

2016 North America 3rd Quarter

PRODUCT GUIDE



dahua
TECHNOLOGY



 **DISCOVER**
THE DAHUA DIFFERENCE



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DISCOVER

THE DAHUA DIFFERENCE



Dahua Technology USA brings high-value, total security solutions to the North American market by focusing on integrity and personal relationships to enhance the customer experience.

We're working hard to make Dahua the first name that comes to mind when you think of innovative video surveillance solutions.

Whether it's our local tech support, our dealer partner program, or our relaxed, Southern California approachability (our Irvine office is twenty minutes from the beach), we seek to earn your trust by being a company you can count on.

WE INVITE YOU TO **DISCOVER** THE DAHUA DIFFERENCE.

FOUR TIERS OF DAHUA PRODUCTS

To make selecting the right Dahua solution easy, four levels of product series are offered in order to suit basic through advanced users. The four tiers of offerings range from good, economical products to competitively priced, feature-rich products. Whether you choose the Lite Series (good), Pro Series (better), Super Series (best), or Ultra Series (ultra) family of products, all products feature high performance, reliability, and a five-year warranty.



LITE SERIES

Specifically designed for small to mid-size applications, the Lite Series offers just the right amount of features while keeping cost to a minimum. These products are ideal for users with basic surveillance needs and uncomplicated scenes. The primary differentiation for most Lite Series IP and HDCVI cameras is the Digital Wide Dynamic Range (DWDR) feature. IP and HDCVI PTZ (Pan Tilt Zoom) camera options offer a short or mid-range optical zoom. Storage IP and HDCVR devices typically feature one (HDCVR only) or two hard drives with up to 6TB options.



DAHUA BY THE NUMBERS



2 SYLLABLES
IN **DAHUA**
(pronounced Dah Hwah)



592
PATENTS

9,000+
EMPLOYEES
WORLDWIDE



PRO SERIES

The Pro Series is made up of products that have a greater mainstream appeal while still being competitively priced. The main differentiation for most Pro Series IP fixed and PTZ cameras is the built-in Intelligent Video System (IVS) analytics feature. IVS provides the ability to detect and analyze moving objects for improved video surveillance. Vari-focal IP and HDCVI camera offerings include a motorized lens option for ease of installation. Thanks to the True Wide Dynamic Range (up to 120dB), the IP or HDCVI cameras are a great option for applications that suffer from direct sunlight or glare. Most IP and HDCVI PTZ cameras feature a short-long range optical zoom. Storage IP and HDCVR devices typically feature two, four (IP only), or eight hard drives with up to 24TB options.



SUPER SERIES

High-performing Super Series products are perfect for small, medium, and large businesses alike. With Super Wide Dynamic Range (up to 140dB) for several IP cameras and True Wide Dynamic Range (up to 120dB) for several IP and HDCVI cameras, crisp, clear video is possible in applications where direct sunlight and glare is a problem. IP fixed and PTZ cameras pack a powerful punch with a range of built-in IVS analytics, including heat mapping on most models. Bandwidth concerns are minimized thanks to IP camera models with Smart H.265+ compression and onboard storage. Vari-focal, auto-iris, motorized lenses make these IP and HDCVI cameras particularly user-friendly. Most IP PTZ cameras feature a mid-range optical zoom up to 60 feet. Storage IP and HDCVR devices typically feature four (HDCVR only), eight, or sixteen hard drives with up to 24TB options.



ULTRA SERIES

When you need the best of the best, turn to the Ultra Series. Ultra high resolution (up to 12MP) allows these cameras to capture the finest of details, making them an excellent choice for advanced security applications for medium and large businesses. Smart H.265+, built-in IVS, and onboard storage are characteristics of this state-of-the-art IP camera line. Most IP PTZ cameras feature a mid-range optical zoom up to 60 feet. Storage IP devices typically feature twenty-four hard drives with up to 24TB options.

U.S. EMPLOYEE
GROWTH IN
ONE YEAR
1,200%

58



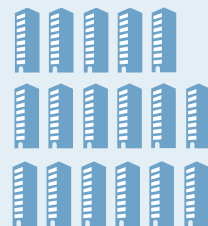
5



2015

2016

TEAM OF
3,000+
ENGINEERS



17
OFFICES IN
COUNTRIES
WORLDWIDE



23

HUBBLE

92618

IRVINE, CA



DEALER PARTNER PROGRAM

We're focused on helping our dealers deliver best-in-class Dahua Technology products and solutions to meet a wide variety of customer security challenges. The Dahua Dealer Program is designed to give participants a competitive advantage in the industry. In addition to generous discounts, demo equipment discounts, rebates and other revenue-increasing opportunities, we also provide our dealers with sales, technical and marketing support to help expand their business.

From project registration, training and educational offerings to outstanding warranty and RMA capabilities, we're here every step of the way to make sure our partners succeed.

For more information about the Dahua Dealer Program please email dealers.usa@global.dahuatech.com.



IP PRODUCTS

Network Cameras

07. Ultra Series
07. Super Series
08. Pro Series
10. Lite Series

Fisheye

12. Ultra Fisheye
12. Super Fisheye
13. Pro Fisheye

PTZ

14. Ultra PTZ
14. Super PTZ
14. Pro PTZ
15. Lite PTZ

NVR

16. Ultra NVR
16. Super NVR
17. Pro NVR
18. Lite NVR



HDCVI PRODUCTS

HD Analog Cameras

19. Super HDCVI
20. Pro HDCVI
21. Lite HDCVI

PTZ

22. Pro HDCVI PTZ
22. Lite HDCVI PTZ

HDCVI Recorders

23. Super HDCVR
23. Pro HCVR
24. Lite HCVR



ACCESSORIES & VIDEO SOFTWARE

25. Camera Housing
25. Fiber Transmission
25. Switch
25. 4K Network Decoder
25. Optical Module
25. Keyboard
25. Lens
25. Balun

25. POC Transceiver
25. PoE Switch
25. PoE MidSpan
25. PoE Extender
25. Wireless
25. Power Supply
25. Audio Pickup
25. SD Card

25. Tester
26. Optical Transceiver
26. Hard Disk
26. Converter
26. Distributor
26. Extender
26. Monitor
26. Desk Mount

Video Software

27. Smart PSS
27. DMSS

Mounting

28. Mounting Accessories
29. Mounting Reference Guide

	ULTRA SERIES			SUPER SERIES				
	Ultra Fixed Network Cameras			Super Vari-focal IR Network Cameras				
Model	DH-IPC-HF812A0EN(-I) 	N84BG44  COMING SOON!	N68B71  COMING SOON!	DH-IPC-HFW83A1EN-Z(I) 	DH-IPC-HFW82A1EN-Z(I)	N68BL71  COMING SOON!	DH-IPC-HDBW83A1EN-Z(I) 	DH-IPC-HDBW82A1EN-Z(I)
Image Sensor	1/1.7" 12MP Exmor R CMOS	1/2.5" UHD 8MP CMOS	1/1.8" 6MP CMOS	1/2.8" 3MP Exmor R CMOS	1/2.8" 2MP Exmor R CMOS	1/1.8" 6MP CMOS	1/2.8" 3MP Exmor R CMOS	1/2.8" 2MP Exmor R CMOS
Lens (sold separately)	CS	4mm/F1.6, Manual	4.1 - 16.4mm/F1.53, Motorized	2.7-12mm/F1.4, Motorized		4.1 - 16.4mm/F1.53, Motorized	2.7-12mm/F1.4, Motorized	
Horizontal Field of View	—	H-FOV: 88°	H-FOV: 106°	H-FOV: 94°- 33°	H-FOV: 99°- 35°	H-FOV: 106°	H-FOV: 87°- 31°	H-FOV: 99°- 36°
Min. Illumination	0.05Lux/F1.2 (Color) 0.005Lux/F1.2 (B/W)	0.07Lux/F1.6 (Color) 0Lux/F1.6 (IR on)	0.02Lux/F1.53 (Color) 0Lux/F1.53 (IR on)	Starlight 0.005Lux/F1.4 (Color) 0Lux/F1.4 (IR on)		0.02Lux/F1.53 (Color) 0Lux/F1.53 (IR on)	Starlight 0.005Lux/F1.4 (Color) 0Lux/F1.4 (IR on)	
Day/Night	ICR	ICR	ICR	ICR		ICR	ICR	
WDR	DWDR	DWDR	DWDR	140dB		DWDR	140dB	
Max. IR Distance	—	165ft (50m)	165ft (50m)	165ft (50m)		165ft (50m)	165ft (50m)	
Video Compression	H.264/MJPEG	H.265/H.264/MJPEG	H.265/H.264	H.265/H.264/MJPEG		H.265/H.264	H.265/H.264/MJPEG	
Max. Resolution	12MP (4000×3000)	4K (3840×2160)	6MP 3072×2048	3MP (2048×1536)	1080p (1920×1080)	6MP 3072×2048	3MP (2048×1536)	1080p (1920×1080)
Frame Rate	15fps@12MP	Max 15fps@4K	30fps@6MP	30fps@3MP	30fps@1080p	30fps@6MP	30fps@3MP	30fps@1080p
Multi-streaming	3 streams	3 streams	3 streams	3 streams		3 streams	3 streams	
Intelligent Video*	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection, People Counting, Heat Map	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection, Audio Detection	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face, Audio and Defocus Detection, People Counting, Heat Map	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection, People Counting, Heat Map		Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face, Audio and Defocus Detection, People Counting, Heat Map	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection, People Counting, Heat Map	
Compatibility	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI		ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	
Audio In/Out	1/1	Built-in Mic	1/1	1/1		1/1	1/1	
Memory Slot	Micro SD, Max 128GB	Micro SD, Max 128GB	Micro SD, Max 128GB	Micro SD, Max 128GB		Micro SD, Max 128GB	Micro SD, Max 128GB	
Alarm In/Out	2/1	—	1/1	2/1		1/1	1/1	
Ingress Protection	—	IP67	IP67, IK10	IP67		IP67, IK10	IP67, IK10	
Working Temperature	-22°F to 140°F (-30°C to 60°C)	-22°F to 140°F (-30°C to 60°C)	-40°F to 140°F (-40°C to 60°C)	-22°F to 140°F, -40°F to 140°F w/Heater (-30°C to 60°C, -40°C to 60°C w/Heater)		-40°F to 140°F (-40°C to 60°C)	-22°F to 140°F, -40°F to 140°F w/Heater (-30°C to 60°C, -40°C to 60°C w/Heater)	
Power	DC12V ±25% PoE (802.3af), Max 12W	DC12V, PoE (802.3af), Max 4.97W	DC12V/AC24V, PoE (802.3at), <18W (with IR on, motorized lens working)	DC12V ±25%, PoE (802.3af), Max 11W	DC12V ±25%, PoE (802.3af), Max 11W	DC12V/AC24V, PoE (802.3at), <18W (with IR on, motorized lens working)	DC12V ±25%, PoE (802.3af), Max 12W	DC12V ±25% PoE (802.3af), Max 12W

* Features only available to models with the letter "I".
Note: "Coming Soon" products consist of preliminary data only.

