

Quick Reference Guide

CATEGORY	VANDAL DOME CAMERAS																			
	MODEL	IPV4B28X	IPV4E28X	IPV4E40X	IPV4E28BX	IPV428AIX	IPV4M28X	IPVLP428X	IPV4428X	IPV4B212MX	IPV4E212MX	IPV4213MAIX	IPV5E28X	IPV528X	IPV5M28X	IPV5E212MX	IPV5213MX	IPV4KE28X	IPV4K28AIX	IPV4K212MX
Video																				
Resolution	4MP 2560 x 1440	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620	4K (8MP) 3840 x 2160	4K (8MP) 3840 x 2160	4K (8MP) 3840 x 2160
FPS @ Max Resolution	30	25	25	25	30	30	30	25	25	25	30	25	30	30	30	30	30	20	20	20
Lens	Fixed 2.8mm	Fixed 2.8mm	Fixed 4mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	MVF 2.8~12mm	MVF 2.8~12mm	MVF 2.7~13.5mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	MVF 2.8~12mm	MVF 2.7~13.5mm	Fixed 2.8mm	Fixed 2.8mm	MVF 2.8~12mm	
Chipset	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar
Sensor	1/2.9" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/2.7" CMOS	1/3" CMOS	1/2.7" CMOS	1/3" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.8" CMOS
IR LED Max Range	98ft (30M)	98ft (30M)	98ft (30M)	98ft (30M)	98ft (30M)	131ft (40M)	98ft (30M)	98ft (30M)	131ft (40M)	131ft (40M)	131ft (40M)	98ft (30M)	98ft (30M)	131ft (40M)	131ft (40M)	131ft (40M)	98ft (30M)	98ft (30M)	131ft (40M)	
Min Scene Illum (Lux)	0.01 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.002 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.005 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)
WDR	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB
Corridor Mode	n/a	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Video Streams	2	3	3	3	3	3	3	3	2	2	3	2	3	3	2	3	2	3	3	3
General																				
NDA Compliant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Material	Metal	Plastic	Plastic	Plastic	Metal	Metal	Plastic	Metal	Metal	Plastic	Metal	Plastic	Metal	Metal	Plastic	Metal	Metal	Metal	Metal	Metal
Onboard Storage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Alarm I / O	n/a	n/a	n/a	n/a	1 / 1	1 / 1	n/a	1 / 1	n/a	1 / 1	n/a	n/a	1 / 1	n/a	n/a	1 / 1	n/a	1 / 1	1 / 1	1 / 1
Audio I / O	0 / 0 B/I Mic	n/a	n/a	n/a	1 / 1	1 / 1 B/I Mic	n/a	1 / 1 B/I Mic	0 / 0 B/I Mic	1 / 0 B/I Mic	1 / 1 B/I Mic	1 / 0 B/I Mic	1 / 1	1 / 1	1 / 1 B/I Mic	1 / 0 B/I Mic	1 / 1 B/I Mic	0 / 0 B/I Mic	1 / 1 B/I Mic	1 / 1 B/I Mic
Operating Temp Range	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)
Conformity Cert's	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10	IP67, IK10
Power	12VDC / PoE 4W	12VDC / PoE 5.5W	12VDC / PoE 5.5W	12VDC / PoE 5.5W	12VDC / PoE 4.5W	12VDC / PoE 6.5W	12VDC / PoE 6W	12VDC / PoE 9.1W	12VDC / PoE 8W	12VDC / PoE 7.5W	12VDC / PoE 7W	12VDC / PoE 4.5W	12VDC / PoE 7W	12VDC / PoE 7W	12VDC / PoE 6.5W	12VDC / PoE 7.5W	12VDC / PoE 7W	12VDC / PoE 4.5W	12VDC / PoE 6W	12VDC / PoE 9W
SMART Detection Features																				
Motion	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Ultra Motion	n/a	Support	Support	Support	Support	Support	Support	Support	Support	n/a	Support	Support	Support	Support	Support	n/a	Support	Support	Support	Support
Tampering	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Audio	Support	n/a	n/a	n/a	Support	Support	n/a	Support	Support	Support	Support	n/a	Support	Support	Support	Support	Support	Support	Support	Support
Scene Change	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Defocus	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cross Line	Support	Support	Support	Support	n/a	n/a	n/a	n/a	Support	Support	n/a	Support	n/a	n/a	n/a	Support	n/a	Support	n/a	n/a
Enter Area	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a
Leave Area	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a
Intrusion	Support	Support	Support	Support	n/a	n/a	n/a	n/a	Support	Support	n/a	Support	n/a	n/a	n/a	Support	n/a	Support	n/a	n/a
Human Body	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a
Deep Learning SMART Features																				
Smart Intrusion	n/a	n/a	n/a	n/a	Support	Support	Support	Support	n/a	n/a	Support	n/a	Support	Support	Support	n/a	Support	n/a	Support	Support
People Counting	n/a	n/a	n/a	n/a	Support	Support	Support	Support	n/a	n/a	Support	n/a	Support	Support	Support	n/a	Support	n/a	Support	Support
People Flow Counting	n/a	n/a	n/a	n/a	Support	Support	Support	Support	n/a	n/a	Support	n/a	Support	Support	Support	n/a	Support	n/a	Support	Support
Crowd Density Monitoring	n/a	n/a	n/a	n/a	Support	Support	Support	Support	n/a	n/a	Support	n/a	Support	Support	Support	n/a	Support	n/a	Support	Support
Face Capture	n/a	n/a	n/a	n/a	Support	Support	Support	Support	n/a	n/a	Support	n/a	Support	Support	Support	n/a	Support	n/a	Support	Support
Heat Map	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Auto Tracking	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Panoramic Linkage	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Color Retrieval	n/a	n/a	n/a	n/a	n/a	Support	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a

