~ platiteľom DPH (nehodiace sa preškrtnite)

V Bratislave dňa 16.6.2021	podpis uchádzača

[redacted]

VÝKAZ KAMERY

Cenová tabuľka č. 1

P.č.	Názov	predpokladané množstvo	merná jednotka	jednotková cena bez DPH	cena bez DPH	DPH	Cena s DPH
1	Demontáž kamery	10	ks	22,00	220,00 €	44,00 €	264,00 €
2	Montáž a programovanie novej kamery s pripojením na server	50	ks	77,00	3 850,00 €	770,00 €	4 620,00 €
3	Inštalácia OR (plastová krabica s panelom do outdoor skrine)	50	ks	19,80	990,00 €	198,00 €	1 188,00 €
4	Zváranie v OR outdoor	30	ks	19,80	594,00 €	118,80 €	712,80 €
5	Inštalácia optického prevodníku	30	ks	16,50	495,00 €	99,00 €	594,00 €
6	Zatiahnutie optického kábla	3000	m	1,10	3 300,00 €	660,00 €	3 960,00 €
7	Inštalácia - Kruhový vodič 8 FeZn	1000	m	1,65	1 650,00 €	330,00 €	1 980,00 €
8	Inštalácia rozvodnice	30	ks	38,50	1 155,00 €	231,00 €	1 386,00 €
9	Inštalácia transformátora pre kameru	30	ks	11,00	330,00 €	66,00 €	396,00 €
10	Inštalácia PoE napájania s výstupom na optiku	30	ks	11,00	330,00 €	66,00 €	396,00 €
11	Zatiahnutie elektrického kábla	1000	m	1,10	1 100,00 €	220,00 €	1 320,00 €
12	Krimpovanie konektorov RJ45	30	ks	0,55	16,50 €	3,30 €	19,80 €
13	Zatiahnutie štruktúrovaného kábla	1000	m	1,10	1 100,00 €	220,00 €	1 320,00 €
14	Elektrická inštalácia a zapojenie	30	ks	55,00	1 650,00 €	330,00 €	1 980,00 €
15	Pripojovacie svorky jednostranné so svorkou KS	50	ks	22,00	1 100,00 €	220,00 €	1 320,00 €
16	Statický posudok na stĺp (verejného osvetlenia, trolejového vedenia)	50	ks	275,00	13 750,00 €	2 750,00 €	16 500,00 €
17	Východzia odborná skúška	30	ks	55,00	1 650,00 €	330,00 €	1 980,00 €
18	Projektová dokumentácia + inžinierska činnosť	30	ks	165,00	4 950,00 €	990,00 €	5 940,00 €
19	Ostatné poskytnuté práce pre inštaláciu kamery (paušál)	30	ks	297,00	8 910,00 €	1 782,00 €	10 692,00 €
20	Križovanie trolejového vedenia (spolupráca s DPB a.s, Vypnutie TV, práca v noci, prenájom izolovanej plošiny s osádkou)	5	h	550,00	2 750,00 €	550,00 €	3 300,00 €
21	Geodetické zameranie	30	súbor	110,00	3 300,00 €	660,00 €	3 960,00 €
Tabuľka č. 1 spolu					**53 190,50 €**	**10 638,10 €**	**63 828,60 €**

Cenová tabuľka č. 2

P.č.	Názov	množstvo	merná jednotka	jednotková cena bez DPH	cena bez DPH	DPH	Cena s DPH
1	2.1.1 IP PTZ kamera typ 1	10	ks	858,75	8 587,50 €	1 717,50 €	10 305,00 €
2	2.1.2 IP PTZ kamera typ 2	10	ks	762,81	7 628,10 €	1 525,62 €	9 153,72 €
3	2.1.3 IP PTZ kamera typ 3	5	ks	425,94	2 129,70 €	425,94 €	2 555,64 €
4	2.1.4 IP pevná kamera typ 1	5	ks	980,50	4 902,50 €	980,50 €	5 883,00 €
5	2.1.5 IP pevná kamera typ 2	5	ks	1009,50	5 047,50 €	1 009,50 €	6 057,00 €
6	2.1.6 IP pevná kamera typ 3	5	ks	245,00	1 225,00 €	245,00 €	1 470,00 €
7	2.1.7 IP pevná kamera typ 4	5	ks	294,50	1 472,50 €	294,50 €	1 767,00 €
8	2.1.8 IP pevná kamera typ 5	4	ks	132,00	528,00 €	105,60 €	633,60 €
9	2.1.9 IP pevná kamera typ 6	1	ks	625,00	625,00 €	125,00 €	750,00 €
10	Skriňa (napr. Schneider Sarel Thalassa PLM (530x430x200), IP66	50	ks	157,27	7 863,50 €	1 572,70 €	9 436,20 €
11	Optická dome spojka pre min 24 vlákien na stĺp	35	ks	27,14	949,90 €	189,98 €	1 139,88 €
12	Optická spojka - kazeta do zeme pre min 24 vlákien	20	ks	27,14	542,80 €	108,56 €	651,36 €
13	Optický rozvádzač, Outdoor prevedenie	50	ks	56,71	2 835,50 €	567,10 €	3 402,60 €
14	Vonkajší dome box -optická spojka pre 24 vlákien s ochranou spojov	65	ks	51,24	3 330,60 €	666,12 €	3 996,72 €
15	Ochrana zvaru, zmršťovacia	30	ks	0,14	4,20 €	0,84 €	5,04 €
16	Kazeta pre OR	30	ks	1,85	55,50 €	11,10 €	66,60 €
17	Držiak zvarov pre kazetu do OR	30	ks	0,60	18,00 €	3,60 €	21,60 €
18	Patchkabel SM SC/PC duplex 1m	30	ks	5,96	178,80 €	35,76 €	214,56 €
19	Adaptér SC/PC DUPLEX, pre OR	30	ks	0,41	12,30 €	2,46 €	14,76 €

20	Pigtail SC, SM, 1,5m SCPC901.5	30	ks	1,38	41,40 €	8,28 €	49,68 €
21	Optický modul LC konektorom pre single-mode komunikáciu o prenosovej rýchlosti 100 Mbps. Dosiahnutá vzdialenosť je 20 km	30	ks	36,00	1 080,00 €	216,00 €	1 296,00 €
22	Optický modul LC konektorom pre single-mode komunikáciu o prenosovej rýchlosti 100 Mbps. Dosiahnutá vzdialenosť je 20 km protikus	30	ks	33,75	1 012,50 €	202,50 €	1 215,00 €
23	Optický modul LC konektorom pre single-mode komunikáciu o prenosovej rýchlosti 1000 Mbps. Dosiahnutá vzdialenosť je 20 km	20	ks	38,25	765,00 €	153,00 €	918,00 €
24	Optický modul LC konektorom pre single-mode komunikáciu o prenosovej rýchlosti 1000 Mbps. Dosiahnutá vzdialenosť je 20 km - protikus	20	ks	75,00	1 500,00 €	300,00 €	1 800,00 €
25	Transformátor 230 VAC/24VAC	30	ks	33,60	1 008,00 €	201,60 €	1 209,60 €
26	PoE zdroj s výstupom na optiku SM	30	ks	81,75	2 452,50 €	490,50 €	2 943,00 €
27	nemenežovatelný 4portový PoE switch, 4x 10/100 Mbps Base-T + 2x 100 Mbps uplink, celkovo na všetky porty max. 60 W, ochrana pred prepätím 2 kV	10	ks	33,75	337,50 €	67,50 €	405,00 €
28	switch 3x 10/100 Mbps + 1x Gbit + 2x SFP Gbit, podpora PoE pre 4 porty, 4x PoE (IEEE802.3af/at), port 1–3 max. 30 W, port 4 max. 60 W, celkovo na všetky porty max. 120 W	5	ks	120,75	603,75 €	120,75 €	724,50 €
29	Prepäťová ochrana	65	ks	39,60	2 574,00 €	514,80 €	3 088,80 €
30	Elektrický kábel CYKY 3x2,5	100	m	1,01	101,00 €	20,20 €	121,20 €
31	Elektrický kábel CMSM 3Jx1,5	100	m	1,09	109,00 €	21,80 €	130,80 €
32	Istič 6A char.B	30	ks	4,13	123,90 €	24,78 €	148,68 €
33	FTP cat5e indoor	50	m	0,34	17,00 €	3,40 €	20,40 €
34	FTP cat5e outdoor	100	m	0,37	37,00 €	7,40 €	44,40 €
35	Konektor RJ45	50	ks	0,14	7,00 €	1,40 €	8,40 €
36	Optický kábel , 24vl SM., zafukovací	500	m	1,02	510,00 €	102,00 €	612,00 €
37	Optický kábel , 16vl SM., zafukovací	500	m	1,02	510,00 €	102,00 €	612,00 €
38	Optický kábel závesný 24 vl SM samonosný	1000	m	0,83	830,00 €	166,00 €	996,00 €
39	Optický kábel závesný 16 vl SM samonosný	1000	m	0,83	830,00 €	166,00 €	996,00 €
40	Trubka ohybná PSM-E-MF	250	m	1,16	290,00 €	58,00 €	348,00 €
41	Trubka pancierová Ø 32	250	m	0,67	167,50 €	33,50 €	201,00 €
42	Držiak káblovej rezervy na stožiar	100	ks	21,96	2 196,00 €	439,20 €	2 635,20 €
43	Závesný hák samonosného kábla na stĺp	30	ks	10,80	324,00 €	64,80 €	388,80 €
44	Závesný hák samonosného kábla na budovu	30	ks	5,94	178,20 €	35,64 €	213,84 €
45	Podpera vedenia na ploché strechy dvojbodová - PV 21 beton/plast - 1,0kg	100	ks	1,03	103,00 €	20,60 €	123,60 €
46	Kruhový vodič 8 FeZn	1000	m	0,90	900,00 €	180,00 €	1 080,00 €
47	Pripojovacie svorky jednostranné so svorkou KS	50	ks	9,37	468,50 €	93,70 €	562,20 €
48	Trubka priem 20 UV stabilná	100	m	1,02	102,00 €	20,40 €	122,40 €
49	príchytka na stenu pre trubku UV stabilnú	100	ks	0,30	30,00 €	6,00 €	36,00 €
50	príchytka na stĺp pre trubu UV stabilnú	100	ks	1,20	120,00 €	24,00 €	144,00 €
Tabuľka č. 2 spolu					**67 265,65 €**	**13 453,13 €**	**80 718,78 €**

VÝKAZ VDG SENSE

Cenová tabuľka č. 3

PRÁCE							
P.č.	**Názov**	**predpokladané množstvo**	**merná jednotka**	**jednotková cena bez DPH**	**cena bez DPH**	**DPH**	**cena spolu**
1.	Konfigurácia Sense servera	1	ks	1 287,00 €	1 287,00 €	257,40 €	1 544,40 €
2.	Konfigurácia Sense pracovnej stanice	10	ks	325,00 €	3 250,00 €	650,00 €	3 900,00 €
3.	Ostatné práce	100	h	31,20 €	3 120,00 €	624,00 €	3 744,00 €
Tabuľka č. 3 spolu					**7 657,00 €**	**1 531,40 €**	**9 188,40 €**

Cenová tabuľka č. 4

VDG SENSE Hardware							
P.č.	**Názov**	**predpokladané množstvo**	**merná jednotka**	**jednotková cena bez DPH**	**cena bez DPH**	**DPH**	**cena spolu**
1.	Server - VDG Video server						
1.1	NVH-2608XR Video server 19", xeon, 2U, SSD, 8-port, HS RAID, RPSU (min. konfigurácii)	1	ks	2 475,00 €	2 475,00 €	495,00 €	2 970,00 €
1.2	NVH-2608XRD Video server 19", dual xeon, 2U, SSD, 8-port, HS RAID, RPSU	1	ks	2 475,00 €	2 475,00 €	495,00 €	2 970,00 €
1.5	Extra 100/1000Mbps LAN interface	4	ks	88,00 €	352,00 €	70,40 €	422,40 €
1.7	Pro video server storage 8TB Pevný disk 3,5" , 256 MB cache, 7200 ot., Interface SATA 6 GB/sInterface transfer rate 600 MB/s, prevádzka 24/7	16	ks	363,00 €	5 808,00 €	1 161,60 €	6 969,60 €
1.8	Pro video server storage 10TB Pevný disk 3,5" , 256 MB cache, 7200 ot., Interface SATA 6 GB/sInterface transfer rate 600 MB/s, prevádzka 24/7	16	ks	418,00 €	6 688,00 €	1 337,60 €	8 025,60 €
1.9	Pro video server storage 12TB Pevný disk 3,5" , 256 MB cache, 7200 ot., Interface SATA 6 GB/sInterface transfer rate 600 MB/s, prevádzka 24/7	8	ks	495,00 €	3 960,00 €	792,00 €	4 752,00 €
2.	Pracovná stanica - VDG Video client						
2.1	NVH-1001 Compact, i5, SSD, 1TB HDD (min. v konfigurácii)	2	ks	864,60 €	1 729,20 €	345,84 €	2 075,04 €
2.2	NVH-1101 Video client, i7, SSD (desktop/tower)	8	ks	968,00 €	7 744,00 €	1 548,80 €	9 292,80 €
2.5	NVH-QUAD Quad mini display port/DVI-D output	8	ks	286,00 €	2 288,00 €	457,60 €	2 745,60 €
3	Monitor 1 27" Full HD LED, 1920x1080, 24/7,VGA,DVI,HDMI,DP + kabel pre pripojenie k PC (min. 2 m)	16	ks	532,62 €	8 521,92 €	1 704,38 €	10 226,30 €
4	Monitor 2 55" Full HD LED, 1920x1080, 24/7,VGA,DVI,HDMI, kabel pre pripojenie k PC (min. 2 m)	6	ks	1 368,18 €	8 209,08 €	1 641,82 €	9 850,90 €
4	Monitor 3 60" Full HD LED, 1920x1080, 24/7,VGA,DVI,HDMI,DP kabel pre pripojenie k PC (min. 2 m)	6	ks	1 556,94 €	9 341,64 €	1 868,33 €	11 209,97 €
Tabuľka č. 4 spolu					**59 591,84 €**	**11 918,37 €**	**71 510,21 €**

VÝKAZ SERVIS

Cenová tabuľka č. 5

PRÁCE							
P.č.	**Názov**	**predpokladané množstvo**	**merná jednotka**	**jednotková cena bez DPH**	**cena bez DPH**	**DPH**	**Spolu s DPH**
1.	Cena za 1 hod. operatívneho servisu od 7:00 do 15:00	200	h	28,75 €	5 750,00 €	1 150,00 €	6 900,00 €
2.	Cena za 1 hod. operatívneho servisu od 15:00 do 7:00 a v sobotu	30	h	34,50 €	1 035,00 €	207,00 €	1 242,00 €
3.	Cena za 1 hod. operatívneho servisu vo sviatok a v nedeľu	30	h	40,25 €	1 207,50 €	241,50 €	1 449,00 €
4.	Servisná kontrola	100	kamera	34,50 €	3 450,00 €	690,00 €	4 140,00 €
5.	Odborná prehliadka a odborná skúška	50	kamera	57,50 €	2 875,00 €	575,00 €	3 450,00 €
6.	Prenájom montážnej plošiny výška do 12m	130	h	46,00 €	5 980,00 €	1 196,00 €	7 176,00 €
7.	Prenájom montážnej plošiny výška nad 12m	130	h	51,75 €	6 727,50 €	1 345,50 €	8 073,00 €
Tabuľka č. 5 spolu					**27 025,00 €**	**5 405,00 €**	**32 430,00 €**

VÝKAZ LOKÁLNY KAMEROVÝ SYSTÉM

Cenová tabuľka č. 6

PRÁCE							
P.č.	**Názov**	**množstvo**	**merná jednotka**	**jednotková cena bez DPH**	**cena bez DPH**	**DPH**	**Spolu s DPH**
1.	Pevná IP kamera s konzolou	10	ks	109,40 €	1 094,00 €	218,80 €	1 312,80 €
2.	NVR Systém	8	ks	312,65 €	2 501,20 €	500,24 €	3 001,44 €
3.	POE switch	10	ks	69,42 €	694,20 €	138,84 €	833,04 €
4.	Monitor k NVR	8	ks	265,42 €	2 123,36 €	424,67 €	2 548,03 €
5.	Kábel FTP	500	m	0,39 €	195,00 €	39,00 €	234,00 €
6.	Lišta na povrchové vedenie kabeláže 15x10mm	500	m	0,92 €	460,00 €	92,00 €	552,00 €
7.	Iný inštalačný materiál	8	súbor	65,00 €	520,00 €	104,00 €	624,00 €
8.	Práca (inštalácia, oživenie systému)	64	h	39,00 €	2 496,00 €	499,20 €	2 995,20 €
9.	Dokumentácia, zaškolenie obsluhy	8	prípad	78,00 €	624,00 €	124,80 €	748,80 €
Tabuľka č. 6 spolu					**10 707,76 €**	**2 141,55 €**	**12 849,31 €**

DH-SD5A432XA-HNR

4MP 32x Starlight IR WizSense Network PTZ Camera

- 1/2.8" 4Megapixel STARVIS™ CMOS
- Powerful 32x optical zoom
- Max. 25/30fps@4M
- IR distance up to 150 m
- Deep-learning-based auto tracking and perimeter protection
- SMD PLUS
- PoE+
- IP67, IK10
- Face Detection

WizSense

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

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, lowlight 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

Perimeter Protection
Automatically filters out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets to improve alarm accuracy.

Starlight+ Technology
For challenging low-light applications, Dahua's 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.

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.

SMD PLUS
With Deep-Learning Algorithm, Dahua SMD PLUS filters the motion detection alarm triggered by non-concerned target and recognizes human and vehicle effectively, sending alarms when human and vehicles intrude.

Wide Dynamic Range
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.

Technical Specification

Camera

Image Sensor	1/2.8" STARVIS™ CMOS
Pixel	4MP
Max. Resolution	2560 (H) × 1440 (V)
ROM	4 GB
RAM	1 GB
Electronic Shutter Speed	1/1 s–1/30000 s
Scanning System	Progressive
Min. Illumination	Color: 0.005 Lux@F1.35 B/W: 0.0005 Lux@F1.35 0 Lux (IR on)
Illumination Distance	150 m (492.13 ft)
Illuminator On/Off Control	Zoom Prio/Manual/SmartIR
Illuminator Number	4

Lens

Focal Length	4.9 mm–156 mm			
Max. Aperture	F1.35–F4.4			
Field of View	H: 61.6°–2.1°; V: 35.1°–1.3°; D: 68.2°–2.5°			
Optical Zoom	32x			
Focus Control	Auto/Semi-Auto/Manual			
Close Focus Distance	1 m–1.5 m (3.28 ft–4.92 ft)			
Iris Control	Auto/Manual/Fixed			
DORI Distance	Detect	Observe	Recognize	Identify
	3120 m (10236.22 ft)	1232 m (4041.99 ft)	624 m (2047.24 ft)	312 m (1023.62 ft)

PTZ

Pan/Tilt Range	Pan: 0°–360° endless Tilt: –15° to +90°, auto flip 180
Manual Control Speed	Pan: 0.1°/s–300°/s Tilt: 0.1°/s–200°/s
Preset Speed	Pan: 400°/s Tilt: 300°/s
Presets	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory	Support
Idle Motion	Preset/Tour/Pattern/Scanning
Protocol	DH-SD Pelco-P/D (auto recognition)

Artificial Intelligence

Smart Capture	Support human, motor vehicle and non-motor vehicle image capture.
Perimeter Protection	Tripwire and intrusion. Support alarm triggering by target types (human and vehicle). Support filtering false alarms caused by animals, rustling leaves, bright lights, etc.
Face Detection	Support
Auto Tracking	Support
SMD PLUS	Support

Video

Compression	H.265; H.264B; H.264M; H.264H; MJPEG (Sub Stream); H.265+; H.264+
Streaming Capability	3 streams
Resolution	4M (2560 × 1440); 3M (2048 × 1536); 1080P (1920 × 1080); 720P (1280 × 720); D1 (704 × 576/704 × 480); CIF (352 × 288/352 × 240)
Frame Rate	Main stream: 4M/3M/1080P/1.3M/720P (1–25/30 fps) Sub stream 1: D1/CIF (1–25/30 fps) Sub stream 2: 720P (1–25/30 fps)
Bit Rate Control	Variable/Constant
Bit Rate	H.264: 3 Kbps–20480 Kbps H.265: 3 Kbps–20480 Kbps
Day/Night	Auto (ICR)/Color/B/W
BLC	Support
WDR	120 dB
HLC	Support
White Balance	Auto/Indoor/Outdoor/Tracking/Manual/Sodium lamp/Natural light/Street lamp
Gain Control	Auto/Manual
Noise Reduction	2D/3D
Motion Detection	Support
Region of Interest (RoI)	Support
Image Stabilization	Electronic
Defog	Electronic
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas, and up to 8 areas in the same view
S/N Ratio	≥ 55 dB

Audio

Compression	G.711a; G.711Mu; G.726; AAC; MPEG2-Layer2; G722.1; G729; G723

Network

Ethernet	RJ-45 (10/100Base-T)
Protocol	IPv4; IPv6; HTTP; HTTPS; 802.1x; Qos; FTP; SMTP; UPnP; SNMPv1/v2c/v3 (MIB-2); DNS; DDNS; NTP; RTSP; RTP; TCP; UDP; IGMP; ICMP; DHCP; PPPoE; ARP; RTCP
Interoperability	ONVIF Profile S&G&T; CGI
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth 64M)
Storage	FTP; Micro SD card (256G); NAS

Browser	IE7 and later versions Chrome 42 and earlier versions Firefox 52 and earlier versions Safari
Management Software	Smart PSS; DSS; DMSS; Easy4ip; IVSS
Mobile Phone	IOS, Android

Certification

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB, ANSI C63.4-2014 UL: UL60950-1+CAN/CSA C22.2,No.60950-1

Port

Audio Input	1
Audio Output	1 (LINE OUT; bare wire)
Two-way Audio	Support
Alarm I/O	2/1

Power

Power Supply	AC 24V/3A ± 25% (standard) PoE+ (802.3at)
Power Consumption	Basic: 12W Max: 20W

Environment

Operating Temperature	–40°C to +70°C (–40°F to +158°F)
Operating Humidity	≤ 95%
Protection	IP67; IK10; 6000V lightning proof; surge protection; voltage transient protection

Structure

Dimensions	Φ190 mm × 332 mm (Φ7.48" × 13.07")
Net Weight	4.7 kg (10.36 lb)
Gross Weight	8 kg (17.64 lb)