PRO SERIES

	Pro Vari-focal IR Network Cameras				Pro Fixed IR Network Cameras									
Model	DH-IPC-HDBW54A1EN-Z(I)	DH-IPC-HDBW52A1EN-Z(I)	DH-IPC-HFW54A1EN-Z(I)	DH-IPC-HFW52A1EN-Z(I)	DH-IPC-HDW44A1EN(-I)			DH-IPC-HDW42A1EN(-I)			DH-IPC-HFW44A1EN(-I)		DH-IPC-HFW42A1EN(-I)	
														
Image Sensor	1/3" 4MP CMOS	1/2.7" 2MP CMOS	1/3" 4MP CMOS	1/2.7" 2MP CMOS	1/3" 4MP CMOS			1/2.7" 2MP CMOS			1/3" 4MP CMOS		1/2.7" 2MP CMOS	
Lens	2.7-12mm/F1.4 Motorized	2.7-12mm/ F1.4 Motorized	2.7-12mm/F1.4 Motorized	2.7-12mm/F1.4 Motorized	2.8mm/ F2.0 Manual	3.6mm/ F2.0 Manual	6mm/ F2.0 Manual	2.8mm/ F2.0 Manual	3.6mm/ F2.0 Manual	6mm/ F2.0 Manual	3.6mm/ F2.0 Manual	6mm/ F2.0 Manual	3.6mm/ F2.0 Manual	6mm/ F2.0 Manual
Horizontal Field of View	H-FOV: 100°- 33°	H-FOV: 99°- 34°	H-FOV: 100°- 33°	H-FOV: 99°- 34°	110°	81°	55°	110°	81°	55°	84°	56°	93°	63°
Min. Illumination	0.01 Lux/F1.4 (Color) 0 Lux/F1.4 (IR on)	0.01 Lux/F1.4 (Color) 0 Lux/F1.4 (IR on)	0.01 Lux/F1.4 (Color) 0 Lux/F1.4 (IR on)	0.01 Lux/F1.4 (Color) 0 Lux/F1.4 (IR on)	0.01 Lux/F2.0(Color) 0Lux/F2.0 (IR on)			0.01 Lux/F2.0(Color) 0Lux/F2.0 (IR on)			0.01 Lux/F2.0 (Color), 0 Lux/F2.0 (IR on)		0.01 Lux/F2.0 (Color), 0 Lux/F2.0 (IR on)	
Day/Night	ICR	ICR	ICR	ICR	ICR			ICR			ICR		ICR	
WDR	120dB	120dB	120dB	120dB	120dB			120dB			120dB		120dB	
Max. IR Distance	165ft (50m)	165ft (50m)	165ft (50m)	165ft (50m)	165ft (50m)			165ft (50m)			130ft (40m)		130ft (40m)	
Video Compression	Smart H.264+/ MJPEG	Smart H.264+/ MJPEG	Smart H.264+/MJPEG	Smart H.264+/MJPEG	Smart H.264+/MJPEG			Smart H.264+/MJPEG			Smart H.264+/MJPEG		Smart H.264+/MJPEG	
Max. Resolution	4MP (2688x1520)	1080p (1920x1080)	4MP (2688x1520)	1080p (1920x1080)	4MP (2688×1520)			1080p (1920×1080)			4MP (2688x1520)		1080p (1920×1080)	
Frame Rate	20fps@4MP, 30fps@3MP	30fps@1080p	20fps@4MP, 30fps@3MP	30fps@1080p	20fps@4MP, 30fps@3MP			30fps@1080p			20fps@4MP, 30fps@3MP		30fps@1080p	
Multi-streaming	3 streams	3 streams	3 streams	3 streams	3 streams			3 streams			3 streams		3 streams	
Intelligent Video*	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection			Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection			Tripwire, Intrusion, Scene Change, Abandoned/ Missing, Face Detection		Tripwire, Intrusion, Scene Change, Abandoned/ Missing, Face Detection	
Compatibility	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI			ONVIF (2.4), PSIA, CGI			ONVIF (2.4), PSIA, CGI		ONVIF (2.4), PSIA, CGI	
Audio In/Out	1/1	1/1	1/1	1/1	—			—			—		—	
Memory Slot	Micro SD, Max 128GB	Micro SD, Max 128GB	Micro SD, Max 128GB	Micro SD, Max 128GB	—			—			—		—	
Alarm In/Out	1/1	1/1	2/1	2/1	—			—			—		—	
Ingress Protection	IP67, IK10	IP67, IK10	IP67	IP67	IP67			IP67			IP67		IP67	
Working Temperature	-22°F to 140°F, -40°F to 140°F w/Heater (-30°C to 60°C, -40°C to 60°C w/ Heater)	-22°F to 140°F, -40°F to 140°F w/Heater (-30°C to 60°C, -40°C to 60°C w/ Heater)	-22°F to 140°F, -40°F to 140°F w/Heater (-30°C to 60°C, -40°C to 60°C w/Heater)	-22°F to 140°F, -40°F to 140°F w/Heater (-30°C to 60°C, -40°C to 60°C w/Heater)	-22°F to 140°F (-30°C to 60°C)			-22°F to 140°F (-30°C to 60°C)			-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)	
Power	DC12V ±25% PoE (802.3af), Max 10W	DC12V ±25% PoE (802.3af), Max 10W	DC12V ±25%, PoE (802.3af), Max 11.5W	DC12V ±25%, PoE (802.3af), Max 11.5W	DC12V ±25%, PoE (802.3af), Max 4W			DC12V ±25%, PoE (802.3af), Max 4W			DC12V ±25%, PoE (802.3af), Max 6W		DC12V ±25%, PoE (802.3af), Max 6.0W	

* Features only available to models with the letter "I".

PRO SERIES

Pro Fixed IR Network Cameras

Model	DH-IPC-HDBW44A1EN-AS(I)			DH-IPC-HDBW42A1EN-AS(I)			DH-IPC-HDBW44A1FN-AS(I)			DH-IPC-HDBW42A1FN-AS(I)		
Image Sensor	1/3" 4MP CMOS			1/2.7" 2MP CMOS			1/3" 4MP CMOS			1/2.7" 2MP CMOS		
Lens (Manual)	2.8mm/F2.0	3.6mm/F2.0	6mm/F2.0	2.8mm/F2.0	3.6mm/F2.0	6mm/F2.0	2.8mm/F2.0	3.6mm/F2.0	6mm/F2.0	2.8mm/F2.0	3.6mm/F2.0	6mm/F2.0
Horizontal Field of View	106°	83°	56°	120°	93°	63°	106°	84°	56°	120°	93°	63°
Min. Illumination	0.01 Lux/F2.0 (Color) 0 Lux/F2.0 (IR on)			0.01 Lux/F2.0 (Color) 0 Lux/F2.0 (IR on)			0.01 Lux/F2.0 (Color) 0 Lux/F2.0 (IR on)			0.01 Lux/F2.0 (Color) 0 Lux/F2.0 (IR on)		
Day/Night	ICR			ICR			ICR			ICR		
WDR	120dB			120dB			120dB			120dB		
Max. IR Distance	98ft (30m)			98ft (30m)			66ft (20m)			66ft (20m)		
Video Compression	Smart H.264+/ MJPEG			Smart H.264+/ MJPEG			Smart H.264+/ MJPEG			Smart H.264+/ MJPEG		
Max. Resolution	4MP (2688x1520)			1080p (1920x1080)			4MP (2688x1520)			1080p (1920x1080)		
Frame Rate	20fps@4MP, 30fps@3MP			30fps@1080p			20fps@4MP, 30fps@3MP			30fps@1080p		
Multi-streaming	3 streams			3 streams			3 streams			3 streams		
Intelligent Video*	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection			Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection			Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection			Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection		
Compatibility	ONVIF (2.4), PSIA, CGI			ONVIF (2.4), PSIA, CGI			ONVIF (2.4), PSIA, CGI			ONVIF (2.4), PSIA, CGI		
Audio In/Out	1/1			1/1			1/1			1/1		
Memory Slot	Micro SD Max 128GB			Micro SD Max 128GB			Micro SD Max 128GB			Micro SD Max 128GB		
Alarm In/Out	1/1			1/1			1/1			1/1		
Ingress Protection	IP67, IK10			IP67, IK10			IP67, IK10			IP67, IK10		
Working Temperature	-22°F to 140°F (-30°C to 60°C)			-22°F to 140°F (-30°C to 60°C)			-22°F to 140°F (-30°C to 60°C)			-22°F to 140°F (-30°C to 60°C)		
Power	DC12V ±25%, PoE (802.3af), Max 4.0W			DC12V ±25%, PoE (802.3af), Max 4W			DC12V ±25%, PoE (802.3af), Max 5W			DC12V ±25%, PoE (802.3af), Max 5W		

IVS ANALYTICS

Dahua offers built-in Intelligent Video System (IVS) analytics on most Pro Series, Super Series, and Ultra Series products, providing the ability to detect and analyze moving objects for improved video surveillance. The cameras provide optional intelligence at the edge, enabling detection of multiple object behaviors such as abandoned or missing objects. IVS also supports Tripwire analytics, allowing the camera to detect when a pre-determined line has been crossed, as well as People Counting, ideal for business intelligence, and Facial Detection, for searching or detecting faces.

SMART H.264+

Delivering high quality video without straining the network, Smart H.264+ is the optimized implementation of H.264. The Smart H.264+ encoding platform includes a scene adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction, providing a savings of up to 70% of bandwidth and storage when compared with standard H.264.



PRO SERIES						LITE SERIES					
Model	Pro Fixed IR Network Cameras					Lite Vari-focal IR Network Cameras					
	DH-IPC-HFW44A1SN(-I) 			DH-IPC-HFW42A1SN(-I) 		DH-IPC-HFW23A0RN-ZS DH-IPC-HFW21A0RN-ZS 		DH-IPC-HDBW23A0RN-ZS DH-IPC-HDBW21A0RN-ZS 		DH-IPC-HDW23A0RN-ZS 	
Image Sensor	1/3" 4MP CMOS			1/2.7" 2MP CMOS		1/3" 3MP CMOS	1/3" 1.3MP CMOS	1/3" 3MP CMOS	1/3" 1.3MP CMOS	1/3" 3MP CMOS	
Focal Length / Lens	2.8mm/F2.0	3.6mm/F2.0	6mm/F2.0	3.6mm/F2.0	6mm/F2.0	2.7mm - 12mm/F1.4, Motorized		2.7mm - 12mm/F1.4, Motorized		2.7mm - 12mm/F1.4, Motorized	
Horizontal Field of View	92°	84°	56°	93°	63°	H-FOV: 92° - 28°		H-FOV: 92° - 28°		H-FOV: 92° - 28°	
Min. Illumination	0.01 Lux/F2.0 (Color) 0 Lux/F2.0 (IR on)			0.01 Lux/F2.0 (Color) 0 Lux/F2.0 (IR on)		0.1Lux/F1.4 (Color) 0Lux/F1.4 (IR on)		0.1 Lux/F1.4 (Color) 0 Lux/F1.4 (IR on)		0.1 Lux/F1.4 (Color) 0 Lux/F1.4 (IR on)	
Day/Night	ICR			ICR		ICR		ICR		ICR	
WDR	120dB			120dB		DWDR		DWDR		DWDR	
Max. IR Distance	98ft (30m)			98ft (30m)		98ft (30m)		98ft (30m)		195ft (60m)	
Video Compression	Smart H.264+/ MJPEG			Smart H.264+/ MJPEG		H.264/MJPEG		H.264/MJPEG		H.264/MJPEG	
Max. Resolution	4MP (2688x1520)			1080p (1920x1080)		3MP (2048x1536)	1.3MP (1280x960)	3MP (2048x1536)	1.3MP (1280x960)	3MP (2048x1536)	
Frame Rate	20fps@4MP, 30fps@3MP			30fps@1080p		20fps@3MP, 30fps@1080p	30fps@1.3MP, 30fps@720p	20fps@3MP, 30fps@1080p	30fps@1.3MP, 30fps@720p	20fps@3MP, 30fps@1080p	
Multi-streaming	3 streams			3 streams		2 streams		2 streams		2 streams	
Adjustment Range	Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection			Tripwire, Intrusion, Scene Change, Abandoned/Missing, Face Detection		Pan: 0° - 360°; Tilt: 0° - 90° Rotation: 0° - 360°		Pan: 0° - 360°; Tilt: 0° - 80° Rotation: 0° - 360°		Pan: 0° - 360°; Tilt: 0° - 75° Rotation: 0° - 360°	
Intelligent Video*	ONVIF (2.4), PSIA, CGI			ONVIF (2.4), PSIA, CGI		—		—		—	
Compatibility	—			—		ONVIF (2.4), PSIA, CGI		ONVIF (2.4), PSIA, CGI		ONVIF (2.4), PSIA, CGI	
Audio In/Out	—			—		—		—		—	
Memory Slot	—			—		Micro SD, Max 128GB		Micro SD, Max 128GB		Micro SD, Max 128GB	
Alarm In/Out	—			—		—		—		—	
Ingress Protection	IP67			IP67		IP67		IP67, IK10		IP67	
Working Temperature	-22°F to 140°F (-30°C to 60°C)			-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)	
Power	DC12V ±25%, PoE (802.3af), Max 4.9W			DC12V ±25%, PoE (802.3af), Max 4.9W		DC12V ±25%, PoE (802.3af), Max 7.5W		DC12V ±25%, PoE (802.3af), Max 4.5W		DC12V ±25%, PoE (802.3af), Max 7.5W	

* Features only available to models with the letter "I".

LITE SERIES

LITE WIFI SERIES

Model	Lite Fixed IR Network Cameras				Lite Fixed IR Network Cameras								Lite Fixed IR Network Cameras			
	DH-IPC-HDBW13A0EN	DH-IPC-HDBW11A0EN			DH-IPC-HDW13A0SN	DH-IPC-HDW11A0SN			DH-IPC-HFW13A0SN	DH-IPC-HFW11A0SN			DH-IPC-HDBW13A0EN-W	DH-IPC-HDBW11A0EN-W		
																
Image Sensor	1/3" 3MP CMOS		1/3" 1.3MP CMOS		1/3" 3MP CMOS		1/3" 1.3MP CMOS		1/3" 3MP CMOS		1/3" 1.3MP CMOS		1/3" 3MP CMOS		1/3" 1.3MP CMOS	
Focal Length / Lens (manual)	2.8mm/F2.0 Manual	3.6mm/F2.0 Manual			2.8mm/F2.0	3.6mm/F2.0			2.8mm/F2.0	3.6mm/F2.0			2.8mm/F2.0	3.6mm/F2.0		
Horizontal Field of View	92°	81°			92°	81°			92°	81°			100°	77°		
Min. Illumination	0.1Lux/F2.0 (Color) 0Lux/F2.0 (IR on)		0.1Lux/F2.0 (Color) 0Lux/F2.0 (IR on)		0.1Lux/F2.0 (Color) 0Lux/F2.0 (IR on)		0.1Lux/F2.0 (Color) 0Lux/F2.0 (IR on)		0.1Lux/F2.0 (Color) 0Lux/F2.0 (IR on)		0.1Lux/F2.0 (Color) 0Lux/F2.0 (IR on)		0.1Lux/F2.0 (Color) 0Lux/F2.0 (IR on)		0.1Lux/F2.0 (Color) 0Lux/F2.0 (IR on)	
Day/Night	ICR		ICR		ICR		ICR		ICR		ICR		ICR		ICR	
WDR	DWDR		DWDR		DWDR		DWDR		DWDR		DWDR		DWDR		DWDR	
Max. IR Distance	98ft (30m)	98ft (30m)			98ft (30m)	98ft (30m)			98ft (30m)	98ft (30m)			Smart IR 98ft (30m)	Smart IR 98ft (30m)		
Video Compression	H.264/MJPEG		H.264/ MJPEG		H.264/ MJPEG		H.264/ MJPEG		H.264/ MJPEG		H.264/ MJPEG		H.264/ MJPEG		H.264/ MJPEG	
Max. Resolution	3MP (2048×1536)		1.3MP (1280×960)		3MP (2048×1536)		1.3MP (1280×960)		3MP (2048×1536)		1.3MP (1280×960)		3MP (2304×1296)		1.3MP (1280×960)	
Frame Rate	20fps@3MP, 30fps@1080p		30fps@1.3MP		20fps@3MP, 30fps@1080p		30fps@1.3MP		20fps@3MP, 30fps@1080p		30fps@1.3MP		20fps@3MP, 30fps@1080p		30fps@1.3MP	
Multi-streaming	2 streams		2 streams		2 streams		2 streams		2 streams		2 streams		2 streams		2 streams	
Adjustment Range	Pan: 0° - 355°; Tilt: 0° - 65° Rotation: 0° - 355°		Pan: 0° - 355°; Tilt: 0° - 65° Rotation: 0° - 355°		Pan: 0° - 360°; Tilt: 0° - 90° Rotation: 0° - 360°		Pan: 0° - 360°; Tilt: 0° - 90° Rotation: 0° - 360°		Pan: 0° - 360°; Tilt: 0° - 90° Rotation: 0° - 360°		Pan: 0° - 360°; Tilt: 0° - 90° Rotation: 0° - 360°		Pan: 0° - 355°; Tilt: 0° - 65° Rotation: 0° - 355°		Pan: 0° - 355°; Tilt: 0° - 65° Rotation: 0° - 355°	
Intelligent Video*	—		—		—		—		—		—		—		—	
Compatibility	ONVIF (2.4), CGI		ONVIF (2.4), CGI		ONVIF (2.4), CGI		ONVIF (2.4), CGI		ONVIF (2.4), CGI		ONVIF (2.4), CGI		ONVIF, CGI / Wi-Fi (IEEE802.11b/g/n) 50m (open field)		ONVIF, CGI / Wi-Fi (IEEE802.11b/g/n) 50m (open field)	
Audio In/Out	—		—		—		—		—		—		—		—	
Memory Slot	—		—		—		—		—		—		—		—	
Alarm In/Out	—		—		—		—		—		—		—		—	
Ingress Protection	IP67, IK10		IP67, IK10		IP67		IP67		IP67		IP67		IP67, IK10		IP67, IK10	
Working Temperature	-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)	
Power	DC12V ±25%, PoE (802.3af), Max 4W		DC12V ±25%, PoE (802.3af), Max 4W		DC12V ±25%, PoE (802.3af), Max 4W		DC12V ±25%, PoE (802.3af), Max 4W		DC12V ±25%, PoE (802.3af), Max 5W		DC12V ±25%, PoE (802.3af), Max 5W		Max. 4.0W (12V DC, IR On), Max. 4.7W (PoE, IR On)		Max. 4.0W (12V DC, IR On), Max. 5.6W (PoE, IR On)	

* Features only available to models with the letter "I".



SMART H.265+

High Efficiency Video Coding, or Smart H.265+ as it is more commonly known, is Dahua's latest proprietary compression standard for the video surveillance industry. Reducing bit rates by 40%-50% over H.264, a higher level of video quality can be recorded and stored more efficiently. Reduction in noise and enhanced dynamic range are two additional benefits. Smart H.265+ also looks to the future, with the potential of supporting cameras with much higher megapixel counts than what are currently available today.

	LITE WIFI SERIES				ULTRA FISHEYE SERIES	SUPER FISHEYE SERIES
	Lite Fixed IR Network Cameras				Ultra Fixed IR IP Camera	Super Fixed IR IP Camera
Model	DH-IPC-HFW13A0SN-W  NEW		DH-IPC-HFW11A0SN-W  NEW		DH-IPC-EBW812A0N(-I) 	DH-IPC-EBW86A0N(-I) 
Image Sensor	1/3" 3MP CMOS		1/3" 1.3MP CMOS		1/2.3" 12MP Exmor R CMOS	1/1.8" 6MP Exmor R CMOS
Lens	2.8mm/F2.0	3.6mm/F2.0	2.8mm/F2.0	3.6mm/F2.0	1.57mm/F2.2, Manual	1.55mm/F2.2, Manual
Horizontal Field of View	100°	77°	92°	72°	H-FOV: 185°	H-FOV: 185°
Min. Illumination	0.1Lux/F2.0 (Color) 0Lux/F2.0 (IR on)		0.1Lux/F2.0 (Color) 0Lux/F2.0 (IR on)		0.01Lux/F2.2 (Color) 0Lux/F2.2 (IR on)	0.01 Lux/F2.2 (Color) 0 Lux/F2.2 (IR on)
Day/Night	ICR		ICR		ICR	ICR
WDR	DWDR		DWDR		DWDR	DWDR
Max. IR Distance	Smart IR 98ft (30m)		Smart IR 98ft (30m)		33ft (10m)	33ft (10m)
Video Compression	H.264/ MJPEG		H.264/ MJPEG		Smart H.265+/MJPEG	Smart H.265+/MJPEG
Resolution	3MP (2304x1296)		1.3MP (1280x960)		12MP (4000x3000)	6MP (3072x2048)
Frame Rate	20fps@3MP, 30fps@1080p		30fps@1.3MP		15fps@12MP, 30fps@8MP	30fps@6MP
Multi-streaming	2 streams		2 streams		3 streams	3 streams
Intelligent Video*	Pan: 0° - 360°; Tilt: 0° - 90°, Rotation: 0° - 360°		Pan: 0° - 360°; Tilt: 0° - 90°, Rotation: 0° - 360°		Tripwire, Intrusion, Heat Map	Tripwire, Intrusion, Heat Map
Dewarp Mode	—		—		Original, Panoramic, Double Panoramic, 1+3, Eptz, 4 pictures	Original, Panoramic, Double Panoramic, 1+3, Eptz, 4 pictures
Compatibility	ONVIF, CGI / Wi-Fi (IEEE802.11b/g/n) 50m (open field)		ONVIF, CGI / Wi-Fi (IEEE802.11b/g/n) 50m (open field)		ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI
Audio In/Out	—		—		1/1, Built-in Mic	1/1, Built-in Mic
Memory Slot	Micro SD, Max 128GB		Micro SD, Max 128GB		Micro SD, Max 128GB	Micro SD, Max 128GB
Alarm In/Out	—		—		2/1	2/1
Ingress Protection	IP67		IP67		IP67, IK10	IP67, IK10
Working Temperature	-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)	-22°F to 140°F (-30°C to 60°C)
Power	Max. 5.5W (12V DC, IR On), Max. 5.5W (PoE, IR On)		Max. 5W (12V DC, IR On), Max. 5W (PoE, IR On)		DC12V, PoE (802.3af), Max 13W	DC12V, PoE (802.3af), Max 13W

* Features only available to models with the letter "I".
Note: "Coming Soon" products consist of preliminary data only.

	PRO FISHEYE SERIES		SUPER MULTI-SENSOR PANORAMIC SERIES
	Pro Fixed 360° Network Cameras		Super Fixed 180° IR Network Camera
Model	DH-IPC-EB55A0N(-I) 	DH-IPC-EB54A0N(-I) 	DH-IPC-PFW8601N-H-A180 
Image Sensor	1/3" 5MP CMOS	1/3" 4MP CMOS	1/2.8" 2MP Exmor R CMOS per Sensor (3 sensors total)
Lens	1.42mm/F2.0, Manual	1.18mm/F2.0, Manual	3.6mm/F1.8, Manual
Horizontal Field of View	H-FOV: 180°	H-FOV: 180°	H-FOV: 180°
Min. Illumination	0.01Lux/F2.6 (Color)	0.01Lux/F2.0 (Color)	Starlight 0.005Lux/F1.8 (Color) 0Lux/F1.8 (IR on)
Day/Night	Electronic D/N	Electronic D/N	ICR
WDR	DWDR	DWDR	WDR
Max. IR Distance	—	—	IR 98ft (30m)
Video Compression	H.264/MJPEG	H.264/MJPEG	Smart H.265+/ H.264
Max Resolution	5MP (2592x1944)	4MP (2592x1520)	2MP per Sensor (3 sensors total)
Frame Rate	12fps@5MP, 30fps@UXGA	15fps@4MP, 30fps@UXGA	TBD
Multi-Streaming	3 streams	3 streams	3 streams
Intelligent Video*	Heat Map	Heat Map	Tripwire, Intrusion, Abandoned/Missing, Face and Audio Detection, People Counting, Heat Map
DeWarp Mode	Original, Panoramic, Double Panoramic, 1+3, Eptz, 4 pictures	Original, Panoramic, Double Panoramic, 1+3, Eptz, 4 pictures	Support 180° Panoramic View
Compatibility	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF Profile S&G, PSIA, CGI
Audio In/Out	1/1	1/1	1/1
Memory Slot	Micro SD, Max 64GB	Micro SD, Max 64GB	Micro SD, Max 128GB
Alarm In/Out	1/1 Built-in Mic	1/1 Built-in Mic	1/1 Built-in Mic
Ingress Protection	IK10	IK10	IP67, IK10
Working Temperature	-22°F to 140°F (-30°C to 60°C)	-22°F to 140°F (-30°C to 60°C)	-40°F to 140°F (-40°C to 60°C)
Power	DC12V ±25%, PoE (802.3af), Max 6W	DC12V ±25%, PoE (802.3af), Max 6W	AC24V, PoE (802.3at), Max 24W (IR on)

PANORAMIC CAMERAS

In environments that require broad coverage, panoramic cameras can do the job alone where several cameras would be needed otherwise. With high resolution sensors providing either a 180- or 360-degree view, blind spots are eliminated and detailed images are provided in both indoor and outdoor environments.