Ordering Information

Type	Model	Description
4MP WizSense PTZ Camera	DH-SD5A432XA-HNR	4MP 32x Starlight IR WizSense Network PTZ Camera
	DH-SD5A432XAN-HNR	4MP 32x Starlight IR WizSense Network PTZ Camera
	SD5A432XA-HNR	4MP 32x Starlight IR WizSense Network PTZ Camera
	SD5A432XAN-HNR	4MP 32x Starlight IR WizSense Network PTZ Camera
Accessories	PFB305W	Wall Mount Bracket
	AC24V/3A	Power Adapter
	PFA111	Mount Adapter
	PFA140	Power Box
	PFB300C	Ceiling Mount Bracket
	PFA120	Junction Box
	PFA150	Pole Mount Bracket
	PFA151	Corner Mount Bracket
	PFB303S	Parapet Mount Bracket

Accessories

Included:

PFB305W
Wall Mount Bracket

AC24V/3A
Power Adapter

Optional:

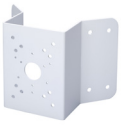
PFA111
Mount Adapter

PFA140
Power Box

PFB300C
Ceiling Mount Bracket

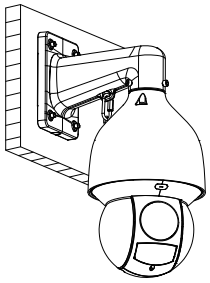
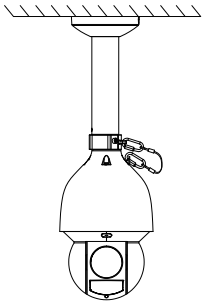
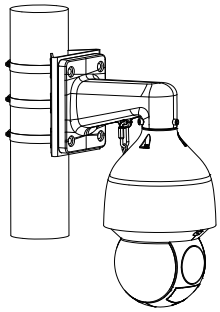
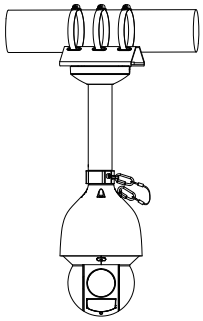
PFA120
Junction Box

PFA150
Pole Mount Bracket

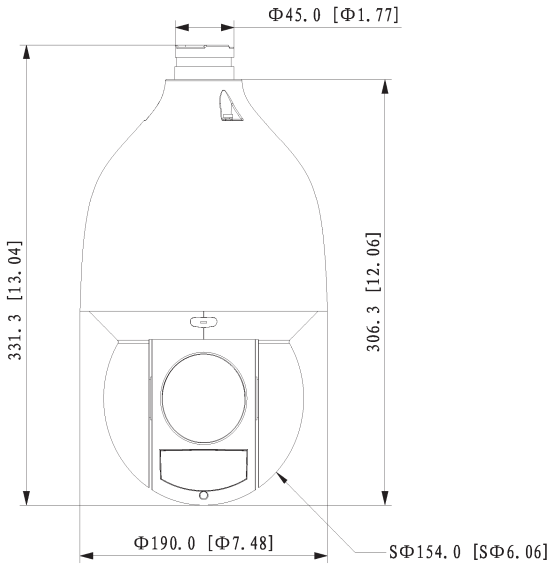


PFA151
Corner Mount Bracket

PFB303S
Parapet Mount Bracket

Wall Mount	Ceiling Mount
PFB305W	PFA111+PFB300C
	
Pole Mount(Vertical)	**Pole Mount(Horizontal)**
PFA150+PFB305W	PFA150+PFA111+PFB300C
	

Dimensions (mm[inch])



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DH-SD5A232XA-HNR

2MP 32x Starlight IR WizSense Network PTZ Camera

- 1/2.8" 2Megapixel STARVIS™ CMOS
- Powerful 32x optical zoom
- Max. 50/60 fps@1080P
- IR distance up to 150 m
- Deep-learning-based auto tracking and perimeter protection
- SMD PLUS
- PoE+
- IP67, IK10
- Face Detection

WizSense

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

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, lowlight 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

Perimeter Protection
Automatically filters out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets to improve alarm accuracy.

Starlight+ Technology
For challenging low-light applications, Dahua's 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.

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.

SMD PLUS
With Deep-Learning Algorithm, Dahua SMD PLUS filters the motion detection alarm triggered by non-concerned target and recognizes human and vehicle effectively, sending alarms when human and vehicles intrude.

Wide Dynamic Range
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.

Technical Specification

Camera

Image Sensor	1/2.8" STARVIS™ CMOS
Pixel	2MP
Max. Resolution	1920 (H) x 1080 (V)
ROM	4 GB
RAM	1 GB
Electronic Shutter Speed	1/1 s–1/30000 s
Scanning System	Progressive
Min. Illumination	Color: 0.005 Lux@F1.35 B/W: 0.0005 Lux@F1.35 0 Lux (IR on)
Illumination Distance	150 m (492.13 ft)
Illuminator On/Off Control	Zoom Prio/Manual/SmartIR
Illuminator Number	4

Lens

Focal Length	4.9 mm–156 mm			
Max. Aperture	F1.35–F4.4			
Field of View	H: 62.8°–2.2°; V: 36.7°–1.3°; D: 69.2°–2.6°			
Optical Zoom	32x			
Focus Control	Auto/Semi-Auto/Manual			
Close Focus Distance	1 m–1.5 m (3.28 ft–4.92 ft)			
Iris Control	Auto/Manual/Fixed			
DORI Distance	Detect	Observe	Recognize	Identify
	2152 m (7060.37 ft)	850 m (2788.71 ft)	430 m (1410.76 ft)	215 m (705.38 ft)

PTZ

Pan/Tilt Range	Pan: 0°–360° endless Tilt: –15° to +90°, auto flip 180
Manual Control Speed	Pan: 0.1°/s–300°/s Tilt: 0.1°/s–200°/s
Preset Speed	Pan: 400°/s Tilt: 300°/s
Presets	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory	Support
Idle Motion	Preset/Tour/Pattern/Scanning
Protocol	DH-SD Pelco-P/D (auto recognition)

Artificial Intelligence

Smart Capture	Support human, motor vehicle and non-motor vehicle image capture.
Perimeter Protection	Tripwire and intrusion. Support alarm triggering by target types (human and vehicle). Support filtering false alarms caused by animals, rustling leaves, bright lights, etc.
Face Detection	Support
Auto Tracking	Support
SMD PLUS	Support

Video

Compression	H.265; H.264B; H.264M; H.264H; MJPEG (Sub Stream); H.265+; H.264+
Streaming Capability	3 streams
Resolution	1080P (1920 × 1080); 1.3M (1280 × 960); 720P (1280 × 720); D1 (704 × 576); CIF (352×288)
Frame Rate	Main stream: 1080P/1.3M/720P (1–50/60 fps) Sub stream 1: D1/CIF (1–25/30 fps) Sub stream 2: 720P (1–25/30 fps)
Bit Rate Control	Variable/Constant
Bit Rate	H.264: 3 Kbps–20480 Kbps H.265: 3 Kbps–20480 Kbps
Day/Night	Auto (ICR)/Color/B/W
BLC	Support
WDR	120 dB
HLC	Support
White Balance	Auto/Indoor/Outdoor/Tracking/Manual/Sodium lamp/Natural light/Street lamp
Gain Control	Auto/Manual
Noise Reduction	2D/3D
Motion Detection	Support
Region of Interest (RoI)	Support
Image Stabilization	Electronic
Defog	Electronic
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas, and up to 8 areas in the same view
S/N Ratio	≥ 55 dB

Audio

Compression	G.711a; G.711Mu; G.726; AAC; MPEG2-Layer2; G722.1; G729; G723

Network

Ethernet	RJ-45 (10/100Base-T)
Protocol	IPv4; IPv6; HTTP; HTTPS; 802.1x; Qos; FTP; SMTP; UPnP; SNMPv1/v2c/v3 (MIB-2); DNS; DDNS; NTP; RTSP; RTP; TCP; UDP; IGMP; ICMP; DHCP; PPPoE; ARP; RTCP
Interoperability	ONVIF Profile S&G&T; CGI
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth 64M)
Storage	FTP; Micro SD card (256G); NAS

Browser	IE7 and later versions Chrome 42 and earlier versions Firefox 52 and earlier versions Safari
Management Software	Smart PSS; DSS; DMSS; Easy4ip; IVSS
Mobile Phone	IOS, Android

Certification

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB, ANSI C63.4-2014 UL: UL60950-1+CAN/CSA C22.2,No.60950-1

Port

Alarm I/O	2/1
Two-way Audio	Support
Alarm I/O	2/1

Power

Power Supply	AC 24V/3A ± 25% (standard) PoE+ (802.3at)
Power Consumption	Basic: 12W Max: 20W

Environment

Operating Temperature	–40°C to +70°C (–40°F to +158°F)
Operating Humidity	≤ 95%
Protection	IP67; IK10; 6000V lightning proof; surge protection; voltage transient protection

Structure

Dimensions	Φ190 mm × 332 mm (Φ7.48" × 13.07")
Net Weight	4.7 kg (10.36 lb)
Gross Weight	8 kg (17.64 lb)

Ordering Information

Type	Model	Description
2MP WizSense PTZ Camera	DH-SD5A232XA-HNR	2MP 32x Starlight IR WizSense Network PTZ Camera
	DH-SD5A232XAN-HNR	2MP 32x Starlight IR WizSense Network PTZ Camera
	SD5A232XA-HNR	2MP 32x Starlight IR WizSense Network PTZ Camera
	SD5A232XAN-HNR	2MP 32x Starlight IR WizSense Network PTZ Camera
Accessories	PFB305W	Wall Mount Bracket
	AC24V/3A	Power Adapter
	PFA111	Mount Adapter
	PFA140	Power Box
	PFB300C	Ceiling Mount Bracket
	PFA120	Junction Box
	PFA150	Pole Mount Bracket
	PFA151	Corner Mount Bracket
	PFB303S	Parapet Mount Bracket

Accessories

Included:

PFB305W
Wall Mount Bracket

AC24V/3A
Power Adapter

Optional:

PFA111
Mount Adapter

PFA140
Power Box

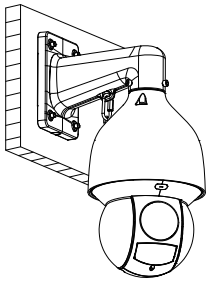
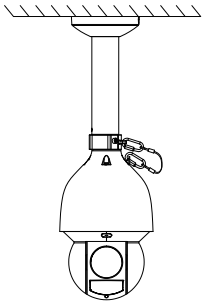
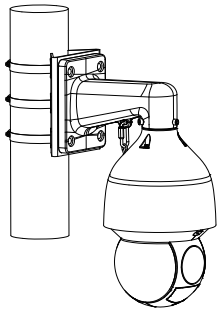
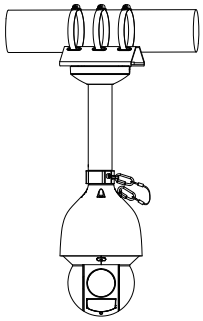
PFB300C
Ceiling Mount Bracket

PFA120
Junction Box

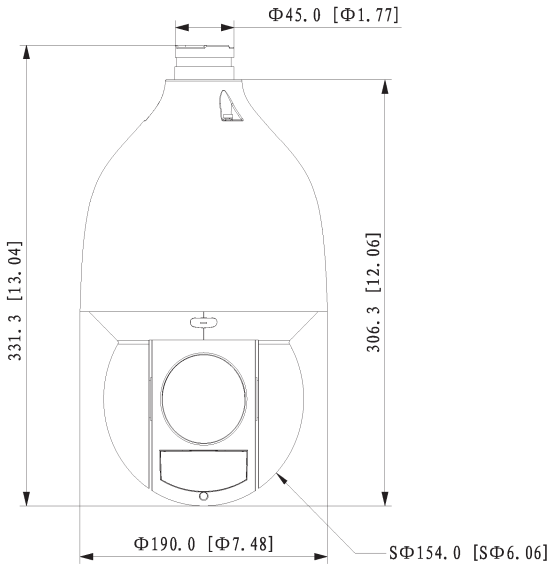
PFA150
Pole Mount Bracket

PFA151
Corner Mount Bracket

PFB303S
Parapet Mount Bracket

Wall Mount	Ceiling Mount
PFB305W	PFA111+PFB300C
	
Pole Mount(Vertical)	**Pole Mount(Horizontal)**
PFA150+PFB305W	PFA150+PFA111+PFB300C
	

Dimensions (mm[inch])



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Pictures in the document are for reference only, and the actual product shall prevail.

DH-SD49225XA-HNR

2MP 25x Starlight IR WizSense Network PTZ Camera

- 1/2.8” 2Megapixel CMOS
- Powerful 25x optical zoom
- Starlight technology
- Max. 50/60fps@1080P
- Perimeter protection
- Support PoE+
- IR distance up to 100m
- SMD PLUS
- IP66

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

System Overview

Dahua PTZ WizSence network camera adopts advanced CNN deep learning algorithms to support Perimeter Protection with high accuracy. This camera possess wide monitor range, PFA algorithm that can always present a clear, focused image while zooming. The camera has very excellent low light performance due to adopting the latest starlight technology. The camera is equipped with smooth control, high quality image and good protection, which make it can meet most of the requirements of video surveillance applications.

Functions

Starlight Technology
For challenging low-light applications, Dahua’s 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
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.

Perimeter Protection
Automatically filtering out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improving alarm accuracy.

Environmental
Dahua cameras operate in extreme temperature environments, rated for use in temperatures from-40 °C to +70 °C (-40 °F to +158 °F) with 95% humidity. Subjected to rigorous dust and water immersion tests and certified to the IP66 Ingress Protection rating makes it suitable for demanding outdoor applications.

Protection
The camera allows for 6KV lightning rating,which 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.

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.

SMD PLUS
With Deep-Learning Algorithm, Dahua SMD PLUS filters the motion detection alarm triggered by non-concerned target and recognizes human and vehicle effectively, sending alarms when human and vehicle intrude.

Technical Specification

Camera

Image Sensor	1/2.8" STARVIS™ CMOS
Pixel	2MP
Max. Resolution	1920 (H) × 1080 (V)
ROM	4GB
RAM	1GB
Electronic Shutter Speed	1/1 s–1/30,000 s
Scanning System	Progressive
Min. Illumination	Color: 0.005Lux@F1.6 B/W: 0.0005Lux@F1.6 0Lux@F1.6 (IR light on)
Illumination Distance	100 m (328.08 ft)
Illuminator On/Off Control	Zoom Prio/Manual/SmartIR
Illuminator Number	6

Lens

Focal Length	4.8 mm–120 mm			
Max. Aperture	F1.6–F4.4			
Field of View	H: 62.8°–2.6°; V: 33.2°–1.7°; D: 67.3°–3.9°			
Optical Zoom	25x			
Focus Control	Auto/Semi-Auto/Manual			
Close Focus Distance	0.1 m–1.5 m (0.33 ft–4.92 ft)			
Iris Control	Auto/Manual			
DORI Distance	Detect	Observe	Recognize	Identify
	1613 m (5291.99 ft)	646 m (2119.42 ft)	323 m (1059.71 ft)	161 m (528.22 ft)

PTZ

Pan/Tilt Range	Pan: 0°–360° (endless) Tilt: -15°–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
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Speed Adjustment	Support
Power-off Memory	Support
Idle Motion	Preset/Tour/Pattern/Scanning
Protocol	DH-SD Pelco-P/D (auto recognition)

General Intelligence

Event Trigger	Motion detection, Video tampering, Scene changing, Network disconnection, IP address conflict, Illegal Access, Storage anomaly
IVS	Object Abandoned/Missing

Artificial Intelligence

Perimeter Protection	Tripwire and intrusion. Support alarm triggering by target types (human and vehicle). Support filtering false alarms caused by animals, rustling leaves, bright lights, etc.
SMD PLUS	Support
Face Detection	Support
Smart Capture	Support human, motor vehicle and non-motor vehicle image capture.

Video

Compression	H.265+/H.265/H.264+/H.264/MJPEG (sub stream)
Streaming Capability	3 streams
Resolution	1080P (1920 × 1080); 1.3 M (1280 × 960); 720P (1280 × 720); D1 (704 × 576/704 × 480); CIF (352 × 288/352 × 240)
Frame Rate	Main stream: 1080P/1.3 M/720P (1–50/60fps) Sub stream 1: D1/CIF (1–25/30fps) Sub stream 2: 1080P/1.3M/720P/D1/CIF (1–25/30fps)
Bit Rate Control	Variable/Constant
Bit Rate	H.265/H.264: 3 kbps–20480 kbps
Day/Night	Auto(ICR)/Color/B/W
BLC	Support
WDR	120 dB
HLC	Support
White Balance	Auto/Indoor/Outdoor/Track/Manual/Sodium lamp/Natural light/Street lamp
Gain Control	Auto/Manual
Noise Reduction	Ultra DNR (2D/3D)
Motion Detection	Support
Region of Interest (RoI)	Support
Image Stabilization	Electronic
Defog	Electronic
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas, and up to 8 areas in the same view

Audio

Compression	G.711a; G.711Mu; AAC; G.722.1; G.726; MPEG2-Layer2; G.729

Network

Ethernet	RJ-45 (10/100Base-T)
Protocol	IPv4; IPv6; HTTP; HTTPS; SSL; TCP/IP; UDP; UPnP; ICMP; IGMP; SNMPv1/v2c/v3(MIB-2); ARP; RTCP; RTSP; RTP; SMTP; NTP; DHCP; DNS; PPPOE; DDNS; FTP; IP Filter; QoS; Bonjour; 802.1x

Interoperability	ONVIF Profile S&G&T; CGI
Streaming Method	Unicast/Multicast
User/Host	19
Storage	NAS; Local PC; Micro SD card (256G)
Browser	IE7 and newer versions Chrome 45 and newer versions Firefox 52 and earlier versions Safari (no version restrictions)
Management Software	Smart PSS; DSS; DMSS
Mobile Phone	IOS/Android

Certification

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB, ANSI C63.4-2014 UL: UL62368-1+CAN/CSA C22.2,No. 62368-1

Port

Audio Input	1
Audio Output	1
Alarm I/O	2/1

Power

Power Supply	DC 12V/3A PoE+ (802.3at)
Power Consumption	13W 22W (IR on)

Environment

Operating Temperature	-40°C to +70°C (-40°F to +158°F)
Operating Humidity	≤95%
Protection	IP66; TVS 6000V lightning proof; Surge protection

Structure

Dimensions	Φ160 mm × 295 mm (6.30" × 11.61")
Net Weight	3 kg (6.61 lb)
Gross Weight	4.8kg (10.58lb)

Ordering Information

Type	Model	Description
2M WizSense PTZ Camera	DH-SD49225XA-HNR	2MP 25x Starlight IR WizSense Network PTZ Camera, WDR, PAL
	DH-SD49225XAN-HNR	2MP 25x Starlight IR WizSense Network PTZ Camera, WDR, NTSC
	SD49225XA-HNR	2MP 25x Starlight IR WizSense Network PTZ Camera, WDR, PAL
	SD49225XAN-HNR	2MP 25x Starlight IR WizSense Network PTZ Camera, WDR, NTSC

Accessories	PFB305W	Wall Mount Bracket
	PFA111	Mount Adapter
	DC12V/3A	Power Adapter
	PFA140	Power Box
	PFB300C	Ceiling Mount Bracket
	PFA120	Water-proof Junction Box
	PFA150	Pole Mount Bracket
	PFA151	Corner Mount Bracket
	PFB303S	Parapet Mount Bracket

Accessories

Included:

PFB305W
Wall Mount Bracket

Optional:

PFA111
Mount Adapter

DC12V/3A
Power Adapter

PFA140
Power Box

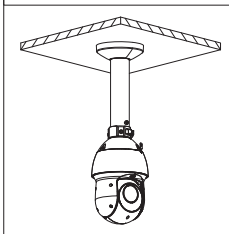
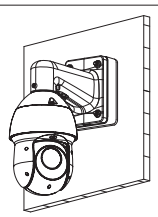
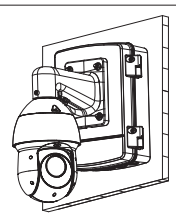
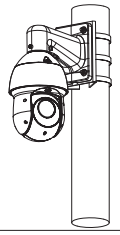
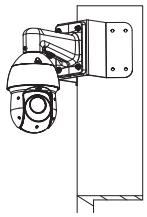
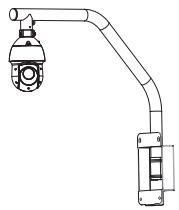
PFB300C
Ceiling Mount Bracket

PFA120
Water-proof Junction Box

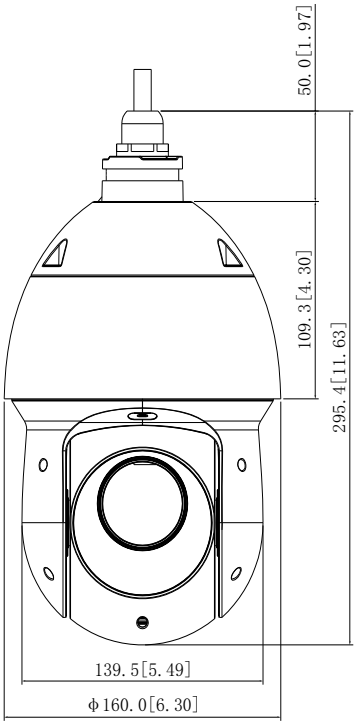
PFA150
Pole Mount Bracket

PFA151
Corner Mount Bracket

PFB303S
Parapet Mount Bracket

Ceiling Mount	Junction Mount	Power Box Mount
PFA111+PFB300C	PFB305W + PFA120	PFB305W + PFA140
		
Pole Mount	**Corner Mount**	**Parapet Mount**
PFB305W+PFA150	PFB305W+PFA151	PFA111+PFB303S
		

Dimensions (mm[inch])



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iDS-2CD7A26G0/P-IZHS(Y)
2 MP ANPR IR Varifocal Bullet Network Camera

DeepinView series

- High quality imaging with 2 MP resolution
- Excellent low-light performance via DarkFighter technology
- Clear imaging against strong back light due to 140 dB WDR technology
- License Plate Recognition
- Efficient H.265+ compression technology to save bandwidth and storage
- Advanced streaming technology that enables smooth live view and data self-correcting in poor network
- 5 streams and up to 5 custom streams to meet a wide variety of applications
- Water and dust resistant (IP67) and vandal proof (IK10)

▪ Function

Road Traffic and Vehicle Detection

With embedded deep learning based license plate capture and recognition algorithms, the camera alone can achieve plate capture and recognition. The algorithm enjoys the high recognition accuracy of common plates and complex-structured plates, which is a great step forward comparing to traditional algorithms. Blocklist and allowlist are available for plate categorization and separate alarm triggering.