Dahua's fisheye cameras allow for a 360-degree hemispherical image that can be dewarped in order to view individual elements separately. Easy to install on a ceiling or wall, they are well-suited for office buildings, parking garages, gas stations, and retail environments.

Dahua's new multi-sensor camera provides added flexibility for capturing wide area video surveillance. With three 2MP sensors working in tandem to create a comprehensive 180-degree overview, the camera can replace multiple single-sensor cameras— providing a higher return on investment. With the field of view being divided across the three sensors, adjustments can be made to each sensor for contrast and brightness, resulting in a crystal-clear panorama.



	ULTRA PTZ SERIES		SUPER PTZ SERIES	PRO PTZ SERIES			
	Ultra PTZ Network Cameras		Super PTZ IP Camera	Pro PTZ Network Cameras			
Model	6AE830VNI  COMING SOON!	DH-SD6ALA230FN-HN(I) 	DH-SD42AC212TN-HN(I) 	DH-SD59A230TN-HN(I) 	DH-SD40A212TN-HN(I) 	DH-SD6CA230TN-HN(I) 	DH-SD50A230TN-HN(I) 
Image Sensor	1/1.7" 4K Exmor CMOS	1/1.9" 2MP Exmor CMOS	1/2.8" 2MP Exmor CMOS	1/2.8" 2MP Exmor CMOS	1/2.7" 2MP CMOS	1/2.8" 2MP Exmor CMOS	1/2.8" 2MP Exmor CMOS
Lens	6 - 180mm (30x Optical zoom)	6 - 180mm (30x Optical zoom)	4.5 - 135mm (30x Optical zoom)	4.5 - 135mm (30x Optical zoom)	5.1 - 61.2mm (12x Optical zoom)	4.5 - 135mm (30x Optical Zoom)	4.5 - 135mm (30x Optical Zoom)
Horizontal Field of View	H-FOV: 61.2° - 2.3°	H-FOV: 61.2° - 2.3°	H-FOV: 67.8° - 2.77°	H-FOV: 67.8° - 2.77°	H-FOV: 59.3° - 5.4°	H-FOV: 67.8° - 2.77°	H-FOV: 67.8° - 2.8°
Min. Illumination	0.05Lux/F1.6 (Color) 0Lux/F1.6 (B/W) 0 Lux (IR on)	Starlight 0.005 Lux/F1.6 (Color) 0 Lux/F1.6 (IR on)	0.05 Lux/F1.6 (Color) 0 Lux/F1.6 (IR on)	0.05 Lux/F1.6 (Color) 0 Lux/F1.6 (IR on)	0.05 Lux/F1.6 (Color) 0.005 Lux/F1.6 (B/W)	0.05Lux/F1.6 (Color) 0 Lux/F1.6 (IR on)	0.05Lux/F1.6 (Color) 0.005Lux/F1.6 (B/W)
WDR	DWDR	120dB	DWDR	DWDR	120dB	DWDR	DWDR
Max. IR Distance	656ft (200m)	1,640ft (500m)	330ft (100m)	330ft (100m)	—	330ft (100m)	—
Video Compression	Smart H.265+ / H.264 / MJPEG	Smart H.265+ / MJPEG	Smart H.264+ / MJPEG	Smart H.264+ / MJPEG	Smart H.264+ / MJPEG	Smart H.264+ / MJPEG	Smart H.264+ / MJPEG
Max. Resolution	4K (3840x2160)	1080p (1920 x 1080)	1080p (1920x1080)	1080p (1920x1080)	1080p (1920x1080)	1080p (1920x1080)	1080p (1920x1080)
Frame Rate	30fps@4K	30fps@1080p, 60fps@720p	30fps@1080p, 60fps@720p	30fps@1080p, 60fps@720p	30fp@1080p, 60fps@720p	30fps@1080p, 60fps@720p	30fps@1080p, 60fps@720p
Multi-streaming	2 streams	3 streams	3 streams	3 streams	3 streams	3 streams	3 streams
Pan/Tilt/Zoom	300 Presets, Pan: 0° - 360° endless; Tilt: -10° - 90°, Auto Flip 180°	300 Presets, Pan: 0° - 360° endless; Tilt: -10° - 90°, Auto Flip 180°	300 Presets, Pan: 0° - 360° endless; Tilt: -15° - 90°, Auto Flip 180°	300 Presets, Pan: 0° - 360° endless; Tilt: -15° - 90°, Auto Flip 180°	300 Presets, Pan: 0° - 360° endless; Tilt: -2° - 90°, Auto Flip 180°	300 Presets, Pan: 0° - 360° endless; Tilt: -15° - 90°, Auto Flip 180°	300 Presets, Pan: 0° - 360° endless; Tilt: 0° - 90°, Auto Flip 180°
Preset Speed	Pan: 240° /s; Tilt: 200° /s	Pan: 240° /s; Tilt: 200° /s	Pan: 400° /s; Tilt: 300° /s	Pan: 400° /s; Tilt: 300° /s	Pan: 300°/s; Tilt:200°/s	Pan: 240° /s; Tilt: 200° /s	Pan: 500° /s; Tilt: 500° /s
Intelligent Video*	Tripwire, Intrusion, Cross Warning Zone, Perimeter Protection, Loitering Detection, Abandoned Object Detection, Missing Object Detection, Illegal Parking, Fast Moving	Tripwire, Intrusion, Cross Warning Zone, Perimeter Protection, Loitering Detection, Abandoned Object Detection, Missing Object Detection, Illegal Parking, Fast Moving, Face Detection	Tripwire, Intrusion, Abandoned Object Detection, Missing Object Detection, Face Detection	Tripwire, Intrusion, Abandoned Object Detection, Missing Object Detection, Face Detection	Tripwire, Intrusion, Abandoned Object Detection, Missing Object Detection, Face Detection	Tripwire, Intrusion, Abandoned Object Detection, Missing Object Detection, Face Detection	Tripwire, Intrusion, Abandoned/ Missing, Face Detection
Compatibility	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI
Audio In/Out	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Memory Slot	Micro SD, Max 64GB	Micro SD, Max 128GB	Micro SD, Max 128GB	Micro SD, Max 128GB	Micro SD, Max 128GB	Micro SD, Max 128GB	Micro SD, Max 128GB
Alarm In/Out	7/2	7/2	2/1	2/1	2/1	2/1	2/1
Ingress Protection	IP67, IK10	IP67	IP66	IP66	IP66, IK10	IP66	IP67, IK10
WorkingTempature	-22°F to 140°F (-30°C to 60°C)	-40°F to 140°F (-40°C to 60°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 140°F (-40°C to 60°C)	-40°F to 140°F (-40°C to 60°C)	-40°F to 158°F (-40°C to 70°C)
Power	DC12V, PoE (802.3af)	AC24V/1.5A (±10%), POE plus (802.3at)	AC24V/1.5A (±10%), POE plus (802.3at)	AC24V, PoE+ (802.3at)**	AC24V, PoE+ (802.3at)**	AC 24V**	AC24V, PoE+ (802.3at)**

* Features only available to models with the letter "I".

** Includes wall mount and power supply.

	PRO PTZ SERIES			LITE PTZ SERIES		LITE PTZ WIFI SERIES
	Pro PTZ Network Cameras			Lite PTZ Network Cameras		
Model	DH-SD32A203SN-HN 	DH-SD42A212TN-HN(I)  NEW	DH-SD42AC212TN-HN(I)  NEW	DH-SD22A204TN-GN(I) 	DH-SD29A204SN-GN (I)  reddot award winner 2015	SD22A204TN-GN(I)-W  NEW
Image Sensor	1/2.8" 2MP Exmor CMOS	1/2.8" 2MP Exmor CMOS	1/2.8" 2MP Exmor CMOS	1/2.7" 2MP CMOS	1/2.8" 2MP Exmor CMOS	1/2.7" 2MP Exmor CMOS
Lens	3.0 - 9.0mm (3x Optical Zoom)	5.1 - 61.2mm (12x Optical zoom)	5.1 - 61.2mm (12x Optical zoom)	2.7 - 11mm (4x Optical Zoom)	2.7 - 11mm (4x Optical Zoom)	2.7 - 11mm (4x Optical zoom)
Horizontal Field of View	H-FOV: 98.4° - 29.7°	H-FOV: 59.3° ~ 5.2°	H-FOV: 59.3° ~ 5.2°	H-FOV: 112.5° - 39°	H-FOV: 112.5° - 39°	H-FOV: 112.5° - 39°
Min. Illumination	0.05 Lux/F1.6 (Color) 0.005 Lux/F1.6 (B/W)	0.05 Lux/F1.6 (Color) 0.005 Lux/F1.6 (B/W)	0.05 Lux/F1.6 (Color) 0.005 Lux/F1.6 (B/W)	0.05 Lux/F1.6 (Color) 0.005 Lux/F1.6 (B/W)	0.05Lux/F1.6 (Color) 0Lux/F1.6 (IR on)	0.05Lux/F1.6 (Color) 0Lux/F1.6 (IR on)
WDR	DWDR	120dB	120dB	120dB	DWDR	120dB
Max. IR Distance	—	—	—	—	30m (98ft)	—
Video Compression	Smart H.264+ / MJPEG	Smart H.264+ / MJPEG	Smart H.264+ / MJPEG	H.264 / MJPEG	H.264 / MJPEG	H.264 / MJPEG
Max. Resolution	1080p (1920×1080)	1080p (1920×1080)	1080p (1920×1080)	1080p (1920×1080)	1080p (1920×1080)	1080p (1920×1080)
Frame Rate	30fps@1080p, 60fps@720p	30fps@1080p, 60fps@720p	30fps@1080p, 60fps@720p	30fps@1080p, 60fps@720p	30fps@1080p, 60fps@720p	30fps@1080p, 60fps@720p
Multi-streaming	2 streams	3 streams	3 streams	3 streams	2 streams	3 streams
Pan/Tilt/Zoom	300 Presets, Pan: 0° - 360°; Tilt: 0° - 90°	300 Presets, Pan: 0° - 360° Endless, Tilt: -2° - 90°, Auto Flip 180°	300 Presets, Pan: 0° - 360° Endless, Tilt: -2° - 90°, Auto Flip 180°	300 Presets, Pan: 0° - 355°; Tilt: 0° - 90°	300 Presets, Pan: 0° - 360°, Limited; Tilt: 0° - 90°	300 Presets, Pan: 0° - 355°; Tilt: 0° - 90°, Auto Flip 180°
Preset Speed	Pan: 240°/s; Tilt: 160°/s	Pan: 300°/s; Tilt: 200°/s	Pan: 300°/s; Tilt: 200°/s	Pan: 100° /s; Tilt: 60° /s	Pan: 100° /s; Tilt: 60° /s	Pan: 100° /s; Tilt: 60° /s
Intelligent Video*	—	Tripwire, Intrusion, Abandoned Object Detection, Missing Object Detection, Face Detection	Tripwire, Intrusion, Abandoned Object Detection, Missing Object Detection, Face Detection	Tripwire, Intrusion, Abandoned Object Detection, Missing Object Detection, Face Detection	Tripwire, Intrusion, Abandoned Object Detection, Missing Object Detection, Face Detection	Tripwire, Intrusion, Abandoned Object Detection, Missing Object Detection, Face Detection
Compatibility	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI	ONVIF (2.4), PSIA, CGI / Wi-Fi (IEEE802.11b/g/n) 50m (open field)
Audio In/Out	1/1	1/1	1/1	—	Built-in Mic	—
Memory Slot	Micro SD, Max 128GB	Micro SD, Max 128GB	Micro SD, Max 128GB	Micro SD, Max 128GB	Micro SD, Max 128GB	Micro SD, Max 128GB
Alarm In/Out	2/1	2/1	2/1	—	—	—
Ingress Protection	IP66, IK10	IP66, IK10	IK10	IP66 , IK10	—	IP66 , IK10
WorkingTempature	-22°F to 140°F (-30°C to 60°C)	-40°F to 140°F (-40°C to 60°C)	-4°F ~ +140°F (-20°C ~ +60°C)	-22°F to 140°F (-30°C to 60°C)	-22°F to 140°F (-30°C to 60°C)	-22°F to 140°F (-30°C to 60°C)
Power	DC12V, PoE (802.3af)	AC24V/1.5A (±10%), POE plus (802.3at)	AC24V/1.5A (±10%), POE plus (802.3at)	DC12V, PoE (802.3af)	DC12V, PoE (802.3af)	DC12V, PoE (af Class 0)

	ULTRA NVR SERIES	SUPER NVR SERIES			
Model	DHI-NVR7A24DR-256 	DHI-NVR6A16DR-128-4KS2 	DHI-NVR6A08-128-4KS2 	DHI-NVR6A08-64-4KS2 	DHI-NVR6A08-32-4KS2 
Video Compression	H.264/MJPEG	H.264/MJPEG	H.264/MJPEG	H.264/MJPEG	H.264/MJPEG
IP Video Inputs	256 channel	128 channel	128 channel	64 channel	32 channel
Max Input/Record	512Mbps / 512Mbps	384Mbps / 384Mbps	384Mbps / 384Mbps	384Mbps / 384Mbps	384Mbps / 384Mbps
Max Decoding	20ch@1080p	4ch@4K / 16ch@1080p	4ch@4K / 16ch@1080p	4ch@4K / 16ch@1080p	16ch@1080p
Display	2 HDMI, VGA, LCD	2 HDMI, VGA, LCD	2 HDMI, VGA	2HDMI, VGA	2 HDMI, VGA
Max HDD	HDD Options	HDD Options	HDD Options	HDD Options	HDD Options
	24×0TB	16×0TB	8×0TB	8×0TB	8×0TB
	24×2TB	16×2TB	8×2TB	8×2TB	8×2TB
	24×4TB	16×4TB	8×4TB	8×4TB	8×4TB
	24×6TB	16×6TB	8×6TB	8×6TB	8×6TB
	24×12TB	16×12TB	8×12TB	8×12TB	8×12TB
	24×24TB	16×24TB	8×24TB	8×24TB	8×24TB
RAID	0/1/5/6/10/50/60	0/1/5/6/10/50/60	0/1/5/6/10/50/60	0/1/5/6/10/50/60	0/1/5/6/10/50/60
eSATA/Mini SAS	1/2	1/1	1/0	1/-	1/0
Audio In/out	1/1, 2-way	1/1, 2-way	1/1, 2-way	1/1, 2-way	1/1, 2-way
Alarm In/Out	4/4	16/8	16/8	16/8	16/8
Ethernet	4 Gigabit Ports	4 Gigabit Ports, 2 Gigabit Fiber Optical Interfaces	2 Gigabit Ports	2 Gigabit Ports	2 Gigabit Ports
PoE	—	—	—	—	—
USB	2 USB 3.0, 2 USB 2.0	2 USB 3.0, 2 USB 2.0	2 USB 3.0, 2 USB 2.0	2 USB3.0, 2 USB2.0	2 USB 3.0, 2 USB 2.0
Power	AC 100V~240V, Redundant, 200~400W (without HDD)	AC100V~240V, Redundant, <55W (without HDD)	AC100V~240V, <18W (without HDD)	AC100V~240V, <18W(without HDD)	AC100V~240V, <18W (without HDD)
Key Features	IVS, Fisheye Dewarp, N+M	IVS, Fisheye Dewarp, N+M	IVS, Fisheye Dewarp, N+M	IVS, Fisheye Dewarp, N+M	IVS, Fisheye Dewarp, N+M

PRO NVR SERIES					
Model	DHI-NVR58A32-4KS2	DHI-NVR58A16-16P-4KS2	DHI-NVR54A16-16P-4KS2	DHI-NVR52A16-16P-4KS2	DHI-NVR52A08-8P-4KS2
					
Video Compression	H.265/H.264/MJPEG	H.265/H.264/MJPEG	H.265/H.264/MJPEG	H.265/H.264/MJPEG	H.265/H.264/MJPEG
IP Video Inputs	32 channel	16 channel	16 channel	16 channel	8 channel
Max Input/Record	320Mbps / 320Mbps	320Mbps / 320Mbps	320Mbps / 320Mbps	320Mbps / 320Mbps	320Mbps / 320Mbps
Max Decoding	4ch@4K/16ch@1080p	4ch@4K/16ch@1080p	4ch@4K/16ch@1080p	4ch@4K/16ch@1080p	4ch@4K/8ch@1080p
Display	2 HDMI, VGA	2 HDMI, VGA	2 HDMI, VGA	HDMI, VGA	HDMI, VGA
Max HDD	HDD Options	HDD Options	HDD Options	HDD Options	HDD Options
	8×0TB	8×0TB	4×0TB	2×0TB	2×0TB
	8×2TB	8×2TB	4×2TB	2×1TB	2×1TB
	8×4TB	8×4TB	4×4TB	2×2TB	2×2TB
	8×6TB	8×6TB	4×6TB	2×3TB	2×3TB
	8×12TB	8×12TB	4×12TB	2×4TB	2×4TB
	8×24TB	8×24TB	4×24TB	2×6TB	2×6TB
RAID	0/1/5/6/10	0/1/5/6/10	—	—	—
eSATA/Mini SAS	1/-	1/-	1/-	—	—
Audio In/Out	1/1, 2-way	1/1, 2-way	1/1, 2-way	1/1, 2-way	1/1, 2-way
Alarm In/Out	16/6	16/6	16/6	4/2	4/2
Ethernet	2 Gigabit Ports	1 Gigabit Port	1 Gigabit Port	1 Gigabit Port	1 Gigabit Port
PoE	—	16 Ports (IEEE802.3at/af), 150W	16 Ports (IEEE802.3at/af), 150W	16 Ports (IEEE802.3at/af), 130W	8 Ports (IEEE802.3at/af), 120W
USB	2 USB 3.0, 2 USB 2.0	2 USB 3.0, 2 USB 2.0	2 USB 3.0, 1 USB 2.0	1 USB 3.0, 1 USB 2.0	1 USB 3.0, 1 USB 2.0
Power	AC100V~240V <16.7W (Without HDD)	AC 100~240V <17.5W (Without HDD)	AC 100~240V, <17.5W (Without HDD)	AC100V~240V <14.5W (Without HDD)	AC100V~240V <15.2W (Without HDD)
Key Features	Fisheye Dewarp, IVS, P2P	Plug & Play, P2P, IVS, Fisheye Dewarp	Plug & Play, P2P, IVS, Fisheye Dewarp	Fisheye Dewarp, Plug & Play, P2P, IVS	Fisheye Dewarp, Plug & Play, P2P, IVS

	LITE NVR SERIES			LITE WI-FI NVR SERIES
Model	DHI-NVR42A16-16P 	DHI-NVR42A08-8P 	DHI-NVR42A04-P 	DHI-NVR41A04HS-W-S2  COMING SOON!
Video Compression	Smart H.264+/MJPEG	Smart H.264+/MJPEG	Smart H.264+/MJPEG	H.264/MJPEG
IP Video Inputs	16 channel	8 channel	4 channel	4 channel
Max Input/Record	200Mbps / 200Mbps	200Mbps / 200Mbps	200Mbps / 200Mbps	80Mbps / 80Mbps
Max Decoding	4ch@4MP / 8ch@1080p	4CH@4MP / 8CH@1080p	4ch@4MP / 4ch@1080p	4ch@5MP / 4ch@1080p
Display	HDMI, VGA	HDMI, VGA	HDMI, VGA	1 HDMI, 1 VGA
Max HDD	HDD Options	HDD Options	HDD Options	HDD Options
	2×0TB	2×0TB	2×0TB	—
	2×1TB	2×1TB	2×1TB	—
	2×2TB	2×2TB	2×2TB	—
	2×3TB	2×3TB	2×3TB	—
	2×4TB	2×4TB	2×4TB	—
	2×6TB	2×6TB	2×6TB	—
RAID	—	—	—	—
eSATA/Mini SAS	—	—	—	Supports 1 SATA HDD up to 4TB
Audio In/Out	1/1, 2-way	1/1, 2-way	1/1, 2-way	1/1, 2-way
Alarm In/Out	4/2	4/2	4/2	—
Ethernet	1 Gigabit Port	1 Gigabit Port	1 Gigabit Port	Supports three-antennas for a strengthend WiFi signal
PoE	16 Ports (IEEE802.3at/af), 130W	8 Ports (IEEE802.3at/af), 120W	4 Ports (IEEE802.3at/af) 50W	—
USB	1 USB 3.0, 1 USB 2.0	1 USB 3.0, 1 USB 2.0	1 USB 3.0, 1 USB 2.0	2 ports (2 Rear), USB 2.0
Power	AC 100V~240V, <20W (Without HDD)	AC100V~240V, <20W (Without HDD)	DC12V/4A for NVR DC48V/1.05A for PoE <20W (Without HDD)	DC12V/2A, 10W (Without HDD)
Key Features	Plug & Play, P2P	Plug & Play, P2P	Plug & Play, P2P	Plug & Play, P2P

SUPER SERIES

Super Vari-focal IR HDCVI Cameras

Model	DH-HAC-HFW32A1EN-Z	DH-HAC-HDBW32A1EN-Z
		
Image Sensor	1/2.8" 2MP Exmor R CMOS	1/2.8" 2MP Exmor R CMOS
Min. Illumination	Starlight 0.005Lux/F1.4 0Lux (IR on)	Starlight 0.005Lux/F1.4 0Lux (IR on)
Lens	2.7 – 12mm, Motorized, Auto Iris	2.7 – 12mm, Motorized, Auto Iris
Horizontal Field of View	H-FOV: 95° – 36°	H-FOV: 95° – 36°
Day/Night	ICR	ICR
Max. IR Distance	330ft (100m), Smart IR	165ft (50m), Smart IR
OSD Menu	Multi-language	Multi-language
WDR	120dB True WDR	120dB True WDR
Noise Reduction	2D/3D	2D/3D
Frame Rate	30fps@1080p 30/60fps@720p	30fps@1080p 30/60fps@720p
Video Output	HD/SD Dual-output, SD Tester-out	HD/SD Dual-output, SD Tester-out
Audio In/Out	1	1
Alarm In/Out	1/1	1/1
Pan/Tilt/Rotation	0° – 360°/0° – 90°/0° – 360°	0° – 355°/0° – 85°/0° – 355°
Ingress Protection	IP67, IK10	IP67, IK10
Working Temperature	-22°F to 140°F (-30°C to 60°C)	-22°F to 140°F (-30°C to 60°C)
Power	AC24V±25%/DC12V±25% Max 16.6W	AC24V±25%/DC12V±25% Max 12.5W


 HDCVI

Dahua brings cutting edge HD analog technology to the market with our HDCVI line. HDCVI breathes new life into aging analog video surveillance systems, bringing HD video and IP-type functionality to long distance transmissions over coaxial cable. It's the highest resolution HD analog solution on the market. With economically-priced products for smaller applications and high-performing systems for more demanding installations, Dahua HDCVI solutions meet a broad range of budget and imaging requirements.

 STARLIGHT

For challenging low-light applications, Dahua's Starlight models offer best-in-class light sensitivity capturing color details in low light down to 0.005 lux. These cameras, available in box, bullet and dome-style housings, overcome challenging lighting conditions by using a judicious selection of optical parameters to balance light throughout the image process. The result is stunningly clear images in very dark environments.



Note: "Coming Soon" products consist of preliminary data only.