Smooth Streaming

Smooth streaming offers solutions to improve the video quality in different network conditions. For example, in poor network conditions, adapting to the detected real-time network condition, streaming bit rate and resolution are automatically adjusted to avoid mosaic and lower latency in live view; in multiplayer network conditions, the camera transmits the redundant data for the self-error correcting in back-end device, so that to solve the mosaic problem because of the packet loss and error rate.

▪ Specification

Camera	
Image Sensor	1/1.8” Progressive Scan CMOS
Min. Illumination	Color: 0.001 Lux @ (F1.2, AGC ON); B/W: 0.0003 Lux @ (F1.2, AGC ON)
Shutter Speed	1 s to 1/100,000 s
Slow Shutter	Yes
P/N	P/N
Wide Dynamic Range	140 dB
Day & Night	IR cut filter
Power-off Memory	Yes
Lens	
Focus	Auto, semi-auto, manual.
Lens Type & FOV	2.8 to 12 mm, horizontal FOV: 107.3° to 39.8°, vertical FOV: 55.9° to 22.3°, diagonal FOV: 130.1° to 45.7° 8 to 32 mm, horizontal FOV: 40.3° to 14.4°, vertical FOV: 22.1° to 8.2° diagonal FOV: 46.9° to 16.5°
Aperture	2.8 to 12 mm: F1.2 to 2.5 8 to 32 mm: F1.7 to F1.73
Lens Mount	Integrated
Blue Glass Module	Blue glass module to reduce ghost phenomenon.
P-Iris	Yes
Illuminator	
IR Range	2.8 to 12 mm: 50 m 8 to 32 mm: 100 m
Wavelength	850 nm
Smart Supplement Light	Yes
Video	
Max. Resolution	1920 × 1080
Main Stream	50Hz: 50fps (1920 × 1080, 1280 × 720) 60Hz: 60fps (1920 × 1080, 1280 × 720)
Sub-Stream	50Hz: 25fps (704 × 576, 640 × 480) 60Hz: 30fps (704 × 480, 640 × 480)
Third Stream	50Hz: 25fps (1920 × 1080, 1280 × 720, 704 × 576, 640 × 480) 60Hz: 30fps (1920 × 1080, 1280 × 720, 704 × 480, 640 × 480)
Fourth Stream	50Hz: 25fps (1920 × 1080, 1280 × 720, 704 × 576, 640 × 480) 60Hz: 30fps (1920 × 1080, 1280 × 720, 704 × 480, 640 × 480)
Fifth Stream	50Hz: 25fps (704 × 576, 640 × 480) 60Hz: 30fps (704 × 480, 640 × 480)
Custom Stream	50Hz: 25fps (1920 × 1080, 1280 × 720, 704 × 576, 640 × 480) 60Hz: 30fps (1920 × 1080, 1280 × 720, 704 × 480, 640 × 480)
Video Compression	Main stream: H.265+/H.265/H.264+/ H.264 Sub-stream/Third stream/Fourth stream/Fifth stream/custom stream: H.265/H.264/MJPEG
Video Bit Rate	32 Kbps to 16 Mbps
H.264 Type	Baseline Profile/Main Profile/High Profile
H.265 Type	Main Profile
H.264+	Main Stream supports
H.265+	Main Stream supports
Bit Rate Control	CBR/VBR
Stream Type	Main stream/sub-stream/third stream/fourth stream/fifth stream/custom stream

Scalable Video Coding (SVC)	H.265 and H.264 support
Region of Interest (ROI)	4 fixed regions for each stream
Audio	
Environment Noise Filtering	Yes
Audio Sampling Rate	8 kHz/16 kHz/32 kHz/44.1 kHz/48 kHz
Audio Compression	G.711/G.722.1/G.726/MP2L2/PCM/MP3
Audio Bit Rate	64Kbps(G.711)/16Kbps(G.722.1)/16Kbps(G.726)/32-192Kbps(MP2L2)/32Kbps(PCM)/8-320Kbps(MP3)
Audio Type	Mono sound
Network	
Simultaneous Live View	Up to 20 channels
API	ONVIF (PROFILE S, PROFILE G, PROFILE T), ISAPI, SDK, ISUP
Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, SFTP, SRTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP,UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, UDP, Bonjour, SSL/TLS
Smooth Streaming	Yes
User/Host	Up to 32 users. 3 user levels: administrator, operator and user
Security	Password protection, complicated password, HTTPS encryption,802.1X authentication (EAP-TLS, EAP-LEAP, EAP-MD5), watermark, IP address filter, basic and digest authentication for HTTP/HTTPS, WSSE and digest authentication for ONVIF, RTP/RTSP OVER HTTPS, Control Timeout Settings, Security Audit Log, TLS 1.2
Network Storage	microSD/SDHC/SDXC card (256 GB) local storage, and NAS (NFS, SMB/CIFS), auto network replenishment (ANR) Together with high-end Hikvision memory card, memory card encryption and health detection are supported.
Client	iVMS-4200, Hik-Connect, Hik-Central
Web Browser	Plug-in required live view: IE8+ Plug-in free live view: Chrome 57.0+, Firefox 52.0+, Safari 11+ Local service: Chrome 41.0+, Firefox 30.0+
Image	
Smart IR	The IR LEDs on camera should support Smart IR function to automatically adjust power to avoid image overexposure.
Day/Night Switch	Day, Night, Auto, Schedule, Triggered by Alarm In, Triggered by Video
Target Cropping	Yes
Distortion Correction Distortion	Yes
Picture Overlay	LOGO picture can be overlaid on video with 128 × 128 24bit bmp format
Image Enhancement	BLC, HLC, 3D DNR, Defog, EIS, Distortion Correction
Image Parameters Switch	Yes
Image Settings	Rotate mode, saturation, brightness, contrast, sharpness, gain, white balance adjustable by client software or web browser
SNR	≥52 dB
Interface	
Alarm	2 input, 2 outputs (max. 24 VDC, 1 A)
Audio	1 input (line in), 3.5 mm connector, max. input amplitude: 3.3 vpp, input impedance: 4.7 KΩ, interface type: non-equilibrium; 1 output (line out), 3.5 mm connector, max. output amplitude: 3.3 vpp, output impedance: 100 Ω, interface type: non-equilibrium, mono sound
RS-485	With -Y: 1 RS-485(half duplex, HIKVISION, Pelco-P, Pelco-D, self-adaptive)
Video Output	1 Vp-p Composite Output(75Ω/CVBS)(For debugging only)
On-board Storage	Built-in micro SD/SDHC/SDXC slot, up to 256 GB
Hardware Reset	Yes

Communication Interface	1 RJ45 10M/100M/1000M self-adaptive Ethernet port
Power Output	With -Y: 12 VDC, max. 200 mA (supported by all power supply types)
Heater	Yes
Wiegand	With -Y: 1 wiegand(CardID 26bit, SHA-1 26bit, Hik 34bit)
Smart Feature-Set	
Basic Event	Motion detection, video tampering alarm, vibration detection, exception (network disconnected, IP address conflict, illegal login, HDD full, HDD error)
Smart Event	Line crossing detection, up to 4 lines configurable Intrusion detection, up to 4 regions configurable Region entrance detection, up to 4 regions configurable Region exiting detection, up to 4 regions configurable Unattended baggage detection, up to 4 regions configurable Object removal detection, up to 4 regions configurable Scene change detection, audio exception detection, defocus detection
Counting	Yes
Intelligent (Deep Learning Algorithm)	
Premier Protection	Line crossing, intrusion, region entrance, region exiting Support alarm triggering by specified target types (human and vehicle) Filtering out mistaken alarm caused by target types such as leaf, light, animal, and flag, etc.
Road Traffic and Vehicle Detection	Blocklist and allowlist: up to 10000 records Captures vehicle that has no license plate Support license plate recognition of motorcycles (only in checkpoint scenario) Support vehicle attribute detection, including vehicle type, color, brand, etc. (City Street mode is recommended.)
General	
Linkage Method	Upload to FTP/NAS/memory card, notify surveillance center, send email, trigger alarm output, trigger recording, trigger capture Trigger recording: memory card, network storage, pre-record and post-record Trigger captured pictures uploading: FTP, SFTP, HTTP, NAS, Email Trigger notification: HTTP, ISAPI, alarm output, Email
Online Upgrade	Yes
Dual Backup	Yes
Firmware Version	V5.5.130
Web Client Language	33 languages English, Russian, Estonian, Bulgarian, Hungarian, Greek, German, Italian, Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil), Ukrainian
General Function	Anti- flicker, 5 streams and up to 5 custom streams, EPTZ, heartbeat, mirror, privacy masks, flash log, password reset via e-mail, pixel counter
Software Reset	Yes
Storage Conditions	-40 °C to 60 °C (-40 °F to 140 °F). Humidity 95% or less (non-condensing)
Startup and Operating Conditions	-40 °C to 60 °C (-40 °F to 140 °F). Humidity 95% or less (non-condensing)
Power Supply	12 VDC ± 20%, three-core terminal block, reverse polarity protection; PoE: 802.3at, Type 2 Class 4
Power Consumption and Current	12 VDC, 1.33 A, max. 16.0 W PoE: (802.3at, 42.5V-57V), 0.43 A to 0.31 A, max. 18.0 W
Power Interface	Three-core terminal block

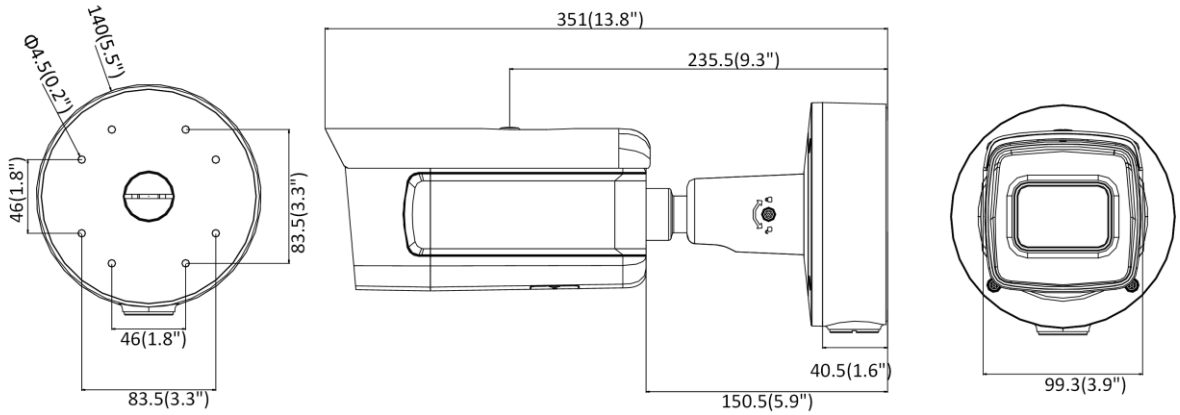
Material	Aluminum alloy body
Camera Dimension	Without -Y: Ø144 × 347 mm (Ø5.7" × 13.7") With -Y: Ø140 × 351 mm (Ø5.5" × 13.8")
Package Dimension	405 × 190 × 180 mm (15.9" × 7.5" × 7.1")
Camera Weight	1920 g (4.2 lb.)
With Package Weight	3060 g (6.7 lb.)
Metadata	
Metadata	Metadata of intrusion detection, line crossing detection, region entrance detection, region exiting detection, unattended baggage detection, object removal are supported.
Approval	
Class	Class B
EMC	FCC (47 CFR Part 15, Subpart B); CE-EMC (EN 55032: 2015, EN 61000-3-2: 2014, EN 61000-3-3: 2013, EN 50130-4: 2011 +A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 6, 2016); KC (KN 32: 2015, KN 35: 2015)
Safety	UL (UL 60950-1); CB (IEC 60950-1:2005 + Am 1:2009 + Am 2:2013); CE-LVD (EN 60950-1:2005 + Am 1:2009 + Am 2:2013); BIS (IS 13252(Part 1):2010+A1:2013+A2:2015); LOA (IEC/EN 60950-1)
Environment	CE-RoHS (2011/65/EU); WEEE (2012/19/EU); Reach (Regulation (EC) No 1907/2006)
Protection	IK10 (IEC 62262:2002), IP67 (IEC 60529-2013)
Anti-Corrosion Protection	With -Y: NEMA 4X(NEMA 250-2018)
Other	With -Y: PVC FREE

Available Model

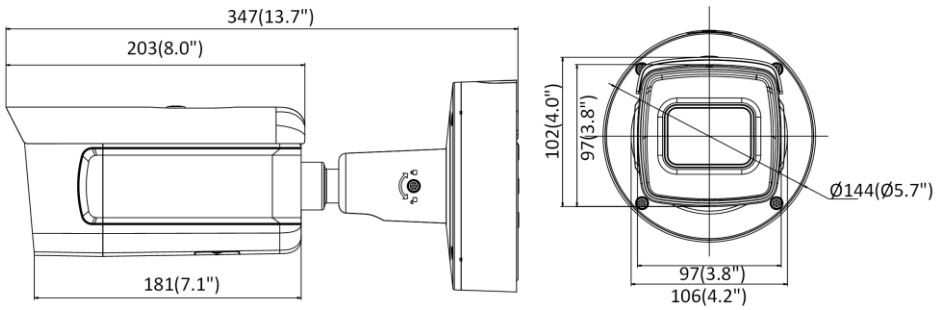
iDS-2CD7A26G0/P-IZHS (2.8 to 12 mm), iDS-2CD7A26G0/P-IZHS (8 to 32 mm), iDS-2CD7A26G0/P-IZHSY (2.8 to 12 mm), iDS-2CD7A26G0/P-IZHSY (8 to 32 mm)

▪ Dimension

-Y model:



Without -Y model:



Unit: mm(inch)

Accessory

–Y model:

DS-1476ZJ-Y
Corner Mount

DS-1475ZJ-Y
Vertical Pole Mount

Without –Y model:

DS-1475ZJ-SUS
Vertical Pole Mount

DS-1476ZJ-SUS
Corner Mount

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iDS-2CD7A46G0/P-IZHS(Y)
4 MP ANPR IR Varifocal Bullet Network Camera

- High quality imaging with 4 MP resolution
- Excellent low-light performance via DarkFighter technology
- Clear imaging against strong back light due to 140 dB WDR technology
- License Plate Recognition
- Efficient H.265+ compression technology to save bandwidth and storage
- Advanced streaming technology that enables smooth live view and data self-correcting in poor network
- 5 streams and up to 5 custom streams to meet a wide variety of applications
- Water and dust resistant (IP67) and vandal proof (IK10)

▪ Function

Road Traffic and Vehicle Detection

With embedded deep learning based license plate capture and recognition algorithms, the camera alone can achieve plate capture and recognition. The algorithm enjoys the high recognition accuracy of common plates and complex-structured plates, which is a great step forward comparing to traditional algorithms. Blocklist and allowlist are available for plate categorization and separate alarm triggering.

Smooth Streaming

Smooth streaming offers solutions to improve the video quality in different network conditions. For example, in poor network conditions, adapting to the detected real-time network condition, streaming bit rate and resolution are automatically adjusted to avoid mosaic and lower latency in live view; in multiplayer network conditions, the camera transmits the redundant data for the self-error correcting in back-end device, so that to solve the mosaic problem because of the packet loss and error rate.

▪ Specification

Camera	
Image Sensor	1/1.8” Progressive Scan CMOS
Min. Illumination	Color: 0.001 Lux @ (F1.2, AGC ON); B/W: 0.0003 Lux @ (F1.2, AGC ON)
Shutter Speed	1 s to 1/100,000 s
Slow Shutter	Yes
P/N	P/N
Wide Dynamic Range	140 dB
Day & Night	IR cut filter
Power-off Memory	Yes
Lens	
Focus	Auto, semi-auto, manual
Lens Type & FOV	2.8 to 12 mm, horizontal FOV: 114.5° to 41.8°, vertical FOV: 59.3° to 23.6°, diagonal FOV: 141.1° to 48° 8 to 32 mm, horizontal FOV: 42.5° to 15.1°, vertical FOV: 23.3° to 8.64°, diagonal FOV: 49.6° to 17.3°
Aperture	2.8 to 12 mm: F1.2 to 2.5 8 to 32 mm: F1.7 to F1.73
Lens Mount	Integrated
Blue Glass Module	Blue glass module to reduce ghost phenomenon.
P-Iris	Yes
Illuminator	
IR Range	2.8 to 12 mm: 50 m 8 to 32 mm: 100 m
Wavelength	850 nm
Smart Supplement Light	Yes
Video	
Max. Resolution	2680 ×1520
Main Stream	50Hz: 25fps (2680 × 1520, 2560 × 1440, 1920 × 1080, 1280 × 720) 60Hz: 30fps (2680 × 1520, 2560 × 1440, 1920 × 1080, 1280 × 720)
Sub-Stream	50Hz: 25fps (704 × 576, 640 × 480) 60Hz: 30fps (704 × 480, 640 × 480)
Third Stream	50Hz: 25fps (1920 × 1080, 1280 × 720, 704 × 576, 640 × 480) 60Hz: 30fps (1920 × 1080, 1280 × 720, 704 × 480, 640 × 480)
Fourth Stream	50Hz: 25fps (1920 × 1080, 1280 × 720, 704 × 576, 640 × 480) 60Hz: 30fps (1920 × 1080, 1280 × 720, 704 × 480, 640 × 480)
Fifth Stream	50Hz: 25fps (704 × 576, 640 × 480) 60Hz: 30fps (704 × 480, 640 × 480)
Custom Stream	50Hz: 25fps (1920 × 1080, 1280 × 720, 704 × 576, 640 × 480) 60Hz: 30fps (1920 × 1080, 1280 × 720, 704 × 480, 640 × 480)
Video Compression	Main stream: H.265+/H.265/H.264+/ H.264 Sub-stream/Third stream/Fourth stream/Fifth stream/custom stream: H.265/H.264/MJPEG
Video Bit Rate	32 Kbps to 16 Mbps
H.264 Type	Baseline Profile/Main Profile/High Profile
H.265 Type	Main Profile
H.264+	Main Stream supports
H.265+	Main Stream supports
Bit Rate Control	CBR/VBR
Stream Type	Main stream/sub-stream/third stream/fourth stream/fifth stream/custom stream

Scalable Video Coding (SVC)	H.265 and H.264 support
Region of Interest (ROI)	4 fixed regions for each stream
Audio	
Environment Noise Filtering	Yes
Audio Sampling Rate	8 kHz/16 kHz/32 kHz/44.1 kHz/48 kHz
Audio Compression	G.711/G.722.1/G.726/MP2L2/PCM/MP3
Audio Bit Rate	64Kbps(G.711)/16Kbps(G.722.1)/16Kbps(G.726)/32-192Kbps(MP2L2)/32Kbps(PCM)/8-320Kbps(MP3)
Audio Type	Mono sound
Network	
Simultaneous Live View	Up to 20 channels
API	ONVIF (PROFILE S, PROFILE G, PROFILE T), ISAPI, SDK, ISUP
Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, SFTP, SRTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP,UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, UDP, Bonjour, SSL/TLS
Smooth Streaming	Yes
User/Host	Up to 32 users. 3 user levels: administrator, operator and user
Security	Password protection, complicated password, HTTPS encryption,802.1X authentication (EAP-TLS, EAP-LEAP, EAP-MD5), watermark, IP address filter, basic and digest authentication for HTTP/HTTPS, WSSE and digest authentication for ONVIF, RTP/RTSP OVER HTTPS, Control Timeout Settings, Security Audit Log, TLS 1.2
Network Storage	microSD/SDHC/SDXC card (256 GB) local storage, and NAS (NFS, SMB/CIFS), auto network replenishment (ANR) Together with high-end Hikvision memory card, memory card encryption and health detection are supported.
Client	iVMS-4200, Hik-Connect, Hik-Central
Web Browser	Plug-in required live view: IE8+ Plug-in free live view: Chrome 57.0+, Firefox 52.0+, Safari 11+ Local service: Chrome 41.0+, Firefox 30.0+
Image	
Smart IR	The IR LEDs on camera should support Smart IR function to automatically adjust power to avoid image overexposure.
Day/Night Switch	Day, Night, Auto, Schedule, Triggered by Alarm In, Triggered by Video
Target Cropping	Yes
Distortion Correction Distortion	Yes
Picture Overlay	LOGO picture can be overlaid on video with 128 × 128 24bit bmp format
Image Enhancement	BLC, HLC, 3D DNR, Defog, EIS, Distortion Correction
Image Parameters Switch	Yes
Image Settings	Rotate mode, saturation, brightness, contrast, sharpness, gain, white balance adjustable by client software or web browser
SNR	≥52 dB
Interface	
Alarm	2 input, 2 outputs (max. 24 VDC, 1 A)
Audio	1 input (line in), 3.5 mm connector, max. input amplitude: 3.3 vpp, input impedance: 4.7 KΩ, interface type: non-equilibrium; 1 output (line out), 3.5 mm connector, max. output amplitude: 3.3 vpp, output impedance: 100 Ω, interface type: non-equilibrium, mono sound
RS-485	With -Y: 1 RS-485(half duplex, HIKVISION, Pelco-P, Pelco-D, self-adaptive)
Video Output	1 Vp-p Composite Output(75Ω/CVBS)(For debugging only)
On-board Storage	Built-in micro SD/SDHC/SDXC slot, up to 256 GB
Hardware Reset	Yes

Communication Interface	1 RJ45 10M/100M/1000M self-adaptive Ethernet port
Power Output	With -Y: 12 VDC, max. 200 mA (supported by all power supply types)
Heater	Yes
Wiegand	With -Y: 1 wiegand(CardID 26bit, SHA-1 26bit, Hik 34bit)
Smart Feature-Set	
Basic Event	Motion detection, video tampering alarm, vibration detection, exception (network disconnected, IP address conflict, illegal login, HDD full, HDD error)
Smart Event	Line crossing detection, up to 4 lines configurable Intrusion detection, up to 4 regions configurable Region entrance detection, up to 4 regions configurable Region exiting detection, up to 4 regions configurable Unattended baggage detection, up to 4 regions configurable Object removal detection, up to 4 regions configurable Scene change detection, audio exception detection, defocus detection
Counting	Yes
Intelligent (Deep Learning Algorithm)	
Premier Protection	Line crossing, intrusion, region entrance, region exiting Support alarm triggering by specified target types (human and vehicle) Filtering out mistaken alarm caused by target types such as leaf, light, animal, and flag, etc.
Road Traffic and Vehicle Detection	Blocklist and allowlist: up to 10000 records Captures vehicle that has no license plate Support license plate recognition of motorcycles (only in checkpoint scenario) Support vehicle attribute detection, including vehicle type, color, brand, etc. (City Street mode is recommended.)
General	
Linkage Method	Upload to FTP/NAS/memory card, notify surveillance center, send email, trigger alarm output, trigger recording, trigger capture Trigger recording: memory card, network storage, pre-record and post-record Trigger captured pictures uploading: FTP, SFTP, HTTP, NAS, Email Trigger notification: HTTP, ISAPI, alarm output, Email
Online Upgrade	Yes
Dual Backup	Yes
Firmware Version	V5.5.130
Web Client Language	33 languages English, Russian, Estonian, Bulgarian, Hungarian, Greek, German, Italian, Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil), Ukrainian
General Function	Anti- flicker, 5 streams and up to 5 custom streams, EPTZ, heartbeat, mirror, privacy masks, flash log, password reset via e-mail, pixel counter
Software Reset	Yes
Storage Conditions	-40 °C to 60 °C (-40 °F to 140 °F).Humidity 95% or less (non-condensing)
Startup and Operating Conditions	-40 °C to 60 °C (-40 °F to 140 °F).Humidity 95% or less (non-condensing)
Power Supply	12 VDC ± 20%, three-core terminal block, reverse polarity protection; PoE: 802.3at, Type 2 Class 4
Power Consumption and Current	12 VDC, 1.33 A, max. 16.0 W PoE: (802.3at, 42.5V-57V), 0.43 A to 0.31 A, max. 18.0 W
Power Interface	Three-core terminal block

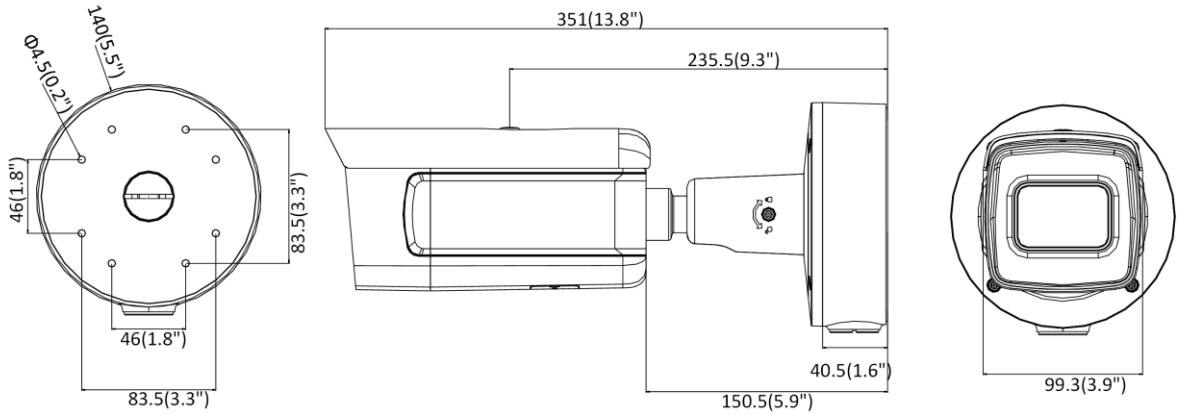
Material	Aluminum alloy body
Camera Dimension	Without -Y: Ø144 × 347 mm (Ø5.7" × 13.7") With -Y: Ø140 × 351 mm (Ø5.5" × 13.8")
Package Dimension	405 × 190 × 180 mm (15.9" × 7.5" × 7.1")
Camera Weight	1920 g (4.2 lb.)
With Package Weight	3060 g (6.7 lb.)
Metadata	
Metadata	Metadata of intrusion detection, line crossing detection, region entrance detection, region exiting detection, unattended baggage detection, object removal are supported.
Approval	
Class	Class B
EMC	FCC (47 CFR Part 15, Subpart B); CE-EMC (EN 55032: 2015, EN 61000-3-2: 2014, EN 61000-3-3: 2013, EN 50130-4: 2011 +A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 6, 2016); KC (KN 32: 2015, KN 35: 2015)
Safety	UL (UL 60950-1); CB (IEC 60950-1:2005 + Am 1:2009 + Am 2:2013); CE-LVD (EN 60950-1:2005 + Am 1:2009 + Am 2:2013); BIS (IS 13252(Part 1):2010+A1:2013+A2:2015); LOA (IEC/EN 60950-1)
Environment	CE-RoHS (2011/65/EU); WEEE (2012/19/EU); Reach (Regulation (EC) No 1907/2006)
Protection	IK10 (IEC 62262:2002), IP67 (IEC 60529-2013)
Anti-Corrosion Protection	With -Y: NEMA 4X(NEMA 250-2018)
Other	With -Y: PVC FREE

Available Model

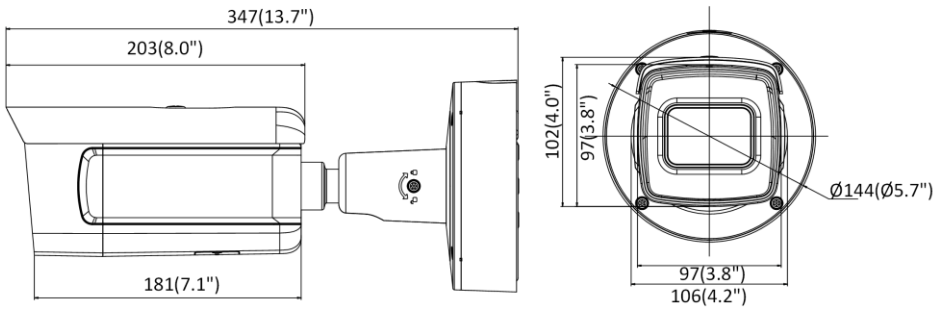
iDS-2CD7A46G0/P-IZHS (2.8 to 12 mm), iDS-2CD7A46G0/P-IZHS (8 to 32 mm), iDS-2CD7A46G0/P-IZHSY (2.8 to 12 mm), iDS-2CD7A46G0/P-IZHSY (8 to 32 mm)

▪ Dimension

-Y model:



Without -Y model:



Unit: mm(inch)

Accessory

–Y model:

DS-1476ZJ-Y
Corner Mount

DS-1475ZJ-Y
Vertical Pole Mount

Without –Y model:

DS-1475ZJ-SUS
Vertical Pole Mount

DS-1476ZJ-SUS
Corner Mount

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DH-IPC-HFW5241E-ZE

2MP WDR IR Bullet AI Network Camera

- · 1/2.8” 2Megapixel progressive scan STARVIS™ CMOS
- · H.265 & H.264 triple-stream encoding
- · 25/30 fps@1080P (1920 × 1080)
- · WDR (120 dB), Day/Night (ICR), 3D DNR, AWB, AGC, BLC
- · Multiple network monitoring: Web viewer, CMS (DSS/PSS) & DMSS
- · 2.7 mm–13.5 mm motorized lens
- · 2/1 Alarm in/out, 1/1 audio in/out
- · Max. IR LEDs Length 50 m
- · Micro SD memory, IP67, IK10

Dahua AI series products adopt the most advanced AI technologies, including deep learning algorithms that primarily target people and vehicles, which provides higher flexibility and accuracy for end-users. This enables the Dahua AI series to offer various advanced applications such as Face Recognition, ANPR, Metadata, People Counting, traffic data statistics, etc. The complete lineup of Dahua AI includes network (PTZ) cameras, network video recorders, servers, and platform management products. Beyond seeing the world, the power of AI allows devices to perceive the environment and understand the world in a better way.

System Overview

Pro AI series contains Face Capture, Perimeter Protection and People Counting functions.Powered by deep-learning Artificial Intelligence algorithms, significantly improved accuracy. Meanwhile, the series features starlight and smart IR technology. This series fully protected from dust and water, certified to IP67 and vandal resistant to IK10 standard.

Functions

Face Capture

Face capture is a software application that automatically captures faces from within a digital image or a video frame from a video source. Dahua cameras use advanced deep learning algorithms and are trained by a large number of face data sources, enabling the camera to locate faces quickly and accurately from the video source and capture facial images.

Face Attributes

Through the use of deep learning algorithms to analyze facial images, Dahua cameras can extract six facial attributes from each frame, including Age, Gender,Expression(Jolly/Surprise/Normal/Rage/Sad/Disgusted/Confused/Frightened), Glasses,Mouth Mask, Moustache & Beard. Customers can acquire data of interest via face attributes statistics.

Perimeter Protection

Dahua’s Perimeter Protection functions significantly improved accuracy. Perimeter Protection reduces false alarms and decreases pixel count requirements for object detection. Perimeter Protection features custom tripwires based on object type for automation in limited access areas such as pedestrian or vehicle-only zones. This combination of advanced AI analytics and real-time alerts to a desktop or to a mobile client reduces system requirements and resources resulting in greater surveillance system efficiency.

People Counting

People Counting function uses advanced image processing technology to capture depth information from within images. The camera pairs this information with deep learning algorithms to analyze and detect human bodies and track target objects in real time. The camera provides statistics for separate individuals’ entrance and exit with up to 95% counting accuracy.

Metadata

Metadata is feature attribute information extracted from a target object which can be used for data retrieval. Dahua face detection camera can extract six facial attributes and output the metadata for analysis.

ePoE technology

The ePoE technology of Dahua, designed internally, adopts advanced 2D-PAM3 coding modulation from physical layer, and realizes full duplex transmission over 800 meters at the speed of 10Mbps, or 300 meters at the speed of 100Mbps via Cat 5 or coaxial cable media. Besides, it supports PoE and PoC power supply technology which has greatly simplified construction and wiring. Dahua ePoE technology offer a new way to accomplish long distance transmission between IP camera and network switch. It allows more flexible surveillance system design, improves reliability and saves construction and wiring cost.

Protection(IP67, IK10, wide voltage)

The camera allows for ±30% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 6KV lightning rating provides effective protection for both the camera and its structure against lightning. Subjected and certified to rigorous dust and immersion tests (IP67) and impact tests (IK10), the camera is the choice for installation in even the most unforgiving environments.

Technical Specification

Camera

Image Sensor	1/2.8" 2Megapixel progressive scan STARVIS™ CMOS
Effective Pixels	1920 (H) × 1080 (V)
RAM/ROM	512 MB/128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual, 1/3 s–1/100000 s
Minimum Illumination	0.002 Lux@F1.5
IR Distance	Distance up to 50 m (164 ft)
IR On/Off Control	Auto/Manual
IR LEDs	4

Lens

Lens Type	Motorized
Mount Type	Board-in
Focal Length	2.7 mm–13.5 mm
Max. Aperture	F1.5
Angle of View	H: 109°–30°, V: 57°–17°
Optical Zoom	5x
Aperture Type	Auto
Close Focus Distance	0.8 m (2.62 ft)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	W	44m(144ft)	18m(59ft)	9m(30ft)	4m(13ft)
	T	146m(479ft)	58m(190ft)	29m(95ft)	15m(49ft)

Pan/Tilt/Rotation

Pan/Tilt/Rotation Range	Pan: 0°–360°, Tilt: 0°–90°, Rotation: 0°–360°

Artificial Intelligence

Face Capture	Support face image capture
Face Attributes	Support 6 kinds of face attributes extraction: Age, Gender,Expression (Jolly, Surprise, Normal, Rage, Sad, Disgusted, Confused, Frightened), Glasses, Mouth Mask, Moustache & Beard
Perimeter Protection	Tripwire, Intrusion (Human & Vehicle classification)
People Counting	Support Line crossing/Region/Queueing people counting; Support 4 accesses independent detection, 4 areas independent detection

General Intelligence

Event Trigger	Motion detection, Video tampering , Scene changing, Network disconnection , IP address conflict, Illegal Access,Storage anomaly
General Intelligence	Object Abandoned/Missing

Video

Compression	H.265+, H.265, H.264+, H.264, H.264B, H.264H, MJPEG (sub stream)
Streaming Capability	3 Streams
Resolution	1080P (1920 × 1080)/1.3 M (1280 × 960)/720P (1280 × 720)/D1 (704 × 576/704 × 480)/VGA (640 × 480)/CIF (352 × 288/352 × 240)
Frame Rate	Main Stream: 1080P (1 fps–25/30 fps) Sub Stream: D1 (1 fps–25/30 fps) Third Stream: 1080P (1 fps–6 fps)
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 32 Kbps–8192 Kbps H.265: 19 Kbps–7424 Kbps
Day/Night	Auto(ICR)/Color/B/W
BLC Mode	BLC/HLC/WDR (120 dB)
White Balance	Auto/Natural/Street Lamp/Outdoor/Manual
Gain Control	Auto/Manual
Noise Reduction	3D DNR
Motion Detetion	Off/On (4 Zone, Rectangle)
Region of Interest	Off/On (4 Zone)
Electronic Image Stabilization (EIS)	Support
Smart IR	Support
Defog	Support
Digital Zoom	N/A
Flip	0°/90°/180°/270°
Mirror	Off/On
Privacy Masking	Off/On (4 Area, Rectangle)

Audio

Compression	G.711a, G.711Mu, AAC, G.726, G.723

Network

Ethernet	RJ-45 (10/100 Base-T)
Protocol	HTTP, TCP, ARP, RTSP, RTP, UDP, RTCP, SMTP, FTP, DHCP, DNS, DDNS, PPPoE, IPv4/v6, SNMP, QoS, UPnP, NTP, ICMP, HTTPS, IGMP, 802.1x
Interoperability	ONVIF (Profile S/Profile G), CGI, Milstone, Genetec, P2P
Streaming Method	Unicast/Multicast
Max. User Access	20 Users
Edge Storage	NAS FTP Micro SD card 256 GB
Web Viewer	IE (versions newer than IE8), Chrome, Firefox, Safari (versions newer than Safari 12)
Management Software	Smart PSS, DSS, P2P
Smart Phone	iOS, Android

Certifications

Certifications	CE-LVD: EN60950-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B UL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07

Interface

Video Interface	N/A
Audio Interface	1/1 channel In/Out
RS485	N/A
Alarm	2 channel In: 5mA 5V DC 1 channel Out: 300mA 12V DC

Electrical

Power Supply	DC 12V (±30%), PoE (802.3af) (Class 0)
Power Consumption	<10.3W

Environmental

Operating Conditions	-30° C to +60° C (-22° F to +140° F)/10%RH–95%RH
Strorage Conditions	-30° C to +60° C (-22° F to +140° F)
Ingress Protection	IP67
Vandal Resistance	IK10

Construction

Casing	Metal, plastic
Dimensions	273.2 mm × 95.0 mm × 95.0 mm (10.76” × 3.74” × 3.74”)
Net Weight	1.11 kg (2.44 lb)
Gross Weight	1.51 kg (3.33 lb)

Ordering Information

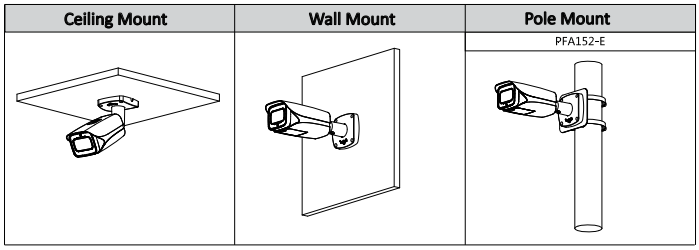
Type	Part Number	Description
2MP camera	DH-IPC-HFW5241EP-ZE	2MP WDR IR Bullet AI Network Camera, WDR, PAL
	DH-IPC-HFW5241EN-ZE	2MP WDR IR Bullet AI Network Camera, WDR, NTSC
	IPC-HFW5241EP-ZE	2MP WDR IR Bullet AI Network Camera, WDR, PAL
	IPC-HFW5241EN-ZE	2MP WDR IR Bullet AI Network Camera, WDR, NTSC
Accessories (optional)	PFA152-E	Pole mount

Accessories

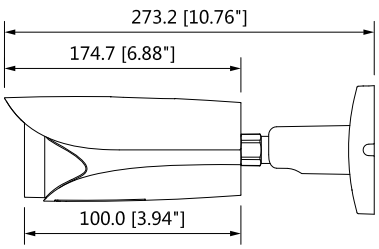
Optional:

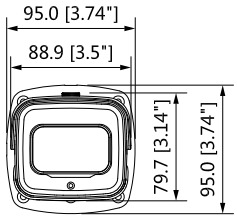
PFA152-E
Pole Mount

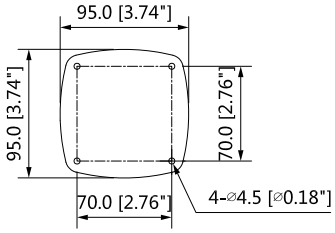
LR1002
ePoE Over Coax Converter



Dimensions (mm[inch])







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Pictures in the document are for reference only, and the actual product shall prevail.

DH-IPC-HFW5442E-ZE

4MP WDR IR Bullet AI Network Camera

- 1/1.8" 4Megapixel progressive scan CMOS
- H.265 & H.264 triple-stream encoding
- 25/30 fps@2688 × 1520, 50/60 fps@1080 (1920 × 1080)
- WDR (140 dB), Day/Night (ICR), 3D DNR, AWB, AGC, BLC
- Multiple network monitoring: Web viewer, CMS (DSS/PSS) & DMSS
- 2.7 mm–12.0 mm motorized lens
- 2/1 Alarm in/out, 1/1 audio in/out
- Max. IR LEDs Length 50 m
- Micro SD memory, IP67, IK10

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System Overview

Pro AI series contains Face Capture, Perimeter Protection and People Counting functions.Powered by deep-learning Artificial Intelligence algorithms, significantly improved accuracy. Meanwhile, the series features starlight and smart IR technology. This series fully protected from dust and water, certified to IP67 and vandal resistant to IK10 standard.

Functions

Face Capture

Face capture is a software application that automatically captures faces from within a digital image or a video frame from a video source. Dahua cameras use advanced deep learning algorithms and are trained by a large number of face data sources, enabling the camera to locate faces quickly and accurately from the video source and capture facial images.

Face Attributes

Through the use of deep learning algorithms to analyze facial images, Dahua cameras can extract six facial attributes from each frame, including Age, Gender,Expression(Jolly/Surprise/Normal/Rage/Sad/Disgusted/Confused/Frightened), Glasses,Mouth Mask, Moustache & Beard. Customers can acquire data of interest via face attributes statistics.

Perimeter Protection

Dahua's Perimeter Protection functions significantly improved accuracy. Perimeter Protection reduces false alarms and decreases pixel count requirements for object detection. Perimeter Protection features custom tripwires based on object type for automation in limited access areas such as pedestrian or vehicle-only zones. This combination of advanced AI analytics and real-time alerts to a desktop or to a mobile client reduces system requirements and resources resulting in greater surveillance system efficiency.

People Counting

People Counting function uses advanced image processing technology to capture depth information from within images. The camera pairs this information with deep learning algorithms to analyze and detect human bodies and track target objects in real time. The camera provides statistics for separate individuals' entrance and exit with up to 95% counting accuracy.

Metadata

Metadata is feature attribute information extracted from a target object which can be used for data retrieval. Dahua face detection camera can extract six facial attributes and output the metadata for analysis.

ePoE technology

The ePoE technology of Dahua, designed internally, adopts advanced 2D-PAM3 coding modulation from physical layer, and realizes full duplex transmission over 800 meters at the speed of 10Mbps, or 300 meters at the speed of 100Mbps via Cat 5 or coaxial cable media. Besides, it supports PoE and PoC power supply technology which has greatly simplified construction and wiring. Dahua ePoE technology offer a new way to accomplish long distance transmission between IP camera and network switch. It allows more flexible surveillance system design, improves reliability and saves construction and wiring cost.

Protection(IP67, IK10, wide voltage)

The camera allows for ±30% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 6KV lightning rating provides effective protection for both the camera and its structure against lightning. Subjected and certified to rigorous dust and immersion tests (IP67) and impact tests (IK10), the camera is the choice for installation in even the most unforgiving environments.