PRO SERIES

	Pro Fixed IR HDCVI Cameras									
Model	DH-HAC-HDBW22A1RN-Z	DH-HAC-HDW22A1RN-Z	A42AC2Z	DH-HAC-HFW22A1RN-Z	A42AL2X	A42AG2X	A42AB2X	DH-HAC-HDW22A1EN		
			COMING SOON! 		COMING SOON! 	COMING SOON! 	COMING SOON! 			
Image Sensor	1/2.7" 2MP CMOS	1/2.7" 2MP CMOS	1/3" 4MP CMOS	1/2.7" 2MP CMOS	1/3" 4MP CMOS	1/3" 4MP CMOS	1/3" 4MP CMOS	1/2.7" 2.1MP CMOS		
Min. Illumination	0.03Lux/F1.4 0Lux (IR on)	0.03Lux/F1.4 0Lux (IR on)	0.03Lux/F1.8 0Lux IR on	0.03Lux/F1.4 0Lux (IR on)	0.03Lux/F1.8 0Lux IR on	0.03Lux/F1.8 0Lux IR on	0.03Lux/F1.8 0Lux IR on	0.03Lux/F2.0 0Lux (IR on)		
Lens	2.7 – 12mm, Motorized	2.7 – 12mm, Motorized	2.7 – 12mm, Motorized		3.6mm (2.8mm, 6mm optional)	3.6mm (2.8mm, 6mm optional)	3.6mm (2.8mm, 6mm optional)	2.8mm	3.6mm	6mm
Horizontal Field of View	H-FOV: 99° – 37°	H-FOV: 99° – 37°	TBD	H-FOV: 99° – 37°	TBD	TBD	TBD	115.6°	90°	59.4°
Day/Night	ICR	ICR	ICR		ICR	ICR	ICR	ICR		
Max. IR Distance	98ft (30m), Smart IR	200ft (60m), Smart IR	200ft (60m), Smart IR		98ft (30m), Smart IR	165ft (50m), Smart IR	130ft (40m), Smart IR	165ft (50m), Smart IR		
OSD Menu	Multi-language	Multi-language	Multi-language		Multi-language	Multi-language	Multi-language	Multi-language		
WDR	120dB True WDR	120dB True WDR	120dB True WDR		120dB True WDR	120dB True WDR	120dB True WDR	120dB True WDR		
Noise Reduction	2D/3D	2D/3D	2D/3D		2D/3D	2D/3D	2D/3D	2D/3D		
Frame Rate	30fps@1080p 30/60fps@720p	30fps@1080p 30/60fps@720p	30fps@4MP 30fps@1080p	30fps@1080p 30/60fps@720p	30fps@4MP 30fps@1080p	30fps@4MP 30fps@1080p	30fps@4MP 30fps@1080p	30fps@1080p 30/60fps@720p		
Video Output	HD/SD Dual-output, SD Tester-out	HD/SD Dual-output	HD/SD Dual-output		HD/SD Dual-output	HD/SD Dual-output	HD/SD Dual-output	HD/SD Dual-output		
Audio In/Out	—	—	—		TBD	TBD	TBD	—		
Alarm In/Out	—	—	—		TBD	TBD	TBD	—		
Pan/Tilt/Rotation	0° – 355°/0° – 75°/0° – 355°	0° – 360°/0° – 67°/0° – 360°	TBD	0° – 360°/0° – 87°/0° – 360°	TBD	TBD	TBD	0° – 360°/0° – 70°/0° – 360°		
Ingress Protection	IP67, IK10	IP67	IP67		IP67, IK10	IP67	IP67	IP67		
Working Temperature	-22°F to 140°F (-30°C to 60°C)	-22°F to 140°F (-30°C to 60°C)	-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)	-22°F to 140°F (-30°C to 60°C)	-22°F to 140°F (-30°C to 60°C)	-22°F to 140°F (-30°C to 60°C)		
Power	DC12V±25% Max 5W	DC12V±25% Max 10W	DC12V±25%	DC12V±25% Max 8.2W	DC12V±25% Max 4.8W	DC12V±25%	DC12V±25%	DC12V±25% Max 5.5W		

	PRO SERIES						LITE SERIES												
Model	Pro Fixed IR HDCVI Cameras						Lite Fixed IR HDCVI Cameras						Lite Vari-focal IR HDCVI Cameras						
	DH-HAC-HFW22A1EN			DH-HAC-HDBW22A1EN			DH-HAC-HDBW12A0EN		DH-HAC-HFW12A0SN		DH-HAC-HDW12A0EN		DH-HAC-HFW12A0RN-VF		DH-HAC-HDBW12A0RN-VF		DH-HAC-HDW12A0RN-VF		
Image Sensor	1/2.7" 2MP CMOS			1/2.7" 2.1MP CMOS			1/2.7" 2MP CMOS		1/2.7" 2MP CMOS		1/2.7" 2MP CMOS		1/2.7" 2MP CMOS		1/2.7" 2MP CMOS		1/2.7" 2MP CMOS		
Min. Illumination	0.03Lux/F2.0 0Lux (IR on)			0.03Lux/F2.0 0Lux (IR on)			0.02Lux/F1.4 0Lux (IR on)		0.02Lux/F2.0 0Lux (IR on)		0.02Lux/F2.0 0Lux (IR on)		0.02Lux/F1.4 0Lux (IR on)		0.02Lux/F1.4 0Lux (IR on)		0.02Lux/F1.4 0Lux (IR on)		
Lens	3.6mm	6mm	8mm	2.8mm	3.6mm	6mm	2.8mm	3.6mm	6mm	3.6mm	6mm	3.6mm	6mm	2.7 – 12mm, Manual		2.7 – 12mm, Manual		2.7 – 12mm, Manual	
Horizontal Field of View	90°	59.4°	41.4°	115.6°	90°	59.4°	115.6°	89.9°	59.4°	89.9°	59.4°	89.9°	59.4°	H-FOV: 99° – 37°		H-FOV: 99° – 37°		H-FOV: 99° – 37°	
Day/Night	ICR			ICR			ICR		ICR		ICR		ICR		ICR		ICR		
Max. IR Distance	130ft (40m), Smart IR			98ft (30m), Smart IR			98ft (30m), Smart IR		98ft (30m), Smart IR		165ft (50m), Smart IR		98ft (30m), Smart IR		98ft (30m), Smart IR		98ft (30m), Smart IR		
OSD Menu	Multi-language			Multi-language			—		—		—		—		—		—		
WDR	120dB True WDR			120dB True WDR			—		—		—		—		—		—		
Noise Reduction	2D/3D			2D/3D			2D		2D		2D		2D		2D		2D		
Frame Rate	30fps@1080p 30/60fps@720p			30fps@1080p 30/60fps@720p			30fps@1080p		30fps@1080p		30fps@1080p		30fps@1080p		30fps@1080p		30fps@1080p		
Video Output	HD/SD Dual-output			HD/SD Dual-output, SD Tester-out			HD		HD		HD		HD		HD		HD		
Audio In/Out	—			—			—		—		—		—		—		—		
Alarm In/Out	—			—			—		—		—		—		—		—		
Pan/Tilt/Rotation	0° – 360°/0° – 90°/0° – 360°			0° – 355°/0° – 65°/0° – 355°			0° – 355°/0° – 65°/0° – 355°		0° – 360°/0° – 90°/0° – 360°		0° – 360°/0° – 70°/0° – 360°		0° – 360°/0° – 87°/0° – 360°		0° – 355°/0° – 75°/0° – 355°		0° – 360°/0° – 90°/0° – 360°		
Ingress Protection	IP67			IP67, IK10			IP67, IK10		IP67		IP67		IP67		IP67, IK10		IP67		
Working Temperature	-22°F to 140°F (-30°C to 60°C)			-22°F to 140°F (-30°C to 60°C)			-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		-22°F to 140°F (-30°C to 60°C)		
Power	DC12V±25% Max 5.5W			DC12V±25% Max 4.5W			DC12V±20% Max 3.5W		DC12V±20% Max 3.6W		DC12V±20% Max 3.6W		DC12V±20% Max 3.8W		DC12V±20% Max 5.8W		DC12V±20% Max 3.8W		

PRO PTZ SERIES					LITE PTZ SERIES	
Model	Pro PTZ HDCVI Cameras				Lite PTZ HDCVI Cameras	
	DH-SD6CA230IN-HC	DH-SD6CA220IN-HC-S2	DH-SD50A220IN-HC	DH-SD59A220IN-HC-S2	DH-SD40A212IN-HC	DH-SD22A204IN-GC
						
Image Sensor	1/2.8" 2MP Exmor CMOS	1/2.8" 2MP Exmor CMOS	1/2.8" 2MP Exmor CMOS	1/2.8" 2MP Exmor CMOS	1/2.8" 2MP Exmor CMOS	1/2.7" 2MP CMOS
Min. Illumination	Starlight 0.005Lux/F1.6 (Color) 0Lux/F1.6 (IR on)	Starlight 0.005Lux/F1.4 (Color) 0Lux/F1.4 (IR on)	0.05Lux/F1.6 (Color) 0Lux/F1.6 (IR on)	Starlight 0.005Lux/F1.4 (Color) 0Lux/F1.4 (IR on)	0.05Lux/F1.6 (Color) 0.005Lux/F1.6 (B/W)	0.05Lux/F1.6 (Color) 0.005Lux/F1.6 (B/W)
Lens	4.5 – 135mm (30x Optical Zoom)	4.7 – 94.0mm (20x Optical Zoom)	4.7 – 94.0mm (20x Optical Zoom)	4.7 – 94.0mm (20x Optical Zoom) 4.5~135mm (30x Optical Zoom)	5.1 – 61.2mm (12x Optical Zoom)	2.7 – 11mm (4x Optical Zoom)
Horizontal Field of View	H-FOV: 67.8° – 2.7°	H-FOV: 54.1° – 3.2°	H-FOV: 54.1° – 3.2°	H-FOV: 54.1° – 3.2°	H-FOV: 51.3° – 4.6°	H-FOV: 112.5° – 39°
Day/Night	ICR	ICR	ICR	ICR	ICR	ICR
Max. IR Distance	330ft (100m)	330ft (100m)	—	330ft (100m)	—	—
OSD Menu	Support	Support	Support	Support	Support	Support
WDR	DWDR	DWDR	DWDR	DWDR	DWDR	DWDR
Noise Reduction	2D/3D	2D/3D	2D/3D	2D/3D	2D/3D	2D/3D
Frame Rate	30fps@1080p, 30/60fps@720p	30fps@1080p, 30/60fps@720p	30fps@1080p, 30/60fps@720p	30fps@1080p, 30/60fps@720p	30fps@1080p, 30/60fps@720p	30fps@1080p, 30/60fps@720p
Video Output	HD/SD Switchable	HD/SD Switchable	HD/SD Switchable	HD/SD Switchable	HD/SD Switchable	HD/SD Switchable
Pan/Tilt/Zoom	300 Presets, Pan: 0° – 360° Endless; Tilt: -15° – 90°, Auto Flip 180°	300 Presets, Pan: 0° – 360° Endless; Tilt: -15° – 90°, Auto Flip 180°	300 Presets, Pan: 0° – 360° Endless; Tilt: 0° – 90°, Auto Flip 180°	300 Presets, Pan: 0° – 360° endless; Tilt: -15° – 90°, Auto Flip 180°	300 Presets, Pan: 0° – 360° endless; Tilt: -2° – 90°, Auto Flip 180°	255 Presets, Pan: 0° – 355°; Tilt: 0° – 90°
Preset Speed	Pan: 240°/s; Tilt: 200°/s	Pan: 240°/s; Tilt: 200°/s	Pan: 500°/s; Tilt: 500°/s	Pan: 400°/s; Tilt: 300°/s	Pan: 300°/s; Tilt: 200°/s	Pan: 100°/s; Tilt: 60°/s
Audio In/Out	1	1	1	1	1	-
Alarm In/Out	2/1	2/1	2/1	2/1	2/1	-
Ingress Protection	IP66	IP66	IP67, IK10	IP66	IP66, IK10	IP66, IK10
Working Temperature	-40°F to 140°F (-40°C to 60°C)	-40°F to 140°F (-40°C to 60°C)	-40°F to 140°F (-40°C to 60°C)	-40°F to 158°F (-40°C to 70°C)	-40°C to 60°C (-40°F to 140°F)	-22°F to 140°F (-30°C to 60°C)
Power	AC24V**	AC24V**	AC24V**	AC24V**	AC24V**	DC12V

** Includes wall mount and power supply.

	SUPER HDCVR SERIES		PRO HDCVR SERIES				
Model	DHI-HCVR78A16S	DHI-HCVR74A16L	DHI-XVR51A04HE	DHI-HCVR72A16A-S3	DHI-HCVR72A08A-S3	DHI-HCVR72A04A-S3	DHI-HCVR58A32S-S2
							