Technical Specification

Camera

Image Sensor	1/1.8" 4Megapixel progressive scan CMOS
Effective Pixels	2688 (H) × 1520 (V)
RAM/ROM	1 GB/128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual, 1/3 s–1/100000 s
Minimum Illumination	0.002 Lux@F1.8
IR Distance	Distance up to 50 m (164 ft)
IR On/Off Control	Auto/Manual
IR LEDs	4

Lens

Lens Type	Motorized
Mount Type	Board-in
Focal Length	2.7 mm–12.0 mm
Max. Aperture	F1.8
Angle of View	H: 114°–47°, V: 62°–26°
Optical Zoom	4.4x
Aperture Type	Auto
Close Focus Distance	1.2 m (3.94 ft)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	W	58m(190ft)	23m(75ft)	12m(39ft)	6m(20ft)
	T	131m(430ft)	52m(171ft)	26m(85ft)	13m(43ft)

Pan/Tilt/Rotation

Pan/Tilt/Rotation Range	Pan: 0°–360°; Tilt: 0°–90°; Rotation: 0°–360°

Artificial Intelligence

Face Capture	Support face image capture
Face Attributes	Support 6 kinds of face attributes extraction: Age, Gender,Expression (Jolly, Surprise, Normal, Rage, Sad, Disgusted, Confused, Frightened), Glasses, Mouth Mask, Moustache & Beard
Perimeter Protection	Tripwire, Intrusion (Human & Vehicle classification)
People Counting	Support Line crossing/Region/Queueing people counting; Support 4 accesses independent detection, 4 areas independent detection

General Intelligence

Event Trigger	Motion detection, Video tampering , Scene changing, Network disconnection , IP address conflict, Illegal Access, Storage anomaly
General Intelligence	Object Abandoned/Missing

Video

Compression	H.265+, H.265, H.264+, H.264, H.264B, H.264H, MJPEG (sub stream)
Streaming Capability	3 Streams
Resolution	2688 × 1520/2560 × 1440/2304 × 1296/1080P (1920 × 1080)/1.3M (1280 × 960)/720P (1280 × 720)/D1 (704 × 576/704 × 480)/VGA (640 × 480)/CIF (352 × 288/352 × 240)
Frame Rate	Main Stream: 2688 × 1520 (1 fps–25/30 fps) 2560 × 1440 (1 fps–25/30 fps) 1920 × 1080 (1 fps–50/60 fps)
	Sub Stream: D1 (1 fps–25/30 fps) D1 (1 fps–50/60 fps)
	Third Stream: 1080P (1 fps–16 fps)
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 32 Kbps–8192 Kbps H.265: 19 Kbps–8192 Kbps
Day/Night	Auto(ICR)/Color/B/W
BLC Mode	BLC/HLC/WDR (140 dB)
White Balance	Auto/Natural/Street Lamp/Outdoor/Manual
Gain Control	Auto/Manual
Noise Reduction	3D DNR
Motion Detetion	Off/On (4 Zone, Rectangle)
Region of Interest	Off/On (4 Zone)
Electronic Image Stabilization (EIS)	Support
Smart IR	Support
Defog	Support
Digital Zoom	N/A
Flip	0°/90°/180°/270°
Mirror	Off/On
Privacy Masking	Off/On (4 Area, Rectangle)

Audio

Compression	G.711a, G.711Mu, AAC, G.726, G.723

Network

Ethernet	RJ-45 (10/100 Base-T)
Protocol	HTTP, TCP, ARP, RTSP, RTP, UDP, RTCP, SMTP, FTP, DHCP, DNS, DDNS, PPPoE, IPv4/v6, SNMP, QoS, UPnP, NTP, ICMP, HTTPS, IGMP, 802.1x
Interoperability	ONVIF (Profile S/Profile G), CGI, Milstone, Genetec, P2P
Streaming Method	Unicast/Multicast
Max. User Access	20 Users
Edge Storage	NAS FTP Micro SD card 256 GB
Web Viewer	IE (versions newer than IE8), Chrome, Firefox, Safari (versions newer than Safari 12)
Management Software	Smart PSS, DSS, P2P
Smart Phone	iOS, Android

Certifications

Certifications	CE-LVD: EN60950-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B UL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07

Interface

Video Interface	N/A
Audio Interface	1/1 channel In/Out
RS485	N/A
Alarm	2 channel In: 5mA 5V DC 1 channel Out: 300mA 12V DC

Electrical

Power Supply	DC 12V (±30%), PoE (802.3af) (Class 0)
Power Consumption	<10.9W

Environmental

Operating Conditions	-30° C to +60° C (-22° F to +140° F)/10%RH–95%RH
Strorage Conditions	-30° C to +60° C (-22° F to +140° F)
Ingress Protection	IP67
Vandal Resistance	IK10

Construction

Casing	Metal, plastic
Dimensions	273.2 mm × 95.0 mm × 95.0 mm (10.76” × 3.74” × 3.74”)
Net Weight	1.11 kg (2.44 lb)
Gross Weight	1.51 kg (3.33 lb)

Ordering Information

Type	Part Number	Description
4MP camera	DH-IPC-HFW5442EP-ZE	4MP WDR IR Bullet AI Network Camera, WDR, PAL
	DH-IPC-HFW5442EN-ZE	4MP WDR IR Bullet AI Network Camera, WDR, NTSC
	IPC-HFW5442EP-ZE	4MP WDR IR Bullet AI Network Camera, WDR, PAL
	IPC-HFW5442EN-ZE	4MP WDR IR Bullet AI Network Camera, WDR, NTSC
Accessories (optional)	PFA152-E	Pole mount

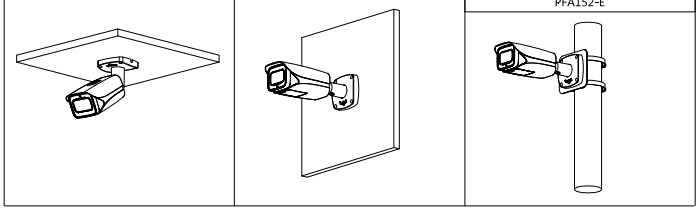
Accessories

Optional:

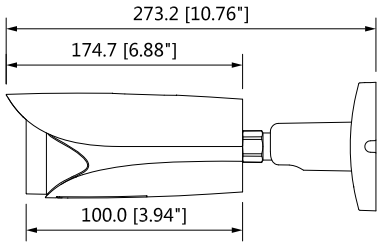
PFA152-E
Pole Mount

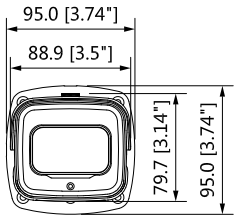
LR1002
ePoE Over Coax Converter

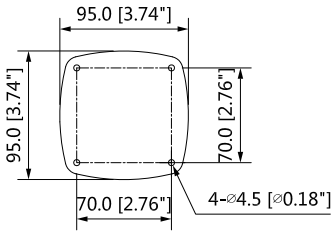
Ceiling Mount	Wall Mount	Pole Mount
		PFA152-E



Dimensions (mm[inch])







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DH-IPC-HFW5241T-ASE

2MP WDR IR Bullet AI Network Camera

- · 1/2.8” 2Megapixel progressive scan STARVIS™ CMOS
- · H.265 & H.264 triple-stream encoding
- · 25/30 fps@1080P (1920 × 1080)
- · WDR (120 dB), Day/Night (ICR), 3D DNR, AWB, AGC, BLC
- · Multiple network monitoring: Web viewer, CMS (DSS/PSS) & DMSS
- · 2.8 mm fixed lens (3.6 mm, 6.0 mm, 8.0 mm, 12.0 mm optional)
- · 1/1 Alarm in/out, 1/1 audio in/out
- · Max. IR LEDs Length 80 m
- · Micro SD memory, IP67

Dahua AI series products adopt the most advanced AI technologies, including deep learning algorithms that primarily target people and vehicles, which provides higher flexibility and accuracy for end-users. This enables the Dahua AI series to offer various advanced applications such as Face Recognition, ANPR, Metadata, People Counting, traffic data statistics, etc.The complete lineup of Dahua AI includes network (PTZ) cameras, network video recorders, servers, and platform management products. Beyond seeing the world, the power of AI allows devices to perceive the environment and understand the world in a better way.

System Overview

Pro AI series contains Face Capture, Perimeter Protection and People Counting functions.Powered by deep-learning Artificial Intelligence algorithms, significantly improved accuracy. Meanwhile, the series features starlight and smart IR technology. This series fully protected from dust and water, certified to IP67 standard.

Functions

Face Capture

Face capture is a software application that automatically captures faces from within a digital image or a video frame from a video source. Dahua cameras use advanced deep learning algorithms and are trained by a large number of face data sources, enabling the camera to locate faces quickly and accurately from the video source and capture facial images.

Perimeter Protection

Dahua’s Perimeter Protection functions significantly improved accuracy. Perimeter Protection reduces false alarms and decreases pixel count requirements for object detection. Perimeter Protection features custom tripwires based on object type for automation in limited access areas such as pedestrian or vehicle-only zones. This combination of advanced AI analytics and real-time alerts to a desktop or to a mobile client reduces system requirements and resources resulting in greater surveillance system efficiency.

People Counting

People Counting function uses advanced image processing technology to capture depth information from within images. The camera pairs this information with deep learning algorithms to analyze and detect human bodies and track target objects in real time. The camera provides statistics for separate individuals’ entrance and exit with up to 95% counting accuracy.

ePoE technology

The ePoE technology of Dahua, designed internally, adopts advanced 2D-PAM3 coding modulation from physical layer, and realizes full duplex transmission over 800 meters at the speed of 10Mbps, or 300 meters at the speed of 100Mbps via Cat 5 or coaxial cable media. Besides, it supports PoE and PoC power supply technology which has greatly simplified construction and wiring. Dahua ePoE technology offer a new way to accomplish long distance transmission between IP camera and network switch. It allows more flexible surveillance system design, improves reliability and saves construction and wiring cost.

Protection(IP67, wide voltage)

The camera allows for ±30% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 6KV lightning rating provides effective protection for both the camera and its structure against lightning. Subjected and certified to rigorous dust and immersion tests (IP67) , the camera is the choice for installation in even the most unforgiving environments.

Technical Specification

Camera

Image Sensor	1/2.8" 2Megapixel progressive scan STARVIS™ CMOS
Effective Pixels	1920 (H) × 1080 (V)
RAM/ROM	512 MB/128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual, 1/3 s–1/100000 s
Minimum Illumination	0.002 Lux@F1.6
IR Distance	Distance up to 80 m (262 ft)
IR On/Off Control	Auto/Manual
IR LEDs	4

Lens

Lens Type	Fixed
Mount Type	Board-in
Focal Length	2.8 mm, 3.6 mm, 6.0 mm, 8.0 mm, 12.0 mm
Max. Aperture	F1.6 (2.8 mm–8.0 mm), F2.0 (12.0 mm)
Angle of View	H: 106°, V: 57°/H: 87°, V: 46°/H: 53°, V: 30°/ H: 41°, V: 23°/H: 26°, V: 14°
Optical Zoom	N/A
Aperture Type	Fixed
Close Focus Distance	0.6 m (1.97 ft)/1.2 m (3.94 ft)/2.5 m (8.20 ft)/ 4 m (13.12 ft)/8.6 m (28.22 ft)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	2.8mm	39m(128ft)	15m(49ft)	8m(26ft)	4m(13ft)
	3.6mm	55m(180ft)	22m(72ft)	11m(36ft)	6m(20ft)
	6mm	83m(272ft)	33m(108ft)	17m(56ft)	8m(26ft)
	8mm	110m(361ft)	44m(144ft)	22m(72ft)	11m(36ft)
	12mm	172m(564ft)	69m(226ft)	35m(115ft)	17m(56ft)

Pan/Tilt/Rotation

Pan/Tilt/Rotation Range	Pan: 0°–360°; Tilt: 0°–90°; Rotation: 0°–360°

Artificial Intelligence

Face Capture	Support face image capture
Perimeter Protection	Tripwire, Intrusion (Human & Vehicle classification)
People Counting	Support Line crossing/Region/Queueing people counting; Support 4 accesses independent detection, 4 areas independent detection

General Intelligence

Event Trigger	Motion detection, Video tampering , Scene changing, Network disconnection , IP address conflict, Illegal Access, Storage anomaly
General Intelligence	Object Abandoned/Missing

Video

Compression	H.265+, H.265, H.264+, H.264, H.264B, H.264H, MJPEG (sub stream)
Streaming Capability	3 Streams
Resolution	1080P (1920 × 1080)/1.3M (1280 × 960)/720P (1280 × 720)/D1 (704 × 576/704 × 480)/VGA (640 × 480)/CIF (352 × 288/352 × 240)
Frame Rate	Main Stream: 1080P (1 fps–25/30 fps)
	Sub Stream: D1 (1 fps–25/30 fps)
	Third Stream: 1080P (1 fps–6 fps)
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 32 Kbps–8192 Kbps H.265: 19 Kbps–7424 Kbps
Day/Night	Auto(ICR)/Color/ B/W
BLC Mode	BLC/HLC/WDR (120 dB)
White Balance	Auto/Natural/Street Lamp/Outdoor/Manual
Gain Control	Auto/Manual
Noise Reduction	3D DNR
Motion Detetion	Off/On (4 Zone, Rectangle)
Region of Interest	Off/On (4 Zone)
Electronic Image Stabilization (EIS)	N/A
Smart IR	Support
Defog	Support
Digital Zoom	N/A
Flip	0°/90°/180°/270°
Mirror	Off/On
Privacy Masking	Off/On (4 Area, Rectangle)

Audio

Compression	G.711a, G.711Mu, G.726, AAC, G.723

Network

Ethernet	RJ-45 (10/100 Base-T)
Protocol	HTTP, TCP, ARP, RTSP, RTP, UDP, RTCP, SMTP, FTP, DHCP, DNS, DDNS, PPPoE, IPv4/v6, SNMP, QoS, UPnP, NTP, ICMP, HTTPS, IGMP, 802.1x
Interoperability	ONVIF (Profile S/Profile G), CGI, Milstone, Genetec, P2P
Streaming Method	Unicast/Multicast
Max. User Access	20 Users
Edge Storage	NAS FTP Micro SD card 256 GB
Web Viewer	IE (versions newer than IE8), Chrome, Firefox, Safari (versions newer than Safari 12)
Management Software	Smart PSS, DSS, P2P
Smart Phone	iOS, Android

Certifications

Certifications	CE-LVD: EN60950-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B UL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07

Interface

Video Interface	N/A
Audio Interface	1/1 channel In/Out
RS485	N/A
Alarm	1 channel In: 5mA 5V DC 1 channel Out: 300mA 12V DC

Electrical

Power Supply	DC 12V (±30%), PoE (802.3af) (Class 0)
Power Consumption	<8.7W

Environmental

Operating Conditions	-30° C to +60° C (-22° F to +140° F)/10%RH–95%RH
Strorage Conditions	-30° C to +60° C (-22° F to +140° F)
Ingress Protection	IP67
Vandal Resistance	N/A

Construction

Casing	Metal
Dimensions	244.1 mm × 79.0 mm × 75.9 mm (9.61” × 3.11” × 2.99”)
Net Weight	0.815 kg (1.80 lb)
Gross Weight	1.08 kg (2.38 lb)

Ordering Information

Type	Part Number	Description
2MP camera	DH-IPC-HFW5241TP-ASE	2MP WDR IR Bullet AI Network Camera, WDR, PAL
	DH-IPC-HFW5241TN-ASE	2MP WDR IR Bullet AI Network Camera, WDR, NTSC
	IPC-HFW5241TP-ASE	2MP WDR IR Bullet AI Network Camera, WDR, PAL
	IPC-HFW5241TN-ASE	2MP WDR IR Bullet AI Network Camera, WDR, NTSC
Accessories (optional)	PFA130-E	Junction box
	PFA152-E	Pole Mount
	PFA151	Corner Mount

Accessories

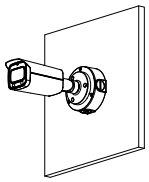
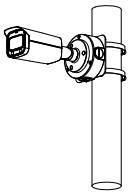
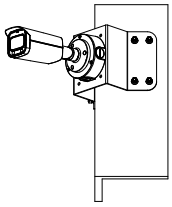
Optional:

PFA130-E
Junction box

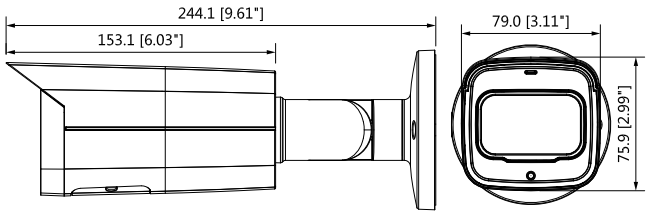
PFA152-E
Pole Mount

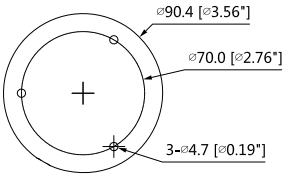
PFA151
Corner Mount

LR1002
ePoE Over Coax Converter

Junction Mount	Pole Mount	Corner Mount
PFA130-E	PFA130-E+ PFA152-E	PFA130-E + PFA151
		

Dimensions (mm[inch])





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DS-2CD5A46G1-IZ(H)S
4 MP Varifocal Bullet Network Camera

DarkFighter

- 1/1.8” Progressive Scan CMOS
- 2560 × 1440 @ 30fps
- MJPEG up to 1920 × 1080 @ 30fps
- 2.8 to 12 mm/8 to 32 mm motorized lens
- Color: 0.002 Lux @ (F1.2, AGC ON), 0.005 Lux @ (F1.8, AGC ON), 0 Lux with IR
- H.265, H.265+, H.264, H.264+
- 140dB WDR
- 2.8 to 12 mm lens: IR range up to 50 m, 8 to 32 mm lens: IR range up to 100 m
- 5 streams and up to 5 custom streams
- 6 behavior analyses, 3 exception detection, and face detection
- Built-in microSD/SDHC/SDXC card slot, up to 256 GB
- Alarm 2 inputs/2 outputs, audio 1 input/1 output, RS-485
- IP67, IK10
- Metadata of intrusion detection, line crossing detection, region entrance detection, region exiting detection, unattended baggage detection, and object removal are supported.

Function

Smooth Streaming

Smooth streaming offers solutions to improve the video quality in different network conditions. For example, in poor network conditions, adapting to the detected real-time network condition, streaming bit rate and resolution are automatically adjusted to avoid mosaic and lower latency in live view; in multiplayer network conditions, the camera transmits the redundant data for the self-error correcting in back-end device, so that to solve the mosaic problem because of the packet loss and error rate.

Metadata

Metadata uses individual instances of application data or the data content. Metadata can be used for third-party application development.

Specifications

Camera	
Image Sensor	1/1.8" Progressive Scan CMOS
Min. Illumination	Color: 0.002 Lux @ (F1.2, AGC ON), 0.005 Lux @ (F1.8, AGC ON), 0 Lux with IR
Shutter Speed	1 s to 1/100,000 s
Slow Shutter	Yes
Day & Night	IR Cut Filter.
WDR	140 dB
Angle Adjustment	Pan: 0° to 355°, tilt: 0° to 90°, rotate: 0° to 360°
Lens	
Lens Type	Motorized lens , 2.8 to 12 mm, 8 to 32 mm
Aperture	2.8 to 12 mm @ F1.2 to F2.5 8 to 32 mm @ F1.8, Constant F1.8 throughout the zoom range
Focus	Auto, semi-auto, manual
FOV	2.8 to 12 mm, horizontal FOV 109.2° to 38.9°, vertical FOV 56.2° to 21.9°, diagonal FOV 134.5° to 45° 8 to 32 mm, horizontal FOV 37.7° to 15.2°, vertical FOV 21° to 8.6°, diagonal FOV 43.4° to 17.24°
Lens Mount	Integrated
Illuminator	
IR Range	2.8 to 12 mm lens: up to 50 m 8 to 32 mm lens: up to 100 m
Wavelength	850 nm
Video	
Max. Resolution	2560 × 1440
Video Stream	5 defined streams and up to 5 custom stream
Main Stream	50Hz: 25fps (2560 × 1440, 1920 × 1080, 1280 × 720) 60Hz: 30fps (2560 × 1440, 1920 × 1080, 1280 × 720)
Sub Stream	50Hz: 25fps (704 × 576, 640 × 480) 60Hz: 30fps (704 × 480, 640 × 480)
Third Stream	50Hz: 25fps (1920 × 1080, 1280 × 720, 704 × 576, 640 × 480) 60Hz: 30fps (1920 × 1080, 1280 × 720, 704 × 576, 640 × 480)
Fourth Stream	50Hz: 25fps (1920 × 1080, 1280 × 720, 704 × 576, 640 × 480) 60Hz: 30fps (1920 × 1080, 1280 × 720, 704 × 480, 640 × 480)
Fifth Stream	50Hz: 25fps (704 × 576, 640 × 480) 60Hz: 30fps (704 × 480, 640 × 480)
Custom Stream	50Hz: 25fps (1920 × 1080, 1280 × 720, 704 × 576, 640 × 480) 60Hz: 30fps (1920 × 1080, 1280 × 720, 704 × 576, 640 × 480)
Video Compression	Main stream: H.265/H.264/H.265+/H.264+ Sub stream/third stream/fourth stream/fifth stream/custom stream: H.265/H.264/MJPEG
H.264 Type	Baseline Profile/Main Profile/High Profile
H.264+	Main stream support
H.265 Type	Main Profile
H.265+	Main stream support
Video Bit Rate	32 Kbps to 16 Mbps
Scalable Video Coding (SVC)	H.264 and H.265 encoding

Audio	
Audio Compression	G.711/G.722.1/G.726/MP2L2/PCM
Audio Bit Rate	64Kbps(G.711)/16Kbps(G.722.1)/16Kbps(G.726)/32-192Kbps(MP2L2)/32Kbps(PCM)
Environment Noise Filtering	Yes
Audio Sampling Rate	8 kHz/16 kHz/32 kHz/44.1 kHz/48 kHz
Smart Feature-set	
Smart Event	Line crossing detection, up to 4 lines configurable Intrusion detection, up to 4 regions configurable Region entrance detection, up to 4 regions configurable Region exiting detection, up to 4 regions configurable Unattended baggage detection, up to 4 regions configurable Object removal detection, up to 4 regions configurable Face detection: detects faces and upload images Scene change detection, audio exception detection, defocus detection
Basic Event	Motion detection, video tampering alarm, exception (network disconnected, IP address conflict, illegal login, HDD full, HDD error)
Statistics	Counting
Linkage Method	Upload to FTP/NAS/memory card, notify surveillance center, send email, trigger alarm output, trigger recording, trigger capture
Region of Interest	4 fixed regions for main stream, sub stream, third stream, fourth stream, and fifth stream, and dynamic face tracking
Image	
Image Enhancement	BLC, HLC, Defog, EIS, Distortion Correction, 3D DNR
Image Setting	Rotate mode, saturation, brightness, contrast, sharpness, AGC, and white balance are adjustable by client software or web browser
Target Cropping	Yes
Day/Night Switch	Auto/Schedule/Day/Night/Triggered by Alarm In
Picture Overlay	LOGO picture can be overlaid on video with 128 × 128 24bit bmp format
Network	
Network Storage	microSD/SDHC/SDXC card (256 G), local storage and NAS (NFS, SMB/CIFS), ANR Together with high-end Hikvision memory card, memory card encryption and health detection are supported.
Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, UDP, Bonjour, SSL/TLS
API	ONVIF (PROFILE S, PROFILE G), ISAPI, SDK
Smooth Streaming	Yes
Security	Password protection, complicated password, HTTPS encryption, 802.1X authentication (EAP-TLS, EAP-LEAP, EAP-MD5), watermark, IP address filter, basic and digest authentication for HTTP/HTTPS, WSSE and digest authentication for ONVIF, RTP/RTSP over HTTPS, control timeout settings, security audit log, TLS 1.2
Simultaneous Live View	Up to 20 channels
User/Host	Up to 32 users, 3 levels: Administrator, Operator and User
Client	iVMS-4200, Hik-Connect, Hik-Central
Web Browser	Plug-in required live view: IE8+, Chrome 41.0-44, Mozilla Firefox 30.0-51, Safari8.0-11 Plug-in free live view: Chrome 45+, Mozilla Firefox 52+
Interface	
Communication Interface	1 RJ45 10M/100M/1000M self-adaptive Ethernet port, RS-485 (half duplex, HIKVISION, Pelco-P, Pelco-D, self-adaptive)
Audio	1 input (line in), 1 output (line out), 3.5 mm connector, mono

Alarm	2 inputs, 2 outputs (24 VAC/VDC, 1 A max.)
Video Output	1Vp-p composite output (75 Ω/CVBS), only for adjustment
Power Output	12 VDC, max. 200mA
Interface Style	Pigtail style interface
On-board storage	Built-in micro SD/SDHC/SDXC slot, up to 256 GB
General	
Firmware Version	5.5.90
Web Client Language	32 languages English, Russian, Estonian, Bulgarian, Hungarian, Greek, German, Italian, Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil)
Embedded Open Platform	Yes. The camera supports installation and running up to 4 extra applications.
General Function	Anti-flicker, 5 streams and up to 5 custom streams, heartbeat, mirror, regions of privacy mask, flash log, password reset via e-mail, pixel counter
Reset	Reset via reset button on camera body, web browser and client software
Startup and Operating Conditions	-30 °C to 65 °C (-22 °F to 149 °F), -H: -40 °C to 65 °C (-40 °F to 149 °F) Humidity 95% or less (non-condensing)
Storage Conditions	-30 °C to 65 °C (-22 °F to 149 °F) Humidity 95% or less (non-condensing)
Power Supply	12 VDC ± 20%, three-core terminal block, reverse polarity protection PoE (802.3at, class 4)
Power Consumption and Current	-IZS: With extra load: 12 VDC, 1.28 A, max. 15.4 W; PoE (802.3at, 42.5 V to 57 V), 0.36 A to 0.27 A, max. 15.4 W Without extra load: 12 VDC, 1.08 A, max. 13 W; PoE (802.3at, 42.5 V to 57 V), 0.31 A to 0.23 A, max. 13 W -IZHS: With extra load: 12 VDC, 1.33 A, max. 15.9 W; PoE (802.3at, 42.5 V to 57 V), 0.50 A to 0.37 A, max. 21.2 W Without extra load: 12 VDC, 1.13 A, max. 13.5 W; PoE (802.3at, 42.5 V to 57 V), 0.42 A to 0.32 A, max. 18 W “with extra load” means that an extra device is connected to and powered by the camera.
Heater	-H: yes
Material	Metal
Dimensions	Camera: Φ144 × 347 mm (Φ5.7” × 13.7”) With package: 405 × 190 × 180 mm (15.9” × 7.5” × 7.1”)
Weight	Camera: 1.85 kg (4.07 lb.) With package: 2.95 kg (6.50 lb.)
Approval	
EMC	47 CFR Part 15, Subpart B; EN 55032: 2015, EN 61000-3-2: 2014, EN 61000-3-3: 2013, EN 50130-4: 2011 +A1: 2014; AS/NZS CISPR 32: 2015; ICES-003: Issue 6, 2016; KN 32: 2015, KN 35: 2015
Safety	UL 60950-1, IEC 60950-1:2005 + Am 1:2009 + Am 2:2013, EN 60950-1:2005 + Am 1:2009 + Am 2:2013, IS 13252(Part 1):2010+A1:2013+A2:2015
Chemistry	2011/65/EU, 2012/19/EU, Regulation (EC) No 1907/2006
Protection	Ingress protection: IK10 (IEC 62262:2002), IP67 (IEC 60529-2013)

Note: Listed resolutions are only selectable options. It does not mean that all streams can work at their maximum resolution at the same time.

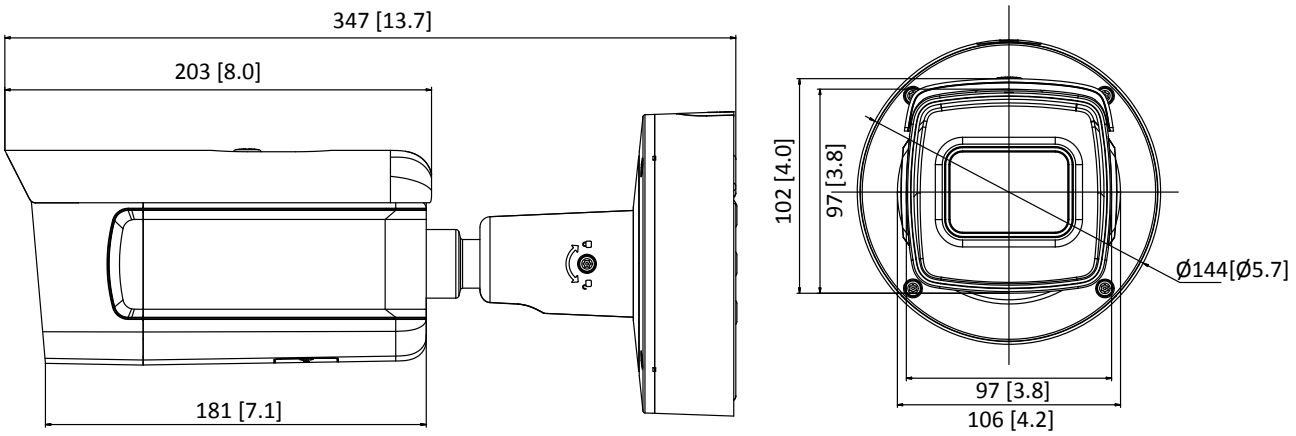
Available Model

DS-2CD5A46G1-IZS (2.8 to 12 mm), DS-2CD5A46G1-IZHS (2.8 to 12 mm)

DS-2CD5A46G1-IZS (8 to 32 mm), DS-2CD5A46G1-IZHS (8 to 32 mm)

*-H: heater supported

Dimension



Unit: mm[inch]

Accessory

DS-1475ZJ-SUS

Vertical pole mount

DS-1476ZJ-SUS

Corner mount

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DH-IPC-HDW2431T-AS-S2

4MP WDR IR Eyeball Network Camera

- 4MP, 1/3” CMOS image sensor, low illuminance, high image definition
- Outputs 4MP (2560 × 1440)@25/30 fps, Max. supports 4MP (2688 × 1520) @ 20 fps
- H.265 codec, high compression rate, ultra-low bit rate
- Built-in IR LED, max IR distance: 30 m
- ROI, SMART H.264/H.265, flexible coding, applicable to various bandwidth and storage environments
- Rotation mode, WDR, 3D DNR, HLC, BLC, digital watermarking, applicable to various monitoring scenes
- Intelligent detection: Intrusion, tripwire
- Abnormality detection: Motion detection, video tampering,no SD card, SD card full, SD card error, network disconnected, IP conflict, illegal access, voltage detection
- Supports max. 256 GB Micro SD card, built-in Mic
- 12V DC/PoE power support
- IP67 protection

System Overview

With upgraded H.265 encoding technology, Dahua Lite series camera has efficient video encoding capacity, which saves bandwidth and storage space. This camera adopts the latest starlight technology and displays better colorful image in the environment of low illumination. It supports SD card storage, waterproof function, dust-proof function, complying to the standards of IP67.

Functions

Smart (H.265+ & H.264+)

Adopting advanced algorithm of auto stream control according to the environment, Dahua smart encoding technology realizes the higher efficiency than (H.265 & H.264), providing high-quality video, and reducing the cost of storage and transmission.

Wide dynamic range (WDR)

Dahua adopts advanced Wide Dynamic Range (WDR) technology. You can get clear details in the environment of strong brightness contrast. In high brightness and back- light environment, bright region and dark region with strong light source, you can also get clear images.

Starlight

Dahua Starlight technology mainly applies to the environment of low illumination, and it can provide clear colorful video. Even in the environment of min. illumination, the technology can guarantee the good image effect.

Intelligent Video Analysis (IVS)

With advanced video algorithm, Dahua camera supports intelligent detection, such as tripwire and intrusion and so on.

Protection (IP67, wide voltage)

IP67: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can works normal after soaking in 1 m deep water for 30 minutes.
Wide voltage: The camera allows ±30% input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

Technical Specification

Camera

Image Sensor	1/3” 4Megapixel progressive CMOS
Effective Pixels	2688 (H) × 1520 (V)
ROM	128 MB
RAM	128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100000 s
Min. Illumination	0.008 Lux @ F1.6
IR Distance	30 m (98.43 ft)
IR On/Off Control	Auto/Manual
IR LEDs Number	2
Pan/Tilt/Rotation Range	Pan: 0°–360° Tilt: 0°–78° Rotation: 0°–360°

Lens

Lens Type	Fixed-focal
Mount Type	M12
Focal Length	2.8 mm 3.6 mm
Max. Aperture	F1.6 F1.6
Field of View	2.8 mm: Pan: 102.0° Tilt: 55.0° Diagonal: 121.0° 3.6 mm : Pan: 84.0° Tilt: 45.0° Diagonal: 100.0°
Iris Type	Fixed aperture
Close Focus Distance	2.8 mm: 0.9 m (2.95 ft) 3.6 mm: 1.6 m (3.61 ft)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	2.8 mm	56 m (183.73 ft)	22.4 m (73.49 ft)	11.2 m (36.75 ft)	5.6 m (18.37 ft)
	3.6 mm	80 m (262.47 ft)	32.0 m (104.99 ft)	16.0 m (52.49 ft)	8.0 m (26.25 ft)

Smart event

General IVS Analytics	Tripwire; intrusion

Video

Video Compression	H.265; H.264; H.264B; MJPEG
Smart Codec	Yes
Video Frame Rate	Main stream: 2688 × 1520 (1 fps-20 fps) 2560 × 1440 (1 fps-25/30 fps) Sub stream: 704 × 576 (1 fps-25 fps) 704 × 480 (1 fps-30 fps)
Stream Capability	2 streams
Resolution	2688 × 1520 (2688 × 1520); 2560 × 1440 (2560 × 1440); 2304 × 1296 (2304 × 1296); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 ×480); CIF (352 × 288/352 × 240)
Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 32 Kbps–6144 Kbps H.265: 12 Kbps–6144 Kbps
Day/Night	Auto(ICR)/Color/B/W
BLC	Yes
HLC	Yes
WDR	120 dB
White Balance	Auto/natural/street lamp/outdoor/manual/regional custom
Gain Control	Auto/Manual
Noise Reduction	3D DNR
Motion Detection	OFF/ON (4 areas, rectangular)
Region of Interest(RoI)	Yes (4 areas)
Smart IR	Yes
Image Rotation	0°/90°/180°/270° (Supports 90°/270° with 1080p resolution and lower.)
Mirror	Yes
Privacy Masking	4 areas

Audio

Built-in MIC	Yes
Audio Compression	G.711A; G.711Mu; G.726; AAC

Network

Network	RJ-45 (10/100 Base-T)
Protocol	IPv4; IPv6; HTTP; HTTPS; TCP; UDP; ARP; RTP ; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; PPPoE; 802.1x; Bonjour
Interoperability	ONVIF(Profile S/Profile G/Profile T);CGI; P2P; Milestone; Genetec
User/Host	20
Edge Storage	Dahua Cloud; FTP; SFTP; Micro SD Card (support max. 256 GB); NAS
Browser	IE Chrome Firefox
Management Software	Smart PSS; DSS; DMSS
Mobile Phone	IOS; Android

Certification

Certifications	CE-LVD: EN60950-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B UL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07

Power

Power Supply	12V DC/PoE (802.3af)
Power Consumption	< 6.6W

Environment

Operating Conditions	-40°C to +60°C (-40°F to +140°F)/less than ≤ 95% RH
Storage Temperature	-40°C to +60°C (-40°F to +140°F)
Protection	IP67

Structure

Casing	Metal
Dimensions	100.9 mm × Φ109.9 mm (3.97" × Φ4.33")
Net Weight	0.39 kg (0.9 lb)
Gross Weight	0.56 kg (1.2 lb)

Ordering Information

Type	Part Number	Description
4MP Camera	DH-IPC-HDW2431TP-AS-S2	4MP WDR IR Eyeball Network Camera, PAL
	DH-IPC-HDW2431TN-AS-S2	4MP WDR IR Eyeball Network Camera, NTSC
Accessories (optional)	PFA130-E	Junction Box
	PFB203W	Wall Mount
	PFA152-E	Pole Mount
	PFM321D	DC12V1A Power Adapter
	LR1002-1ET/1EC	Single-port Long Reach Ethernet over Coax Extender
	PFM900-E	Integrated Mount Tester
	PFM114	TLC SD Card

Accessories

Optional:

PFA130-E
Junction Box

PFB203W
Wall Mount

PFA152-E
Pole Mount

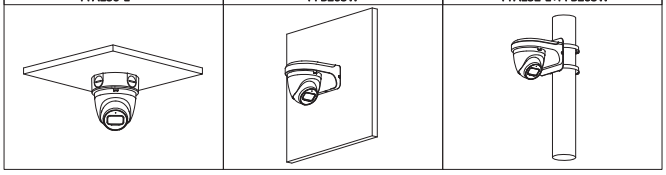
PFM321D
DC12V1A
Power Adapter

LR1002-1ET/1EC
Single-port Long
Reach Ethernet over
Coax Extender

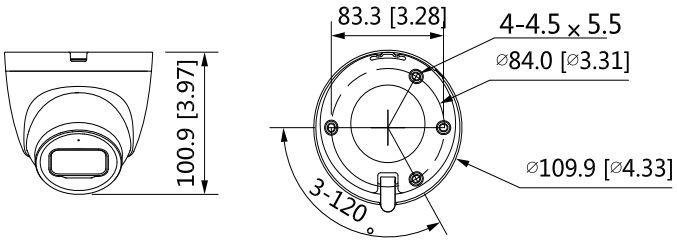
PFM900-E
Integrated Mount
Tester

PFM114
TLC SD Card

Junction Mount	Wall Mount	Pole Mount
PFA130-E	PFB203W	PFA152-E+PFB203W



Dimensions (mm[inch])



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Pictures in the document are for reference only, and the actual product shall prevail.

Datasheet pre

Základné informácie:

PCVS Rack TSS 8HDD

- **Rozmery:** 89 x 437 x 647 mm
- **Osadenie v Racku:** 2U
- **Počet slotov 3,5":**, 8x Hot-swappable SAS
- **Chladenie:** 3x 80mm, PWM Fan
- **Hmotnosť: cca** 29,7 KG
- **Zdroj:** Redundant
- **Záruka:** 3 Roky

Technické informácie:

- **Procesor:**
  - ✓ **Intel Xeon Silver 4208**
  - ✓ frekvencia: 3.2GHz
  - ✓ jadrá: 8
  - ✓ Vlákna: 16
  - ✓ cache: 11MB
  - ✓ priemerná spotreba 85W
  - ✓ sockets: FCLGA3647

- **Základná doska**
  - ✓ chipset: C621
  - ✓ socket: FCLGA3647
  - ✓ Pamäť: 6x DDR4 DIMM, dual channel, 2933 MHz (dodávané 16GB RAM 2x8GB 2400MHz)
  - ✓ MAX RAM: 1TB
  - ✓ 1 x D-Sub port,
  - ✓ Rozširujúce sloty: 1 (x8) PCI-E 3.0 (in x16) slot
    2 (x8) PCI-E 3.0
  - ✓ SATA: 12x SATA 3 (nepoužíva sa, Zariadenie má externú SAS/SATA kartu pre lepší výkon)
  - ✓ LAN: 2 RJ45 Gigabit Ethernet LAN ports
  - ✓ RAID**:** 0, 1, 5,
  - ✓ USB**:** 2 x USB 3.0 ports
  - ✓ VGA: ASPEED AST2400 BMC

- **RAID karta:**
  - ✓ 12 interných 6Gb/s SATA+SAS portov.
  - ✓ Low-profile, 63 SATA/SAS drives
  - ✓ RAID 0, 1, 5, 6, 10, 50, 60
  - ✓ 1 GB 1333MHz DDRIII SDRAM

- **Pamäť RAM:**
  - ✓ typ pamäťového modulu pre základné dosky: DDR4
  - ✓ kapacita pamäte: 8 GB (1 x 8 GB)
  - ✓ frekvencia pamäťového modulu: 3200 MHz
- **SSD:**
  - ✓ **SSD M.2 2280: 256GB**
- **OS:**
  - ✓ Win10Ent IoT 64bit

DELL Technologies

OPTIPLEX 3080 TOWER, SMALL FORM FACTOR AND MICRO

Business desktops with streamlined performance and essential manageability options to drive maximum value.

POWER YOUR SUCCESS

Speed through routine tasks seamlessly with 10th generation Intel® Core™ processors and up to 65W CPU for towers. Now supporting double maximum memory than previous generation - up to 64GB DDR4 (32GB DIMMS) - and delivering faster user experiences.

CONVENIENT CONNECTIONS

Create a multi-monitor set up to improve productivity and task accuracy with support for up to three monitors, including native DisplayPort 1.4 and HDMI, and optional VGA, HDMI 2.0b or 2nd DisplayPort.

SECURE SOLUTION

The redesigned OptiPlex 3080 offers more security than ever. Work smart with secure features including TPM 2.0, SED hard drive, standard security lock slot, padlock loop and intrusion switch. Protect your IT investment completely with Dell Endpoint Security.

EFFICIENT DESIGN

New “shift” venting pattern of the chassis maximizes air intake to help your system stay cool. The compact, entry tool-less design, now provides easier access to parts for quicker serviceability, without the need to remove the front bezel. Versatile mounting options enable a personalized, clutter-free workspace.

Recommended Accessories

OPTIPLEX 3080 TOWER, SMALL FORM FACTOR AND MICRO

CUSTOM STANDS AND MOUNTS

DELL SINGLE MONITOR ARM - MSA20

Maximize your desk space with this sleek arm that supports both system and monitor mounting.

OPTIPLEX MICRO ALL-IN-ONE MOUNT FOR DELL E SERIES MONITORS

This mount allows the Micro to be VESA mounted to select Dell E Series displays.

OPTIPLEX MICRO DUAL VESA MOUNT WITH ADAPTER BRACKET

Mount your system between two VESA compatible devices. Includes an adapter box to securely house the system's power adapter.

OPTIPLEX MICRO DVD+/-RW ENCLOSURE

Mount your system on a wall or under a surface with a VESA-compatible DVD+/-RW encolusure with full optical drive access. Includes an adapter box to securely house the system's power adapter.

OPTIPLEX MICRO VESA MOUNT WITH ADAPTER BRACKET

Mount your system on a wall or under a desk Includes an adapter box to securely house the system's power adapter.

OPTIPLEX MICRO ALL-IN-ONE STAND

Small footprint mounting solution adapts to your environment, with cable management and monitor height adjustability, tilt, swivel and pivot functions.

OPTIPLEX SMALL FORM FACTOR ALL-IN-ONE STAND

Small footprint mounting solution featuring integrated monitor power and Ethernet cables, as well as monitor adjustability with height, tilt, swivel and pivot functions.

PURPOSE-BUILT SOLUTIONS

DELL 24 MONITOR - P2421D

Optimize your workspace with this efficient 23.8" monitor built with an ultrathin bezel, a small footprint and comfort-enhancing features.

DELL PROFESSIONAL SOUND BAR - AE515M

Optimize conference calls and multimedia streaming with exceptional audio clarity. Minimize background noise while on calls with the dual mic array and echo cancellation feature.

DELL PRO WIRELESS KEYBOARD AND MOUSE - KM5221W

Enhance your everyday productivity with a quiet full size keyboard and mouse combo that offers programmable shortcuts and 36 months battery life.

DELL WIRED MOUSE WITH FINGERPRINT READER - MS819

Wired mouse with fingerprint reader offers convenient and secure login and online access without passwords.

DELL PRO WIRED HEADSET - WH3022 (COMING SOON)

Experience exceptional audio clarity with this Teams certified wired headset that allows you to wear the microphone on either side for a customized fit.

OPTIPLEX CABLE COVERS

Thermally tested custom cable covers offer an easy to install and attractive way to manage cables and secure ports.

OPTIPLEX DUST FILTERS

Custom dust filters safeguard internal components in factory, warehouse, or retail environments.

Workforce Modernization

It's more than a concept; it's our approach to modernizing your workforce. Our products, solutions and services support your IT team and help your employees work from home, the office, or a combination of both — simplifying and streamlining their work-life even if they're always on the move.

Dell Software & Services Solutions

END USER DEVICES

Provide the right device with the right software for any setting to give employees satisfaction and business perspective.

SUPPORT

Automatically detect and proactively prevent issues through predictive analytics. Use our AI-driven insights to resolve issues remotely or leave time-consuming support issues in our hands with 24x7 access to our hardware and software experts.

DEPLOY

Quickly get employees to work and save valuable IT time by provisioning applications at the factory and shipping ready-to-use devices directly to employees wherever they work.

MANAGE

Take advantage of the console of your choice to set up, configure, monitor and update your entire endpoint fleet. Securely deliver and manage applications from the cloud, giving users smooth access to any device, including from other vendors.

SECURE

Use intelligent solutions that secure endpoints from both above and below the OS. Prevent, detect and remediate attacks. Detect outside attacks that have altered the BIOS. Encrypt sensitive data on devices and in the cloud. Protect credentials with built-in hardware.

aaS

You can enjoy modernization through different consumption models:
Traditional cash purchase outright or as fixed monthly plan with no upfront investment.