Video Compression	H.264	H.264	H.264	H.264	H.264	H.264	H.264/MJPEG
Audio Compression	G.711/PCM	G.711/PCM	G.711	G.711/PCM	G.711/PCM	G.711/PCM	G.711/PCM
Video Standard	HDCVI/CVBS (Auto-detect)	HDCVI/CVBS (Auto-detect)	HDCVI/HDTVI/AHD/Analog/IP Video input	HDCVI/CVBS (Auto-detect)	HDCVI/CVBS (Auto-detect)	HDCVI/CVBS (Auto-detect)	HDCVI/CVBS (Auto-detect)
Max. Record Rate	480fps@1080p 480fps@720p	480fps@1080p 480fps@720p	30fps@1080p	480fps@1080p 480fps@720p	240fps@1080p 240fps@720p	120fps@1080p 120fps@720p	480fps@1080p 960fps@720p
Analog Input	16CH, 1.0Vp-p, 75Ω	16CH, 1.0Vp-p, 75Ω	8CH	16CH, 1.0Vp-p, 75Ω	8CH, 1.0Vp-p, 75Ω	4CH, 1.0Vp-p, 75Ω	32CH, 1.0Vp-p, 75Ω
IP Input	16+16 Up to 1080p	16+16 Up to 1080p	8+4 Up to 5Mp	16+8 Up to 5MP	8+4 Up to 5MP	4+2 Up to 5MP	32 Up to 1080p
Audio In/Out	16/1, 2-way	4/1, 2-way	4/1, 2-way	4/1, 2-way	4/1, 2-way	4/1, 2-way	16/1, 2-way
Max. HDD	HDD Options	HDD Options	HDD Options	HDD Options	HDD Options	HDD Options	HDD Options
	8×0TB	4×0TB	HDD up to 6TB	2×0TB	2×0TB	2×0TB	8×0TB
	8×2TB	4×2TB		2×1TB	2×1TB	2×1TB	8×2TB
	8×4TB	4×4TB		2×2TB	2×2TB	2×2TB	8×4TB
	8×6TB	4×6TB		2×3TB	2×3TB	2×3TB	8×6TB
	8×12TB	4×12TB		2×4TB	2×4TB	2×4TB	8×12TB
	8×24TB	4×24TB		2×6TB	2×6TB	2×6TB	8×24TB
Display	2HDMI, VGA, TV	HDMI, VGA, TV	1 HDMI, 1 VGA	HDMI, VGA	HDMI,VGA	HDMI,VGA	2HDMI, VGA, TV
eSATA	1	1	1	—	—	—	1
USB	4 USB 2.0	3 USB 2.0	2 USB 2.0	1 USB 3.0, 1 USB 2.0	1 USB 3.0, 1 USB 2.0	2 USB 2.0	4 USB 2.0
DVD Burner	USB/SATA	USB/SATA	USB/SATA	USB	USB	USB	USB/SATA
Alarm In/Out	16/6	16/16	TBD	16/3	8/3	8/3	16/16
Ethernet	2 Gigabit Ports	1 Gigabit Port	TBD	1 Gigabit Port	1 Gigabit Port	1×100M Port	2 Gigabit Ports
Remote Login	128	128	128	128	128	128	128
Dimension	17.3in x 18in x 3.5in	17.3in x 16.4in x 2.7in	12.8in x 10in x 2.2in-	14.8 in x 11.2in x 2.2in	14.8 in x 11.2in x 2.2in	14.8 in x 11.2in x 2.2in	17.3in x 18in x 3.5in
Power	AC 100~240V, 50/60Hz, ≤53W (Without HDD)	AC 100~240V, 50/60Hz, ≤53W (Without HDD)	DC12V/3A, 15W (Without HDD)	DC12V/5A, ≤15W (Without HDD)	DC12V/5A, ≤15W (Without HDD)	DC12V/5A, ≤15W (Without HDD)	AC 100~240V, 50/60Hz, ≤53W (Without HDD)
Highlights	Smart Play, POS, P2P, Coaxial Upgrade, 2D/3DNR, UTP, N+N	Smart Play, POS, P2P, Coaxial Upgrade, 2D/3DNR, UTP, N+N	1/4/9 channel synchronous realtime playback, GRID interface & smart search	Smart Play, POS, P2P, Coaxial Upgrade, 2D/3DNR, UTP	Smart Play, POS, P2P, Coaxial Upgrade, 2D/3DNR, UTP	Smart Play, POS, P2P, Coaxial Upgrade, 2D/3DNR, UTP	Smart Play, POS, P2P, Coaxial Upgrade, 2D/3DNR, UTP

	PRO HDCVR SERIES			LITE HDCVR SERIES		
Model	DHI-HCVR54A16L-V2 	DHI-HCVR52A16A-S3 	DHI-HCVR52A16AN-S3 	DHI-HCVR51A16HE-S3 	DHI-HCVR51A08HE-S3 	DHI-HCVR51A04HE-S3 
Video Compression	H.264	H.264	H.264	H.264	H.264	H.264
Audio Compression	G.711/PCM	G.711/PCM	G.711/PCM	G.711/PCM	G.711/PCM	G.711/PCM
Video Standard	HDCVI/CVBS (Auto-detect)	HDCVI/CVBS (Auto-detect)	HDCVI/CVBS (Auto-detect)	HDCVI/CVBS (Auto-detect)	HDCVI/CVBS (Auto-detect)	HDCVI/CVBS (Auto-detect)
Max. Record Rate	240fps@1080p 480fps@720p	240fps@1080p 480fps@720p	240fps@1080p 480fps@720p	240fps@1080p 480fps@720p	120fps@1080p 240fps@720p	60fps@1080p 120fps@720p
Analog Input	16CH, 1.0Vp-p, 75Ω	16CH, 1.0Vp-p, 75Ω	16CH, 1.0Vp-p, 75Ω	16CH, 1.0Vp-p, 75Ω	8CH, 1.0Vp-p, 75Ω	4CH, 1.0Vp-p, 75Ω
IP Input	2 Up to 1080p	16+8 Up to 5MP	8+16 Up to 5MP	16+8 Up to 5MP	8+4 Up to 5MP	4+2 Up to 5MP
Audio In/Out	4/1, 2-way	4/1, 2-way	1/1, 2-way	16/1, 2-way	8/1, 2-way	4/1, 2-way
	4×6TB	2×6TB	2×6TB	1×6TB	1×6TB	1×6TB
Max. HDD	HDD Options	HDD Options	HDD Options	HDD Options	HDD Options	HDD Options
	4×0TB	2×0TB	2×0TB	1×0TB	1×0TB	1×0TB
	4×2TB	2×2TB	2×1TB	1×1TB	1×1TB	1×1TB
	4×4TB	2×3TB	2×2TB	1×2TB	1×2TB	1×2TB
	4×6TB	2×4TB	2×3TB	1×3TB	1×3TB	1×3TB
	4×12TB		2×4TB	1×4TB	1×4TB	1×4TB
	4×24TB		2×6TB	1×6TB	1×6TB	1×6TB
Display	HDMI, VGA, TV	HDMI, VGA	HDMI, VGA	HDMI, VGA	HDMI, VGA	HDMI, VGA
eSATA	1	—	—	—	—	—
USB	3 USB 2.0	1 USB 3.0, USB 2.0	1 USB 3.0, USB 2.0	1 USB 3.0, USB 2.0	2 USB 2.0	2 USB 2.0
DVD Burner	USB/SATA	USB	USB	USB	USB	USB
Alarm In/Out	16/16	16/3	—	16/3	8/3	4/3
Ethernet	1 Gigabit Port	1 Gigabit Port	1 Gigabit Port	1 Gigabit Port	1x100M Ports	1x100M Ports
Remote Login	128	128	128	128	128	128
Dimension	17.3in x 16.4in x 2.7in	14.8in x 11.2in x 2.2in	14.8in x 11.2in x 2.2in	12.8in x 10in x 2.2in	12.8in x 10in x 2.2in	12.8in x 10in x 2.2in
Power	AC 100~240V, 50/60Hz, ≤40W (Without HDD)	DC12V/4A, ≤15W (Without HDD)	DC12V/4A, ≤15W (Without HDD)	DC12V/2A, ≤10W (Without HDD)	DC12V/2A, ≤10W (Without HDD)	DC12V/2A, ≤10W (Without HDD)
Highlights	Smart Play, POS, P2P, Coaxial Upgrade, 2D/3DNR, UTP	Smart Play, POS, P2P, Coaxial Upgrade, 2D/3DNR, UTP	Smart Play, POS, P2P, Coaxial Upgrade, 2D/3DNR, UTP	Smart Play, POS, P2P, Coaxial Upgrade, 2D/3DNR, UTP	Smart Play, POS, P2P, Coaxial Upgrade, 2D/3DNR, UTP	Smart Play, POS, P2P, Coaxial Upgrade, 2D/3DNR, UTP

	CAMERA HOUSING		FIBER TRANSMISSION/RECEIVER		SWITCH	4K NETWORK DECODER		OPTICAL MODULE	KEYBOARD
Model	PFH610N	PFH610N-IR	OTE103T	OTE103R	DH-PFS3102-1T	NVS0104DH-4K	NVD0405DH-4K	PFT3910 / 20 / 60 / 70 / 00 / 50	DH-NKB1000
Appearance									
Description	Aluminum & PC, (IK10) IP67, DC12V/AC24V 16in x 6.5in x 5.2in, for use with standard box cameras and PFB600W, PFB601W, PFB604W mounts	Aluminum & PC Heater, Cooler, IR (IK10) IP67, AC24V, 5A 16in x 6.5in x 5.2in, for use with standard box cameras and PFB600W, PFB601W, PFB604W mounts	1-port Fiber Transmission 9.4in x 5.9in x 3.1in	1-port Fiber Receiver 9.4in x 5.9in x 3.1in	1-port Switch 10.6in x 9.4in x 3.0in	1 Channel Ultra HD Network Video Decoder	4 Channel Ultra HD Network Video Decoder	Optical Module Data Rate: 155Mbps*, 1.25Gbps* Transmission Distance: 2km*, 20km*, 500m* *varies based on model	Network Control Keyboard with mono LCD screen (128 x 64)

LENS				
Model	PLZ1040-D	PLZ1140-D	PLZ20C0-D	PLZ21C0-D
Appearance				
Description	Image size: 1/2.7in Aperture: f/1.6 Focal length: 2.7-12mm Mount: CS Resolution: 4MP	Image size: 1/2.7in Aperture: f/1.6 Focal length: 5-50mm Mount: CS Resolution: 4MP	Image size: 1/1.7in Aperture: f/1.5 Focal length: 3.7-16mm Mount: CS Resolution: 12MP	Image size: 1/1.7in Aperture: f/1.5 Focal length: 10.5-42mm Mount: CS Resolution: 12MP

	BALUN		POC TRANSCEIVER
Model	PFM800	PFM801	PFM810
Appearance			
Description	Passive HDCVI Balun Transmission distance: 250m@720p, 400m@1080p Cable type: CAT 5E/6 (R<10Ω/100m)	Passive HDCVI Balun with Power Input: DC24-36V Output: DC12V 8W (max) Transmission distance: 300m (max) Cable type: CAT 5E/6 (R<10Ω/100m)	Input DC24-36V, provides DC12V 9W (max) power to remote cameras

	POE SWITCH						POE MIDSPAN	POE EXTENDER	WIRELESS
Model	DH-PFS3106-4P-60	DH-PFS3110-8P-96	DH-PFS4018-16P-250	DH-PFS4026-24P-370	DH-PFS4220-16P-250	DH-PFS4228-24P-370	PFT1200	PFT1300	PFM880/881
Appearance									
Description	4-port PoE Switch IEEE 802.3af/802.3at Each power ≤30W, Total ≤60W	8-port PoE Switch IEEE 802.3af/802.3at Each power ≤30W, Total ≤93W	16-port PoE Switch IEEE 802.3af/802.3at Each power ≤30W, Total ≤250W	24-port PoE Switch IEEE 802.3af/802.3at Each power ≤30W, Total ≤370W	16-port PoE Switch IEEE802.1x AC 100~240V	24-port PoE Switch IEEE802.1x AC 100~240V	Max.60W power out IEEE 802.3af/802.3at, Hi-PoE Cascade two PoE extenders to cover the range of 300m	PoE-in port, PoE-out port, PoE for IPC port DIN rail mounting	5.8G Wireless Video Transmission Device Transmission distance: 3 miles Horizontal 90/40°, Vertical 12/15°