[1] Source: ESG Remote Work Report, 2020
[2] Source: Dell User Group Pulse Survey March 2020

Features & Technical Specifications

OPTIPLEX 3080 TOWER, SMALL FORM FACTOR AND MICRO

Feature	OptiPlex 3080 Technical Specifications[1]
Processors[1]	**Tower, Small Form Factor:** Intel® Celeron® G5900, 2 MB Cache, 2 Cores, 2 Threads, 3.4 GHz, 58 W Intel® Pentium® G6400, 4 MB Cache, 2 Cores, 4 Threads, 4.0 GHz, 58 W Intel® Pentium® G6500, 4 MB Cache, 2 Cores, 4 Threads, 4.1 GHz, 58 W 10th Generation Intel® Core™ i3-10100, 6 MB Cache, 4 Cores, 8 Threads, 3.6 GHz to 4.3 GHz, 65 W 10th Generation Intel® Core™ i3-10300, 8 MB Cache, 4 Cores, 8 Threads, 3.7 GHz to 4.4 GHz, 65 W 10th Generation Intel® Core™ i5-10400, 12 MB Cache, 6 Cores, 12 Threads, 2.9 GHz to 4.3 GHz, 65 W 10th Generation Intel® Core™ i5-10500, 12 MB Cache, 6 Cores, 12 Threads, 3.1 GHz to 4.5 GHz, 65 W 10th Generation Intel® Core™ i5-10600, 12 MB Cache, 6 Cores, 12 Threads, 3.3 GHz to 4.8 GHz, 65 W 10th Generation Intel® Celeron G5905, 4MB Cache, 2 Cores, 2 Threads, 3.5GHz, 58W 10th Generation Intel® Pentium G6405, 4MB Cache, 2 Cores, 4 Threads, 4.1GHz, 58W 10th Generation Intel® Pentium G6505, 4MB Cache, 2 Cores, 4 Threads, 4.2GHz, 58W 10th Generation Intel® Core™ i3-10105, 6MB Cache, 4 Cores, 8 Threads, 3.7GHz to 4.4GHz, 65W 10th Generation Intel® Core™ i3-10305, 8MB Cache, 4 Cores, 8 Threads, 3.8GHz to 4.5GHz, 65W 10th Generation Intel® Core™ i5-10505 12MB Cache, 6 Cores, 12 Threads, 3.2GHz to 4.6GHz, 65W **Micro:** Intel® Celeron® G5900T, 2 MB Cache, 2 Cores, 2 Threads, 3.2 GHz, 35 W Intel® Pentium® Gold G6400T, 4 MB Cache, 2 Cores, 4 Threads, 3.4 GHz, 35 W Intel® Pentium® Gold G6500T, 4 MB Cache, 2 Cores, 4 Threads, 3.5 GHz, 35 W 10th Generation Intel® Core™ i3-10100T, 6 MB Cache, 4 Cores, 8 Threads, 3.0 GHz to 3.8 GHz, 35 W 10th Generation Intel® Core™ i3-10300T, 8 MB Cache, 4 Cores, 8 Threads, 3.0 GHz to 3.9 GHz, 35 W 10th Generation Intel® Core™ i5-10400T, 12 MB Cache, 6 Cores, 12 Threads, 2.0 GHz to 3.6 GHz, 35 W 10th Generation Intel® Core™ i5-10500T, 12 MB Cache, 6 Cores, 12 Threads, 2.3 GHz to 3.8 GHz, 35 W 10th Generation Intel® Core™ i5-10600T, 12 MB Cache, 6 Cores, 12 Threads, 2.4 GHz to 4.0 GHz, 35 W 10th Generation Intel® Core™ i7-10700T, 16MB Cache, 8 Cores, 16 Threads, 2.0GHz to 4.5GHz, 35W* 10th Generation Intel® Celeron G5905T, 4MB Cache, 2 Cores, 2 Threads, 3.3GHz, 35W 10th Generation Intel® Pentium G6405T, 4MB Cache, 2 Cores, 4 Threads, 3.5GHz, 35W 10th Generation Intel® Pentium G6505T, 4MB Cache, 2 Cores, 4 Threads, 3.6GHz, 35W 10th Generation Intel® Core™ i3-10105T, 6MB Cache, 4 Cores, 8 Threads, 3.0GHz to 3.9GHz, 35W 10th Generation Intel® Core™ i3-10305T, 8MB Cache, 4 Cores, 8 Threads, 3.0GHz to 4.0GHz, 35W *Note: Intel® Core™ i7-10700T will not perform at maximum capacity on 3080 Micro.
Chipset	Intel® B460 Chipset
Operating System Options[1]	Windows® 10 Home (64-bit) Windows® 10 IoT Enterprise 2019 LTSC (OEM only) Windows® 10 Professional (64-bit) Windows® 10 Pro Education (64-bit) NeoKylin® 7.0 (China only) Ubuntu® 18.04 (64-bit)
Video Card[2]	Intel® UHD Graphics 630 Intel® UHD Graphics 610 NVIDIA® GeForce® GT730, 2 GB, GDDR5 (optional, Tower and Small Form Factor only) AMD Radeon™ RX 640, 4 GB, GDDR5 (optional, Tower and Small Form Factor only) AMD Radeon™ R5 430, 2 GB, GDDR5 (optional, Tower and Small Form Factor only)
Memory[2,3]	4 GB, 1 x 4 GB, DDR4, 2666 MHz for Intel® Celeron, Pentium, Core™ i3/i5 processors, 2933 MHz for Intel®Core™ i7 processor (Micro only) 8 GB, 1 x 8 GB, DDR4, 2666 MHz for Intel® Celeron, Pentium, Core™ i3/i5 processors, 2933 MHz for Intel®Core™ i7 processor (Micro only) 8 GB, 2 x 4 GB, DDR4, 2666 MHz for Intel® Celeron, Pentium, Core™ i3/i5 processors, 2933 MHz for Intel®Core™ i7 processor (Micro only) 16 GB, 1 x 16 GB, DDR4, 2666 MHz for Intel® Celeron, Pentium, Core™ i3/i5 processors, 2933 MHz for Intel®Core™ i7 processor (Micro only) 16 GB, 2 x 8 GB, DDR4, 2666 MHz for Intel® Celeron, Pentium, Core™ i3/i5 processors, 2933 MHz for Intel®Core™ i7 processor (Micro only) 32 GB, 1 x 32 GB, DDR4, 2666 MHz for Intel® Celeron, Pentium, Core™ i3/i5 processors, 2933 MHz for Intel®Core™ i7 processor (Micro only) 32 GB, 2 x 16 GB, DDR4, 2666 MHz for Intel® Celeron, Pentium, Core™ i3/i5 processors, 2933 MHz for Intel®Core™ i7 processor (Micro only) 64 GB, 2 x 32 GB, DDR4, 2666 MHz for Intel® Celeron, Pentium, Core™ i3/i5 processors, 2933 MHz for Intel®Core™ i7 processor (Micro only)
Wireless[1,4]	Qualcomm® QCA61x4a 802.11ac dual band 2x2 + Bluetooth 5.0 Intel® 3165 802.11ac dual band 1x1 + Bluetooth 4.2 Intel® Wi-Fi 6 AX200 2x2 (Gig+) + Bluetooth 5.1

Features & Technical Specifications

OPTIPLEX 3080 TOWER, SMALL FORM FACTOR AND MICRO

Ports

Tower:
1 RJ-45 port 10/100/1000 Mbps (rear)
2 USB 2.0 Type-A ports (front)
2 USB 3.2 Gen 1 Type-A port (front)
2 USB 2.0 ports with Smart Power on (rear)
2 USB 3.2 Gen 1 Type-A ports (rear)
1 Universal Audio Jack (front)
1 Line-out audio port (rear, retaksable)
1 DisplayPort 1.4 (rear)
1 HDMI 1.4b port (rear)
1 Serial /PS2 slot (optional)
1 Optional 3rd Video Port (VGA/DP 1.4/HDMI 2.0b)

Small Form Factor:
1 RJ-45 port 10/100/1000 Mbps (rear)
2 USB 2.0 Type-A ports (front)
2 USB 3.2 Gen 1 Type-A ports (front)
2 USB 2.0 Type-A ports with Smart Power On (rear)
2 USB 3.2 Gen 1 Type-A ports (rear)
1 Universal Audio Jack (front)

1 DisplayPort 1.4 port (rear)
1 HDMI 1.4b port (rear)
1 Serial/PS2 slot (Optional)
1 Optional video port—HDMI 2.0b, DP, or VGA
1 Line-out audio port (rear, retaksable)

Micro:
1 RJ-45 port 10/100/1000 Mbps (rear)
2 USB 3.2 Gen1 Type-A ports (front)
2 USB 3.2 Gen1 Type-A ports (rear)
1 USB 2.0 port (rear)
1 USB 2.0 port with Smart Power on (rear)
1 Universal Audio Jack (front)
1 Line-out audio port (front, retaksable)
1 DisplayPort 1.4 port (rear)
1 HDMI 1.4 port (rear)
1 VGA Port/DisplayPort 1.4 Port/HDMI 2.0b Port (optional)

Optical Drive

Optional 8x DVD-ROM 9.5mm ODD (Tower and Small Form Factor)
Optional 8x DVD+/-RW 9.5mm ODD (Tower and Small Form Factor)
Dell OptiPlex Micro DVD/RW Enclosure Mount (Micro only)

Slots

Tower:
1 full-height PCIe x16 Gen 3 slot
2 full-height PCIe x1 Gen 3 slot
1 M.2 2230 slot for wireless
1 M.2 2230/2280 slot for storage
3 SATA slots

Small Form Factor:
1 half-height PCIe x16 Gen 3 slot
1 half-height PCIe x1 Gen 3 slot
1 M.2 2230 slot for wireless
1 M.2 2230/2280 slots for storage
2 SATA slots - 1x3.5" HDD or 1x2.5" HDD, 1 slim ODD

Micro:
1 M.2 2230 slot for wireless
1 M.2 2230/2280 slot for storage
1 SATA slot - 1x2.5" HDD

Primary Hard Drive[1,5]

3.5-inch, 500 GB, 7200 RPM, SATA HDD (Tower and Small Form Factor only)
3.5-inch, 1 TB, 7200 RPM, SATA HDD (Tower and Small Form Factor only)
3.5-inch, 2 TB, 7200 RPM, SATA HDD (Tower and Small Form Factor only)
3.5-inch, 4 TB, 5400 RPM, SATA HDD (Tower and Small Form Factor only)
2.5-inch, 500 GB, 5400 RPM, SATA HDD (Micro only)
2.5-inch, 500 GB, 7200 RPM, SATA HDD (All form factors)
2.5-inch, 500 GB, 7200 RPM, Opal Self-Encrypting FIPS HDD (All form factors)
2.5-inch, 1 TB, 5400 RPM, SATA HDD (All form factors)
2.5-inch, 1 TB, 7200 RPM, SATA HDD (All form factors)
2.5-inch, 2 TB, 5400 RPM, SATA HDD (All form factors)
M.2 2230, 128 GB, Gen 3 PCIe x4 NVMe, Class 35 SSD (All form factors)
M.2 2230, 256 GB, Gen 3 PCIe x4 NVMe, Class 35 SSD (All form factors)
M.2 2230, 512 GB, Gen 3 PCIe x4 NVMe, Class 35 SSD (All form factors)
M.2 2280, 256 GB, Gen 3 PCIe x4 NVMe, Class 40 SSD (All form factors)
M.2 2280, 256 GB, Gen 3 PCIe x4 NVMe, Opal Self-Encrypting Class 40 SSD (All form factors)

Features & Technical Specifications

OPTIPLEX 3080 TOWER, SMALL FORM FACTOR AND MICRO

Primary Hard Drive[1,5]

M.2 2280, 512 GB, Gen 3 PCIe x4 NVMe, Class 40 SSD (All form factors)
M.2 2280, 512 GB, Gen 3 PCIe x4 NVMe, Opal Self-Encrypting Class 40 SSD (All form factors)
M.2 2280, 1 TB, Gen 3 PCIe x4 NVMe, Class 40 SSD (All form factors)
M.2 2280, 2 TB, Gen 3 PCIe x4 NVMe, Class 40 SSD (Micro only)
M.2 2280, 1 TB, Gen 3 PCIe x4 NVMe, Opal Self-Encrypting Class 40 SSD (Micro only)

Intel® Optane™ Memory

Intel® Optane™ Memory 32GB + Intel® NVMe QLC 512 SSD

Chassis

Form Factor	Tower	Small Form Factor (SFF)	Micro
Dimensions (H x W x D)	Front Height: 12.77 in. (324.30 mm) Rear Height: 12.77 in. (324.30 mm) Width: 6.06 in. (154.00 mm) Depth: 11.50 in. (292.20 mm)	Front Height: 11.42 in. (290.00 mm) Rear Height: 11.42 in. (290.00 mm) Width: 3.65 in. (92.60 mm) Depth: 11.53 in. (292.80 mm)	Front height: 7.16 in. (182.00 mm) Rear height: 7.16 in. (182.00 mm) Width: 1.42 in. (36.00 mm) Depth: 7.03 in. (178.56 mm)
Min. Weight (lbs/kg)	11.79 lb (5.35 kg)	11.07 lb (5.02 kg)	3.04 lb (1.38 kg)
Power Supply[1,6]	260 W typical 85% Efficient PSU (80 PLUS Bronze) 260 W typical 92% Efficient PSU (80 PLUS Platinum)	200 W typical 85% Efficient PSU (80 PLUS Bronze) 200 W typical 92% Efficient PSU (80 PLUS Platinum)	65 W, 4.5 mm external PSU (for 35W CPU)

Recommended accessories

Monitors: Qualified with select Dell UltraSharp, Professional, and E-series monitors
Keyboards: Dell wired keyboard with multimedia functionality, Dell smart card keyboard, Dell wireless keyboard
Mouse: Dell wired mouse, Dell wireless mouse, Dell laser mouse, Dell wired fingerprint reader mouse
Audio Speakers: Internal Dell business audio speaker, Dell stereo speaker systems, Dell sound bar for select flat-panel displays, Dell wireless speaker system
Audio Headsets: Dell pro stereo headsets
Micro Mounting Options: Micro Vertical Stand, Micro VESA Mount, Micro Dual VESA Mount, Micro All-in-One Stand, Micro All-in-One Mount for E Series Displays, Micro DVD+/-RW Enclosure
Small Form Factor Mounting Option: Small Form Factor All-in-One Stand (Coming Soon)

Productivity Software

Microsoft® Office 30 Day Trial
Microsoft® Office Home and Business 2019
Microsoft® Office Professional 2019

Software Security

Absolute Control (Pro) 1 Year, Absolute Control (Pro) 3 Years, Absolute Resilience (Prem) 3 Years,
Absolute Resilience 1 Year, Absolute Visibility (Std) 1 Year, Absolute Visibility (Std) 3 Years
Dell Encryption Enterprise 1 Year, Dell Encryption Enterprise 2 Years, Dell Encryption Personal 1 Year,
Dell Encryption Personal 3 Years, Emergency Incident Response, Encryption-SED HDD (Opal FIPS), Endpoint Detection and Response (EDR),
Incident Management Retainer, Intel® Guard Technologies & Secure Key: Software Guard (SGX), Data Guard (vPro only), Boot Guard, BIOS Guard (Core CPU's only), OS Guard (Core CPU's only) and Secure Key (i5 or greater only),
Intel® Runtime BIOS Resilience (Copper Point) with attestation via Nifty Rock + Intel® TXT,
Local HDD data wipe via BIOS ("Secure Erase"), Managed Endpoint Detection and Response,
McAfee® Small Business Security 12-month subscription, McAfee® Small Business Security 30 Day Free Trial,
McAfee® Small Business Security 36 month Subscription, Next Generation Antivirus (NGAV) OpenXT validation required,
SafeData, SafeGuard and Response (powered by VMware Carbon Black and Secureworks),
Support of Absolute Persistent Module BIOS agent v2, Threat Detection and Response (TDR),
VMware Carbon Black Cloud Endpoint Standard NGAV, B-EDR, 1 Year,
VMware Carbon Black Cloud Endpoint Standard NGAV, B-EDR, 3 Years,
VMware Carbon Black Cloud Endpoint Standard NGAV,B-EDR+Secureworks TDR (Data center housed in US) 1 Year,
VMware Carbon Black Cloud Endpoint Standard NGAV,B-EDR+Secureworks TDR (Data center housed in US) 3 Years

Hardware Security

SafeBIOS: includes Dell Off-host BIOS Verification, BIOS Resilience, BIOS Recovery, and additional BIOS Controls; SafeID credential protection; Trusted Platform Module (TPM) 2.0[7], Microsoft® Windows 10 Device Guard and Credential Guard (Enterprise SKU), Microsoft® Windows Bitlocker, Local hard drive data wipe through BIOS (Secure Erase), Self-Encrypting Storage Drives (Opal, FIPS), China TPM, Intel® Secure Boot, Intel® Authenticate, **Physical Security Options:** 1 Kensington security-cable slot, 1 Padlock loop, Chassis lock slot support, Chassis Intrusion Switch, Lockable Cable Covers, Smart Card Keyboard (FIPS)

Systems Management Options

Dell Client Command Suite for In-Band Systems Management

Regulatory[9,10]

EPEAT registered configurations available, ENERGY STAR qualified configurations available, CEL, WEEE, Japan Energy Law, South Korea E-standby, South Korea, Eco-label, EU RoHS, China RoHS

Warranty

3 Years Hardware Service with Onsite/In-Home Service after Remote Diagnosis[11], warranty extensions up to 5 years
ProSupport with Next Business Day Onsite Service is available to complement certain warranty options
ProSupport Plus for Client is available to complement certain warranty options.[12]

Accidental Damage Services[13]

Accidental Damage Service is available to complement certain warranty options from 3-5 years

Configuration Services

Factory Image load, BIOS Customization, Hardware Customization, Asset Tagging and Reporting.

DELL Technologies

OPTIPLEX 3080 TOWER, SMALL FORM FACTOR AND MICRO

Business desktops with streamlined performance and essential manageability options to drive maximum value.

Discover professional class desktops at www.dell.com/OptiPlex

1. Offering may vary by region. Some items may be available after product introduction. For complete details, refer to the Technical Guidebook published on www.dell.com.
2. System Memory and Graphics: Significant system memory may be used to support graphics, depending on system memory size and other factors.
3. 4GB or Greater System Memory Capability: A 64-bit operating system is required to support 4GB or more of system memory.
4. Particular versions of Microsoft Windows may not support the full Bluetooth 4.2 functionality
5. Storage: GB means 1 billion bytes and TB equals 1 trillion bytes; actual capacity varies with preloaded material and operating environment and will be less.
6. PSU: This form factor utilizes a more efficient Active Power Factor Correction (APFC) power supply. Dell recommends only Universal Power Supplies (UPS) based on Sine Wave output for APFC PSUs, not an approximation of a Sine Wave, Square Wave, or quasi-Square Wave (see UPS technical specifications). If you have questions please contact the manufacturer to confirm the output type.
7. TPM is not available in all regions.
8. Absolute™ Data & Device Security: An Absolute™ offer. Some conditions apply. Terms and Conditions at www.absolute.com/legal
9. For complete listing of declarations and certifications, refer to the Dell Regulatory and Environmental Datasheet found in the Manuals section of Product Support information at www.dell.com/support/home/us/en/19
10. Please refer to www.epeat.net for specific country registration rating and participation.
11. Limited Hardware Warranty: For copy of Ltd Hardware Warranty, write Dell USA LP, Attn: Warranties, One Dell Way, Round Rock, TX 78682 or see www.dell.com/warranty
12. Onsite Service after Remote Diagnosis: Remote Diagnosis is determination by online/phone technician of cause of issue; may involve customer access to inside of system and multiple or extended sessions. If issue is covered by Limited Hardware Warranty (www.dell.com/warranty) and not resolved remotely, technician and/or part will be dispatched, usually within 1 business day following completion of Remote Diagnosis. Availability varies. Other conditions apply.
13. Dell Services: Availability and terms of Dell Services vary by region. For more information, visit www.dell.com/servicedescriptions

DELL Technologies

OPTIPLEX 5080 TOWER, SMALL FORM FACTOR AND MICRO

Intelligent, mainstream desktops with right-sized performance & configurations.

IMPRESSIVELY POWERFUL

Built with 10th generation Intel® up to Core™ i7 processors and doubled max memory from previous generation provides better performance while running multiple or large applications. With support for next generation NVIDIA® discrete graphics, the 5080 tower is ready to deliver entry commercial VR content experiences.

SEE AND DO MORE

Support a multi-display set up with two standard DisplayPorts and choice of VGA, DP, HDMI2.0b or USB Type-C Alt Mode as optional third port.

FASTER USER EXPERIENCES

Select your top five apps and Dell Optimizer ExpressResponse will analyze and boost their performance. Experience faster data transfers and strong connectivity with integrated Intel® Wi-Fi 6 (Gig+).

SMART DESIGN

Sustainably built, new cooling designs with custom mounts and stands adapt to your workspace while the tool-less chassis provides easy serviceability. Protect your IT investment with TPM 2.0, optional chassis intrusion switch and lockable cable covers.

LET'S MAKE GENIUS REAL

Recommended Accessories

OPTIPLEX 5080 TOWER, SMALL FORM FACTOR AND MICRO

CUSTOM STANDS AND MOUNTS

OPTIPLEX MICRO ALL-IN-ONE STAND

Small footprint mounting solution adapts to your environment, with cable management and monitor height adjustability, tilt, swivel and pivot functions.

OPTIPLEX MICRO ALL-IN-ONE MOUNT FOR DELL E SERIES MONITORS

This mount allows the Micro to be VESA mounted to select Dell E Series displays.

OPTIPLEX MICRO DUAL VESA MOUNT WITH ADAPTER BRACKET

Mount your system between two VESA compatible devices. Includes an adapter box to securely house the system's power adapter.

OPTIPLEX MICRO DVD+/-RW ENCLOSURE

Mount your system on a wall or under a surface with a VESA-compatible DVD+/-RW encolusure with full optical drive access. Includes an adapter box to securely house the system's power adapter.

OPTIPLEX MICRO VESA MOUNT WITH ADAPTER BRACKET

Mount your system on a wall or under a desk Includes an adapter box to securely house the system's power adapter.

DELL SINGLE MONITOR ARM - MSA20

Minimize your footprint with this arm that offers easy installation and enhanced adjustability while keeping cables neatly hidden from view.

OPTIPLEX SMALL FORM FACTOR ALL-IN-ONE STAND (COMING SOON)

Small footprint mounting solution featuring integrated monitor power and Ethernet cables, as well as monitor adjustability with height, tilt, swivel and pivot functions.

PURPOSE-BUILT SOLUTIONS

DELL 24 MONITOR - P2419H

23.8" ultrathin bezel optimized for dual display productivity. Easy Arrange feature enables multitasking efficiency and its small base frees valuable workspace.

DELL 22 MONITOR - P2219H

Optimize your workspace with this efficient 21.5" monitor built with an ultrathin bezel, a small footprint and comfort-enhancing features.

DELL PROFESSIONAL SOUND BAR - AE515M

Optimize conference calls and multimedia streaming with exceptional audio clarity. Minimize background noise while on calls with the dual mic array and echo cancellation feature.

DELL WIRELESS KEYBOARD AND MOUSE - KM636

Compact design and chiclet keys, this essential desktop solution offers the convenience of wireless and clutter-free performance.

DELL WIRED MOUSE WITH FINGERPRINT READER - MS819

Wired mouse with fingerprint reader offers convenient and secure login and online access without passwords.

OPTIPLEX CABLE COVERS

Thermally tested custom cable covers offer an easy to install and attractive way to manage cables and secure ports.

OPTIPLEX DUST FILTERS

Custom dust filters safeguard internal components in factory, warehouse, or retail environments.

DELL PRO STEREO HEADSET - UC350

Communicate clearly with a headset optimized to provide in-person sound quality, certified for Microsoft Skype for Business.

Intelligence built in. Modernization built on.

Dell Technologies Unified Workspace

We know that having the right device is just the start to a great workday. Employees need intelligent, intuitive and responsive experiences that allow them to work productively and without interruption. According to research, 1 out of every 4 users would question their job and the company they work for if they had a negative experience with their technology.[1]

Dell Technologies Unified Workspace is transforming the employee experience and ensuring IT has proactive, predictive and automated solutions to deliver on the promise of a modern workday, while simplifying their ability to deploy, secure, manage and support their environment.

DEPLOY

ProDeploy in the Unified Workspace allows IT to move away from traditional, high-touch, manual deployment, and instead, ship devices preconfigured with company apps and settings from the Dell factory directly to their end users—having end users up and working on day one.

SECURE

Dell Trusted Devices provide a foundation to a modern workforce environment with invisible and seamless protection to ensure smarter, faster experiences. End users stay productive and IT stays confident with modern security solutions for the Dell Trusted Device.

MANAGE

Dell Client Command Suite + VMware Workspace ONE offers integrated capabilities that deliver a unified endpoint management experience for IT, enabling them to manage firmware, OS, and apps from one console, while also creating seamless experiences for end users.

SUPPORT

ProSupport resolves hardware issues up to 11x faster than the competition. ProSupport for PCs offers 24x7 access to in-region ProSupport engineers who contact IT when critical issues arise,[2] so you can focus on what's next, not what just happened.ProSupport Plus helps IT stay a step ahead and virtually eliminate unplanned downtime due to hardware issues. You get all the capabilities of ProSupport, as well as AI-driven alerts to prevent failures and repairs for accidents.[3]

1 ESG Research Report. 2019 Digital Work Survey. December 2019.
2 Based on a Principled Technologies test report, "Spend Less Time and Effort Troubleshooting Laptop Hardware Failures" dated April 2018. Testing commissioned by Dell, conducted in the United States. Actual results will vary. Full report: http://facts.pt/L52XKM.
3 Based on a Principled Technologies test report, "Dell ProSupport Plus with Support Assist warns you about hardware issues so you can fix them before they cause downtime" dated April 2019. Testing commissioned by Dell, conducted in the United States. Actual results will vary. Full report: http://facts.pt/0xvze8. Hardware issues detected by SupportAssist include hard drives, solid state drives, batteries and fans.