	POWER SUPPLY					AUDIO PICKUP		SD CARD	TESTER
Model	PFM321	PFM322	AC24V, 1.5A	AC24V, 3A	AC24V, 5A	DH-PFM140	DH-PFM141	DH-PFM112	PFM900
Appearance									
Description	DC12V, 1A 3.3in x 1.6in x 1in	DC12V 2.8A 5.8in x 2.8in x 1.2in	AC24V, 1.5A 4.2in x 2.8in x 2.2in	AC24V, 3A 4.7in x 3.1in x 2.5in	AC24V, 5A 4.7in x 4in x 3.1in	Pinhole Pickup 2.5in x 1.2in x .87in For use with cameras or storage devices w/audio functionality	Hi-fidelity Pickup 3.1in x 1.0in For use with cameras or storage devices w/audio functionality	Dahua SD Card, Speed: UHS-I, 48MB/s, Video Class: Class 10, Storage Capacity: 64GB	Integrated Mount Tester For IPC, HDCVI, Analog camera TDR, record, playback

OPTICAL TRANSCEIVER					HARD DISK
Model	OTC102T/R	DH-PFO2410T/R	DH-PFO2810T/R	DH-PFO2910T/R	ST Series
Apperance					
Description	1ch HDCVI Optical Transceiver Lossless non-compression real-time transmission FC, Single-mode, 20km Support 720p/1080p	4ch HDCVI Optical Transceiver Lossless non-compression real-time transmission FC, Single-mode, 20km Support 720p/1080p	8ch HDCVI Optical Transceiver Lossless non-compression real-time transmission FC, Single-mode, 20km Support 720p/1080p	16ch HDCVI Optical Transceiver Lossless non-compression real-time transmission FC, Single-mode, 20km Support 720p/1080p	ST1000VX001 - 1TB ST2000VX003 - 2TB ST3000VX006 - 3TB ST4000VX000 - 4TB ST6000VX001 - 6TB

CONVERTER			DISTRIBUTOR		EXTENDER	
Model	DH-PFT2100	TP2105	TP2600	PFT2690	PFM700	PFM710
Apperance						
Description	Input HDMI video signal, self-adaptive output HDCVI signal HDCVI output format: 720p, 1080p CVBS, AHD, HDTVI distribution Fully enclosed dustproof design	Input :720p/1080p HDCVI signal Output: HDCVI, HDMI, VGA, CVBS Supports RS485 to control PTZ	1 in / 3 out 720p/1080p self-adaptive Works as a repeater to increase the transmission distance	16-ch HDCVI input, 32-ch output, each input corresponds to 2 outputs 720p/1080p self-adaptive Compatible CVBS, AHD, HDTVI signal distribution	HDMI Extender HDMI, transmission distance 60m (max) 3.5in x 2.5in x 1.0in	VGA Extender, VGA video signal high fidelity transmission 75m (max) 3.5in x 2.5in x 1.0in

MONITOR			GAS SPRING MONTIOR DESK MOUNT						MECHANICAL MONITOR DESK MOUNT	
Model	DHL32-F600	DHL22-F600	DHL49-4K	BL301-G	BL302-G	BL303-G	BL304-G	BL102	BL103	BL104
Apperance										
Description	31.5" Full HD 1920 x 1080 resolution LCD Monitor, Plastic housing, Input: VGA x1, HDMI x2, Audio x1, Output: Speaker x1, Equipped with pedestal	20.7" Full HD 1920 x 1080 resolution LCD Monitor, Plastic housing, Input: VGA x1, HDMI x1, Audio x1, Output: Speaker x1, Equipped with pedestal	49" Ultra HD 3840 x 2160 4K LCD Monitor, Abundant interfaces HDMI, DVI, VGA, BNC, USB, supports video loop	Single screen gas spring monitor mount, 360° horizontal free rotation, Built in 2 port USB 3.0 Hub, Fits most monitors	Dual screen gas spring monitor mount, 360° horizontal free rotation, Built in 2 port USB 3.0 Hub, Fits most monitors	Triple screen gas spring monitor mount, 360° horizontal free rotation, Built in 2 port USB 3.0 Hub, Fits most monitors	Quad screen gas spring monitor mount, 360° horizontal free rotation, Built in 2 port USB 3.0 Hub, Fits most monitors	Dual screen mechanical monitor mount, Solid aluminum die cast construction, Quick to install, Fits most monitors	Triple screen mechanical monitor mount, Solid aluminum die cast construction, Quick to install, Fits most monitors	Quad screen mechanical monitor mount, Solid aluminum die cast construction, Quick to install, Fits most monitors

SMART PSS

Smart Professional Surveillance System

Open, Free, Intelligent
Make your security surveillance system easy to use.



Devices & Users	Supported Devices	DVR, NVR, IPC, NVS, NKB, VDP, Video Wall Controller
	Max. Management Devices	256
	Max. Management Channels	2000
	Max. Number of Users	50
Video	Compression Format	H.265/H.264/MPEG-4/JPEG
	Display Resolution	Up to 4000 x 3000
Live Preview	Video Display Split	1/4/6/8/9/16/25/36 or customized split for Mac, up to 64 for windows
	Max. Preview Screens	4
	Max. Viewing Channels	256
	Features	Snapshot, PTZ, Audio, Record, Talk, Instant playback, Tour task, View, Stream control, Optional video scale
Playback	Max. Channels	36
	Max. Task of Export	10 once
	Features	Snapshot, PTZ, Audio, Speed 1/8x~8x, Synchronization playback, Faster/Slower play, Optional video scale
Recording	PC-NVR	32 Channels
System	Language	Czech, Danish, Dutch, English, Finnish, French, German, Greek, Italian, Japanese, Korean, Polish, Portuguese, Russian, Spanish, Thai, Traditional Chinese, Vietnamese
Minimum System Requirements	OS	Windows XP or above, Mac OSX 10.7 or above
	GPU	Intel(R) HD Graphics or above
	CPU	Intel(R) Core(TM) i3 or above
	Main Memory	2GB or above
	Display Resolution	1024×768 or above

DMSS

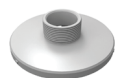
Digital Mobile Surveillance System

Monitor anything with your smartphone or tablet.
Anytime, Anywhere



Devices & Users	Supported Devices	DVR, NVR, IPC, VDP
	Add Device Method	IP/Domain, SN, Import from cloud
	Features	Remote config, Alarm config, HDD info, Share device list
Video	Compression Format	H.265/H.264/MPEG-4/JPEG
	Display Resolution	Up to 1920 x 1080
Live Preview	Video Display Split	1/4/9/16 split
	Max. Channels Can be Opened at the Same Time	256
	Features	Snapshot, Record, Instant playback, PTZ, Unlock, Stream control, Talk, Audio, Alarm, Color, Favorites, Remember channels
Playback	Max. Channels Can be Opened When Video Playback	4
	Time Period of Video	24 hours
	Features	Snapshot, Record, Faster/Slower play, Play next frame
	Max. Channels Can be Opened When Image Playback	1
Alarm Push	Alarm Type	Motion detect, Camera masking, Local alarm, Disk alarm, Face detection, Ivs alarm
	Push Type	Record, Preview, Image
Minimum System Requirements	OS	gDMSS: Android 3.0 or above; iDMSS: IOS 7.0 or above
	CPU	1GHZ or above
	RAM	1GHZ or above
	Display Resolution	480×800 or above

MOUNTING ACCESSORIES

	Adapter		Housing Bracket			Ceiling Mount	Ceiling/Wall/Plane Mount	Corner Mount
Model	PFA100 / PFA101	PFA103	PFB600W	PFB601W	PFB604W	PFB300C	PFB110W	PFA151
								
	Pipe Thread: G1 1/2"	Pipe Thread: G1 1/2"	14" Housing Ceiling Mount Bracket, for use with PFH610N or PFH610N-IR housings	14" Housing Plane Mount Bracket, for use with PFH610N or PFH610N-IR housings	14" Housing Wall Mount Bracket, for use with PFH610N or PFH610N-IR housings	Pipe Thread: G1 1/2"	Pipe Thread: 1/4"-20 UNC	

	Water-proof Junction Box				
Model	PFA120	PFA121	PFA122	PFA13B	PFA132
					
	Pipe Thread: M20 (G1/2")	Pipe Thread: M20 (G1/2")	Pipe Thread: M20 (G1/2")	Pipe Thread: G3/4"	Pipe Thread: M20 (G1/2")

	Water-proof Junction Box				
Model	PFA134	PFA135	PFA136	PFA137	PFA138
					
	Pipe Thread: M20 (G1/2")	Pipe Thread: M20 (G1/2")	Pipe Thread: M20 (G1/2")	Pipe Thread: M20 (G1/2")	Pipe Thread: G3/4"

	Water-proof Junction Box	Wall Mount				In-ceiling Mount		Parapet Mount
Model	PFA139	PFB121W	PFB202W	PFB203W	PFB204W	PFB200C	PFB201C	PFB303S
								
	Pipe Thread: M20 (G1/2")					Pipe Thread: G3/4"	Pipe Thread: G3/4"	Pipe Thread: G1 1/2"

	Wall Mount			Pole Mount		Power Box
Model	PFB302S	PFB303W	PFB300S	PFA150	PFA152	PFA140
						
	Pipe Thread: G1 1/2", M20 (G1/2")	Pipe Thread: G1 1/2"	Pipe Thread: G1 1/2"			Pipe Thread: M20 (G1/2")

[illegible]

		WALL MOUNT					CEILING MOUNT			JUNCTION BOX		POWER BOX		POLE MOUNT										CORNER MOUNT						PARAPET													
		PFB202W	PFA1 01 + PFB302S	PFA1 03 + PFB302S	PFB300S	PFB303W	PFB200C	PFA1 01 + PFB300C	PFA1 03 + PFB300C	PFB300C	PFA1 37	PFB300S + PFA120	PFB303W + PFA120	PFB300S + PFA140	PFB303W + PFA140	PFB202W + PFA152	PFA1 01 + PFB302S + PFA152	PFA1 03 + PFB302S + PFA152	PFB300S + PFA150	PFB303W + PFA150	PFA1 01 + PFB300C + PFA150	PFA1 03 + PFB300C + PFA150	PFB300C + PFA150	PFB300S + PFA120 + PFA150	PFB303W + PFA120 + PFA150	PFB300S + PFA140 + PFA150	PFB303W + PFA140 + PFA150	PFA1 01 + PFB302S + PFA151	PFA1 03 + PFB302S + PFA151	PFA1 37 + PFA151	PFB300S + PFA151	PFB303W + PFA151	PFB300C + PFA151	PFB300S + PFA120 + PFA151	PFB303W + PFA120 + PFA151	PFB300S + PFA140 + PFA151	PFB303W + PFA140 + PFA151	PFB303S					
	SD22	•					•				•					•														•													
	SD29			•					•								•					•								•													
	SD32		•					•									•				•																						
	SD40					•				•		•		•					•				•	•			•							•				•					
	SD50					•				•		•		•					•				•	•			•							•				•					
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	SD6AL					•				•			•		•					•																•				•			
	SD6C					•				•			•		•					•																	•				•		
		PFB202W	PFA101 + PFB302S	PFA103 + PFB302S	PFB300S	PFB303W	PFB200C	PFA101 + PFB300C	PFA103 + PFB300C	PFB300C	PFA137	PFB300S + PFA120	PFB303W + PFA120	PFB300S + PFA140	PFB303W + PFA140	PFB202W + PFA152	PFA101 + PFB302S + PFA152	PFA103 + PFB302S + PFA152	PFB300S + PFA150	PFB303W + PFA150	PFA101 + PFB300C + PFA150	PFA103 + PFB300C + PFA150	PFB300C + PFA150	PFB300S + PFA120 + PFA150	PFB303W + PFA120 + PFA150	PFB300S + PFA140 + PFA150	PFB303W + PFA140 + PFA150	PFA101 + PFB302S + PFA151	PFA103 + PFB302S + PFA151	PFA137 + PFA151	PFB300S + PFA151	PFB303W + PFA151	PFB300C + PFA151	PFB300S + PFA120 + PFA151	PFB303W + PFA120 + PFA151	PFB300S + PFA140 + PFA151	PFB303W + PFA140 + PFA151	PFB303S					

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