Features & Technical Specifications

OPTIPLEX 5080 TOWER, SMALL FORM FACTOR AND MICRO

Feature	OptiPlex 5080 Technical Specifications[1]
Processors[1]	**Tower, Small Form Factor**: Intel® Pentium® G6400, 4 MB Cache, 2 Cores, 4 Threads, 4.0 GHz, 58 W Intel® Pentium® G6500, 4 MB Cache, 2 Cores, 4 Threads, 4.1 GHz, 58 W 10th Generation Intel® Core™ i3-10100, 6 MB Cache, 4 Cores, 8 Threads, 3.6 GHz to 4.3 GHz, 65 W 10th Generation Intel® Core™ i3-10300, 8 MB Cache, 4 Cores, 8 Threads, 3.7 GHz to 4.4 GHz, 65 W 10th Generation Intel® Core™ i5-10400, 12 MB Cache, 6 Cores, 12 Threads, 2.9 GHz to 4.3 GHz, 65 W 10th Generation Intel® Core™ i5-10500, 12 MB Cache, 6 Cores, 12 Threads, 3.1 GHz to 4.5 GHz, 65 W 10th Generation Intel® Core™ i5-10600, 12 MB Cache, 6 Cores, 12 Threads, 3.3 GHz to 4.8 GHz, 65 W 10th Generation Intel® Core™ i7-10700, 16 MB Cache, 8 Cores, 16 Threads, 2.9 GHz to 4.8 GHz, 65 W **Micro**: Intel® Pentium® Gold G6400T, 4 MB Cache, 2 Cores, 4 Threads, 3.4 GHz, 35 W Intel® Pentium® Gold G6500T, 4 MB Cache, 2 Cores, 4 Threads, 3.5 GHz, 35 W 10th Generation Intel® Core™ i3-10100T, 6 MB Cache, 4 Cores, 8 Threads, 3.0 GHz to 3.8 GHz, 35 W 10th Generation Intel® Core™ i3-10300T, 8 MB Cache, 4 Cores, 8 Threads, 3.0 GHz to 3.9 GHz, 35 W 10th Generation Intel® Core™ i5-10400T, 12 MB Cache, 6 Cores, 12 Threads, 2.0 GHz to 3.6 GHz, 35 W 10th Generation Intel® Core™ i5-10500T, 12 MB Cache, 6 Cores, 12 Threads, 2.3 GHz to 3.8 GHz, 35 W 10th Generation Intel® Core™ i5-10600T, 12 MB Cache, 6 Cores, 12 Threads, 2.4 GHz to 4.0 GHz, 35 W 10th Generation Intel® Core™ i7-10700T, 16 MB Cache, 8 Cores, 16 Threads, 2.0 GHz to 4.5 GHz, 35 W
Chipset	Intel® Q470 Chipset
Operating System Options[1]	Windows® 10 Home (64-bit) Windows® 10 Pro (64-bit) Windows® 10 Pro National Academic Ubuntu® 18.04 LTS (64-bit) NeoKylin® 7.0 (China only)
Video Card[2,14]	**Tower**: Intel® UHD Graphics 610 Intel® UHD Graphics 630 NVIDIA® GeForce® GTX 1660 Super, 6 GB, GDDR5 (optional) NVIDIA® GeForce® GT 730, 2 GB, GDDR5 (optional) AMD Radeon™ R5430, 2 GB, GDDR5 (optional) AMD Radeon™ RX640, 4 GB, GDDR5 (optional) **Small Form Factor**: Intel® UHD Graphics 610 Intel® UHD Graphics 630 NVIDIA® GeForce® GT730, 2 GB, GDDR5 (optional) AMD® Radeon™ RX 640, 4 GB, GDDR5 (optional) AMD® Radeon™ R5 430, 2 GB, DDR3 (optional) **Micro**: Intel® UHD 610 Graphics Intel® UHD 630 Graphics
Memory[2,3]	**Tower**: 4 GB, 1 x 4 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processors 8 GB, 1 x 8 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processors 8 GB, 2 x 4 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processors 16 GB, 1 x 16 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processors 16 GB, 2 x 8 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processors 16 GB, 4 x 4 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processors 32 GB, 1 x 32 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processors 32 GB, 2 x 16 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processors 32 GB, 4 x 8 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processors 64 GB, 2 x 32 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processors 64 GB, 4 x 16 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processors 128 GB, 4 x 32 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processors **Small Form Factor**: 4 GB, 1 x 4 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 8 GB, 2 x 4 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 8 GB, 1 x 8 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 16 GB, 2 x 8 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 16 GB, 1 x 16 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor

Features & Technical Specifications

OPTIPLEX 5080 TOWER, SMALL FORM FACTOR AND MICRO

Feature	OptiPlex 5080 Technical Specifications[1]
Memory[2,3]	**Small Form Factor**: 16 GB, 4 x 4 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 32 GB, 2 x 16 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 32 GB, 1 x 32 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 64 GB, 2 x 32 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 128 GB, 4 x 32 GB, DDR4, 2666 MHz for Intel® Core™ i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor **Micro**: 4 GB, 1 x 4 GB, DDR4, 2666 MHz for Intel® Core™ Pentium®/i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 8 GB, 2 x 4 GB, DDR4, 2666 MHz for Intel® Core™ Pentium®/i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 8 GB, 1 x 8 GB, DDR4, 2666 MHz for Intel® Core™ Pentium®/i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 16 GB, 2 x 8 GB, DDR4, 2666 MHz for Intel® Core™ Pentium®/i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 16 GB, 1 x 16 GB, DDR4, 2666 MHz for Intel® Core™ Pentium®/i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 32 GB, 2 x 16 GB, DDR4, 2666 MHz for Intel® Core™ Pentium®/i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 32 GB, 1 x 32 GB, DDR4, 2666 MHz for Intel® Core™ Pentium®/i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor 64 GB, 2 x 32 GB, DDR4, 2666 MHz for Intel® Core™ Pentium®/i3/i5 processors, 2933 MHz for Intel® Core™ i7 processor **Note**: The memory speed supported in Brazil for Intel Core i7/i9 processors is 2666MHz.
Wireless[1,4]	Qualcomm QCA61x4a 802.11ac dual band 2x2 + Bluetooth 5.0 Qualcomm QCA9377 802.11ac dual band 1x1 + Bluetooth 5.0 Intel® Wi-Fi 6 AX201 2x2 (Gig+) + Bluetooth 5.1
Ports[16]	**Tower**: 1 RJ-45 port 10/100/1000 Mbps (rear) 1 USB 2.0 port (front) 1 USB 2.0 port with PowerShare (front) 1 USB 3.2 Gen 1 Type-A port (front) 1 USB 3.2 Gen 2 Type-C port (front) 4 USB 3.2 Gen 1 Type-A ports (rear) 2 USB 2.0 ports with Smart Power On (rear) 1 Universal Audio Jack (front) 1 Line-out re-tasking Line-in audio port (rear) 2 DisplayPort 1.4 ports (rear) 1 Serial /PS2 slot (optional) 2 PS/2 ports (optional) 1 Optional 3rd Video Port (VGA/DP/HDMI/USB Type-C) **Small Form Factor**: 1 RJ-45 port 10/100/1000 Mbps (rear) 1 USB 2.0 Type-A port with PowerShare (front) 1 USB 3.2 Gen 1 Type-A port (front) 1 USB 2.0 port (front) 1 USB 3.2 Gen 2 Type-C port (front) 2 USB 2.0 Type-A ports with Smart Power On (rear) 4 USB 3.2 Gen 1 Type-A ports (rear) 1 Universal Audio Jack (front) 2 DisplayPort 1.4 ports 1 VGA Port/DisplayPort 1.4 Port/HDMI 2.0b Port/ USB Type-C Port with DisplayPort Alt-mode (optional) 1 Serial/PS2 slot (optional)
Ports[16]	**Micro**: 1 RJ-45 port 10/100/1000 Mbps (rear) 1 USB 3.2 Gen1 Type-A port with PowerShare (front) 1 USB 3.2 Gen2 Type-C port (front) 3 USB 3.2 Gen1 Type-A ports (rear) 1 USB 3.2 Gen1 Type-A port with Smart Power on (rear) 1 Universal Audio Jack (front) 1 Line-out port (front) 2 DisplayPort 1.4 ports (rear) 1 VGA Port/DisplayPort 1.4 Port/HDMI 2.0b Port/ USB 3.2 Gen2 Type-C Port with Alt-mode (optional) 1 Serial RS232 slot (optional) 1 Serial/PS2 slot (optional)
Optical Drive	8x DVD-ROM 9.5mm ODD (Tower and Small Form Factor) 8x DVD+/-RW 9.5mm ODD (Tower and Small Form Factor) Dell OptiPlex Micro DVD/RW Enclosure Mount (Micro only)

Features & Technical Specifications

OPTIPLEX 5080 TOWER, SMALL FORM FACTOR AND MICRO

Feature	OptiPlex 5080 Technical Specifications[1]
Slots	**Tower:** 1 SD 4.0 card slot (optional) 1 full-height Gen 3 PCIe x16 slot 1 full-height Gen 3 PCIe x4 slot openend 2 full-height PCIe x1 slots 1 M.2 2230 slot for Wi-Fi and Bluetooth card 1 M.2 2230 slot for SSD 1 M.2 2280 slot for SSD/Intel Optane 4 SATA slots for 3.5-inch HDD, 2.5-inch HDD/SSD **Small Form Factor:** 1 SD 4.0 card slot (optional) 1 half-height PCIe x16 Gen 3 slot 1 half-height PCIe x4 Gen 3 slot 1 M.2 2230 slot for Wi-Fi and Bluetooth card 1 M.2 2230/2280 slots for SSD/Intel Optane 3 SATA slots for 3.5-inch HDD, 2.5-inch HDD/SSD, and slim Optical Drive **Micro:** 1 SATA slot for 2.5-inch HDD/SSD 1 M.2 2230/2280 slot for SSD/Intel Optane 1 M.2 2230 slot for Wi-Fi and Bluetooth card
Primary Hard Drive[1,5,15]	2.5-inch, 1 TB, 5400 RPM, SATA HDD (all form factors) 2.5-inch, 1 TB, 7200 RPM, SATA HDD (all form factors) 2.5-inch, 1 TB, SATA, Class 20 SSD (Micro only) 2.5-inch, 2 TB, 5400 RPM, SATA HDD (all form factors) 2.5-inch, 500 GB, 5400 RPM, SATA HDD (Micro only) 2.5-inch, 500 GB, 7200 RPM, Opal Self-Encrypting FIPS HDD (all form factors) 2.5-inch, 500 GB, 7200 RPM, SATA HDD (all form factors) 3.5-inch, 1 TB, 7200 RPM, SATA HDD (Tower and Small Form Factor only) 3.5-inch, 2 TB, 7200 RPM, SATA HDD (Tower and Small Form Factor only) 3.5-inch, 4 TB, 5400 RPM, SATA HDD (Tower and Small Form Factor only) 3.5-inch, 500 GB, 7200 RPM, SATA HDD (Tower and Small Form Factor only) M.2 2230, 128 GB, Gen 3 PCIe x4 NVMe, Class 35 SSD (all form factors) M.2 2230, 256 GB, Gen 3 PCIe x4 NVMe, Class 35 SSD (all form factors) M.2 2230, 512 GB, Gen 3 PCIe x4 NVMe, Class 35 SSD (all form factors) M.2 2280, 1 TB, Gen 3 PCIe x4 NVMe, Class 40 SSD (all form factors) M.2 2280, 1 TB, Gen 3 PCIe x4 NVMe, Opal Self-Encrypting Class 40 SSD (Micro only) M.2 2280, 2 TB, Gen 3 PCIe x4 NVMe, Class 40 SSD (Micro only) M.2 2280, 256 GB, Gen 3 PCIe x4 NVMe, Class 40 SSD (all form factors) M.2 2280, 256 GB, Gen 3 PCIe x4 NVMe, Opal Self-Encrypting Class 40 SSD (all form factors) M.2 2280, 512 GB, Gen 3 PCIe x4 NVMe, Class 40 SSD (all form factors) M.2 2280, 512 GB, Gen 3 PCIe x4 NVMe, Opal Self-Encrypting Class 40 SSD (all form factors)
Intel® Optane™ Memory	M.2 2280, 16 GB, Gen 3 PCIe x4, NVMe, Intel® Optane™ Memory M.2 2280, 32 GB, Gen 3 PCIe x4, NVMe, Intel® Optane™ Memory

Chassis

Form Factor	Tower	Small Form Factor (SFF)	Micro
Dimensions (H x W x D)	Front Height: 12.77 in. (324.30 mm) Rear Height: 12.77 in. (324.30 mm) Width: 6.06 in. (154.00 mm) Depth: 11.50 in. (292.20 mm)	Front Height: 11.42 in (290.00 mm) x Width: 3.65 in (92.60 mm) x Depth: 11.53 in (292.80 mm)	Front height: 7.16 in. (182.00 mm) Rear height: 7.16 in. (182.00 mm) Width: 1.42 in. (36.00 mm) Depth: 7.03 in. (178.56 mm)
Min. Weight (lbs/kg)	13.01 lb (5.90 kg)	8.44 lb (3.83 kg)	2.56 lb (1.16 kg)
Power Supply[1,6]	260 W typical 92% Efficient PSU (80 Plus Platinum) 260 W typical 85% Efficient PSU (80 Plus Bronze) 360 W typical 92% Efficient PSU (80 Plus Platinum)	200W typical 85% Efficient PSU (80 Plus Bronze) 200W typical 92% Efficient PSU (80 Plus Platinum)	90 W, 4.5 mm (for 35 W CPU) 130 W, 4.5 mm (for 35 W CPU)

Features & Technical Specifications

OPTIPLEX 5080 TOWER, SMALL FORM FACTOR AND MICRO

Feature	OptiPlex 5080 Technical Specifications[1]
Recommended accessories	**Monitors**: Qualified with select Dell UltraSharp, Professional, and E-series monitors **Keyboards**: Dell wired keyboard with multimedia functionality, Dell Smart Card keyboard, Dell wireless keyboard **Mouse**: Dell wired mouse, Dell wireless mouse, Dell Laser mouse, Dell Wired Fingerprint Reader Mouse **Audio Speakers**: Internal Dell Business audio speaker, Dell stereo speaker systems; Dell sound bar for select flat-panel displays. Dell Wireless Speaker System **Audio Headsets**: Dell Pro Stereo headsets **Micro Mounting Options**: Micro Vertical Stand, Micro VESA Mount, Micro Dual VESA Mount, Micro All-in-One Stand, Micro All-in-One Mount for E Series Displays, Micro DVD+/-RW Enclosure **Small Form Factor Mounting Option**: Small Form Factor All-in-One Stand (Coming Soon)
Productivity Software	Microsoft® Office 30 Day Trial Microsoft® Office Home and Business 2019 Microsoft® Office Professional 2019
Software Security	Absolute Control (Pro), 1 Year, Absolute Control (Pro), 3 Years, Absolute Resilience (Prem), 3 Years Absolute Resilience 1 Year Absolute Visibility (Std), 1 Year, Absolute Visibility (Std), 3 Years Dell Encryption Enterprise, 1 Year, Dell Encryption Enterprise, 2 Years, Dell Encryption Personal, 1 Year, Dell Encryption Personal, 3 Years Emergency Incident Response Encryption-SED HDD (Opal FIPS) Endpoint Detection and Response (EDR) Incident Management Retainer Intel Guard Technologies & Secure Key: Software Guard (SGX), Data Guard (vPro only), Boot Guard, BIOS Guard (Core CPU's only), OS Guard (Core CPU's only) and Secure Key (i5 or greater only) Intel Runtime BIOS Resilience (Copper Point) with attestation via Nifty Rock + Intel TXT Local HDD data wipe via BIOS ("Secure Erase") Managed Endpoint Detection and Response McAfee® Small Business Security 12-month subscription, McAfee® Small Business Security 30 Day Free Trial, McAfee® Small Business Security 36 month Subscription Next Generation Antivirus (NGAV) OpenXT validation required SafeData SafeGuard and Response (powered by VMware Carbon Black and Secureworks) Support of Absolute Persistent Module BIOS agent v2 Threat Detection and Response (TDR) VMware Carbon Black Cloud Endpoint Standard NGAV, B-EDR, 1 Year; VMware Carbon Black Cloud Endpoint Standard NGAV, B-EDR, 3 Years VMware Carbon Black Cloud Endpoint Standard NGAV,B-EDR+Secureworks TDR(Data center housed in US), 1 Year VMware Carbon Black Cloud Endpoint Standard NGAV,B-EDR+Secureworks TDR(Data center housed in US), 3 Years
Hardware Security	**SafeBIOS**: includes Dell Off-host BIOS Verification, BIOS Resilience, BIOS Recovery, and additional BIOS Controls; SafeID credential protection; Trusted Platform Module (TPM) 2.0[7], Microsoft® Windows 10 Device Guard and Credential Guard (Enterprise SKU), Microsoft® Windows Bitlocker, Local hard drive data wipe through BIOS (Secure Erase), Self-Encrypting Storage Drives (Opal, FIPS), China TPM, Intel® Secure Boot, Intel® Authenticate, **Physical Security Options**: 1 Kensington security-cable slot, 1 Padlock loop, Chassis lock slot support, Chassis Intrusion Switch, Lockable Cable Covers, Smart Card Keyboard (FIPS)
Systems Management Options[9]	Dell Client Command Suite for In-Band systems management, Optional Intel® Standard Manageability
Regulatory[9,10]	EPEAT registered configurations available, ENERGY STAR qualified configurations available, TCO 8.0 certified configurations available, CEL, WEEE, Japan Energy Law, South Korea E-standby, South Korea, Eco-label, EU RoHS, China RoHS
Warranty	3 Years Hardware Service with Onsite/In-Home Service after Remote Diagnosis[11], warranty extensions up to 5 years ProSupport with Next Business Day Onsite Service is available to complement certain warranty options ProSupport Plus for Client is available to complement certain warranty options.[12]
Accidental Damage Services[11]	Accidental Damage Service is available to complement certain warranty options from 3-5 years
Configuration Services	Factory Image load, BIOS Customization, Hardware Customization, Asset Tagging and Reporting.

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1. Offering may vary by region. Some items may be available after product introduction. For complete details, refer to the Technical Guidebook published on www.dell.com.
2. System Memory and Graphics: Significant system memory may be used to support graphics, depending on system memory size and other factors.
3. 4GB or Greater System Memory Capability: A 64-bit operating system is required to support 4GB or more of system memory.
4. Particular versions of Microsoft Windows may not support the full Bluetooth 4.2 functionality
5. Storage: GB means 1 billion bytes and TB equals 1 trillion bytes; actual capacity varies with preloaded material and operating environment and will be less.
6. PSU: This form factor utilizes a more efficient Active Power Factor Correction (APFC) power supply. Dell recommends only Universal Power Supplies (UPS) based on Sine Wave output for APFC PSUs, not an approximation of a Sine Wave, Square Wave, or quasi-Square Wave (see UPS technical specifications). If you have questions please contact the manufacturer to confirm the output type.
7. TPM is not available in all regions.
8. Absolute™ Data & Device Security: An Absolute™ offer. Some conditions apply. Terms and Conditions at www.absolute.com/legal
9. Systems Management Options: Desktop and mobile Architecture for System Hardware (DASH) - Fully enabled at point of purchase.
10. For complete listing of declarations and certifications, refer to the Dell Regulatory and Environmental Datasheet found in the Manuals section of Product Support information at www.dell.com/support/home/us/en/19
11. Please refer to www.epeat.net for specific country registration rating and participation.
12. Limited Hardware Warranty: For copy of Ltd Hardware Warranty, write Dell USA LP, Attn: Warranties, One Dell Way, Round Rock, TX 78682 or see www.dell.com/warranty
13. Onsite Service after Remote Diagnosis: Remote Diagnosis is determination by online/phone technician of cause of issue; may involve customer access to inside of system and multiple or extended sessions. If issue is covered by Limited Hardware Warranty (www.dell.com/warranty) and not resolved remotely, technician and/or part will be dispatched, usually within 1 business day following completion of Remote Diagnosis. Availability varies. Other conditions apply.
14. Dell Services: Availability and terms of Dell Services vary by region. For more information, visit www.dell.com/servicedescriptions
15. AMD and NVIDIA discrete graphics options are only available on Tower and Small Form Factor
16 2.5 Inch Solid State Drives are only available as a secondary storage option and can only be paired with a Solid State Drive as the Primary Storage Device.

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Powerful Professional Graphics with Expansive 4K Visual Workspace

The NVIDIA Quadro P620 combines a 512 CUDA core Pascal GPU, large on-board memory and advanced display technologies to deliver amazing performance for a range of professional workflows. 2 GB of ultra-fast GPU memory enables the creation of complex 2D and 3D models and a flexible single-slot, low-profile form factor makes it compatible with even the most space and power-constrained chassis. Support for up to four 4K displays (4096x2160 @ 60 Hz) with HDR color gives you an expansive visual workspace to view your creations in stunning detail.

Quadro cards are certified with a broad range of sophisticated professional applications, tested by leading workstation manufacturers, and backed by a global team of support specialists, giving you the peace of mind to focus on doing your best work. Whether you're developing revolutionary products or telling spectacularly vivid visual stories, Quadro gives you the performance to do it brilliantly.

FEATURES

- Four Mini DisplayPort 1.4 Connectors[1]
- DisplayPort with Audio
- NVIDIA nView® Desktop Management Software
- HDCP 2.2 Support
- NVIDIA Mosaic[2]

SPECIFICATIONS

GPU Memory	**2 GB GDDR5**
Memory Interface	**128-bit**
Memory Bandwidth	**Up to 80 GB/s**
NVIDIA CUDA® Cores	**512**
System Interface	**PCI Express 3.0 x16**
Max Power Consumption	**40 W**
Thermal Solution	**Active**
Form Factor	**2.713" H x 5.7" L, Single Slot, Low Profile**
Display Connectors	**4x Mini DisplayPort 1.4**
Max Simultaneous Displays	**4 direct, 4x DisplayPort 1.4 Multi-Stream**
Display Resolution	**4x 4096x2160 @ 60 Hz 4x 5120x2880 @ 60Hz**
Graphics APIs	**Shader Model 5.1, OpenGL 4.5[3], DirectX 12.0[4], Vulkan 1.0[3]**
Compute APIs	**CUDA, DirectCompute, OpenCL™**

[1] VGA/DVI/HDMI support via adapter/connector/bracket | [2] Windows 7, 8, 8.1, 10 and Linux | [3] Product is based on a published Khronos Specification, and is expected to pass the Khronos Conformance Testing Process when available. Current conformance status can be found at www.khronos.org/conformance | [4] GPU supports DX12.0 API, Hardware Feature Level 12_1

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