CATEGORY	TURRET CAMERAS																			
MODEL	IPT4B28X	IPT4E28X	IPT428AIX	IPT4M28X	IPT440AIX	IPT4B212MX	IPT4E212MX	IPT4213MAIX	IPT5E28X	IPT5180X	IPT5C28X	IPT528AIX	IPT5M28X	IPT5213MX	IPT4KE28X	IPT4K28AIX	IPT4K28TAIX	IPT4K212MX	IPT4K28AIBX	IPT4KE28BX
Video																				
Resolution	4MP 2560 x 1440	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620	4K (8MP) 3840 x 2160	4K (8MP) 3840 x 2160	4K (8MP) 3840 x 2160	4K (8MP) 3840 x 2160	4K (8MP) 3840 x 2160	4K (8MP) 3840 x 2160
FPS @ Max Resolution	30	30	30	30	30	25	25	30	25	30	25	30	30	25	20	20	20	20	20	20
Lens	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 4mm	MVF 2.8~12mm	MVF 2.8~12mm	MVF 2.7~13.5mm	Fixed 2.8mm	Pano 1.68mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	MVF 2.7~13.5mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	MVF 2.8~12mm	Fixed 2.8mm	Fixed 2.8mm
Chipset	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar
Sensor	1/2.9" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.8" CMOS	1/2.7" CMOS	1/2.7" CMOS
IR LED Max Range	98ft (30M)	98ft (30M)	98ft (30M)	131ft (40M)	98ft (30M)	131ft (40M)	131ft (40M)	131ft (40M)	98ft (30M)	66ft (20M)	98ft (30M)	98ft (30M)	131ft (40M)	131ft (40M)	98ft (30M)	98ft (30M)	98ft (30M)	131ft (40M)	98ft (30M)	98ft (30M)
Min Scene Illum (Lux)	0.01 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.002 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.002 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.01 (Col); 0 (BW, w/ IR)	0.001 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.002 (Col); 0 (BW, w/ IR)	0.002 (Col); 0 (BW, w/ IR)	0.005 (Col); 0 (BW, w/ IR)	0.01 (Col); 0 (BW, w/ IR)	0.0025 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.01 (Col); 0 (BW, w/ IR)	0.005 (Col); 0 (BW, w/ IR)
WDR	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB
Corridor Mode	n/a	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Video Streams	2	3	3	3	3	2	2	3	2	3	3	3	3	3	2	3	3	3	3	2
General																				
NDA Compliant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Material	Metal	Plastic	Metal	Metal	Metal	Metal	Plastic	Metal	Plastic	Metal	Metal	Metal	Metal	Metal	Plastic	Metal	Metal	Metal	Metal	Metal
Onboard Storage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	n/a	Yes	Yes	Yes	Yes	Yes
Alarm I / O	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Audio I / O	0 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	0 / 0 B/I Mic	1 / 0 B/I Mic	0 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	B/I Mic & Spkr	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic
Operating Temp Range	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)
Conformity Cert's	IP67	IP67	IP67	IP67	IP67	IP67	IP67, IK10	IP67, IK10	IP67	IP67, IK10	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67, IK10	IP67	IP67
Power	12VDC / PoE 4W	12VDC / PoE 6W	12VDC / PoE 4W	12VDC / PoE 6.5W	12VDC / PoE 4W	12VDC / PoE 7.5W	12VDC / PoE 8W	12VDC / PoE 7W	12VDC / PoE 6W	12VDC / PoE 5.5W	12VDC / PoE 7W	12VDC / PoE 9W	12VDC / PoE 6.5W	12VDC / PoE 7W	12VDC / PoE 4.5W	12VDC / PoE 5W	12VDC / PoE 8W	12VDC / PoE 8W	12VDC / PoE 5W	12VDC / PoE 4.5W
SMART Detection Features																				
Motion	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Ultra Motion	Support	Support	Support	Support	Support	Support	n/a	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Tampering	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Audio	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Scene Change	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Defocus	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cross Line	n/a	Support	n/a	n/a	n/a	Support	Support	n/a	Support	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a	n/a	n/a	Support
Enter Area	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Leave Area	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Intrusion	n/a	Support	n/a	n/a	n/a	Support	Support	n/a	Support	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a	n/a	n/a	Support
Deep Learning SMART Features																				
Smart Intrusion	n/a	n/a	Support	Support	Support	n/a	n/a	Support	n/a	Support	Support	Support	Support	Support	n/a	Support	Support	Support	Support	n/a
People Counting	n/a	n/a	Support	Support	Support	n/a	n/a	Support	n/a	n/a	Support	Support	Support	Support	n/a	Support	Support	Support	Support	n/a
People Flow Counting	n/a	n/a	Support	Support	Support	n/a	n/a	Support	n/a	n/a	Support	Support	Support	Support	n/a	Support	Support	Support	Support	n/a
Crowd Density Monitoring	n/a	n/a	Support	Support	Support	n/a	n/a	Support	n/a	n/a	Support	Support	Support	Support	n/a	Support	Support	Support	Support	n/a
Face Capture	n/a	n/a	Support	Support	Support	n/a	n/a	Support	n/a	n/a	Support	Support	Support	Support	n/a	Support	Support	Support	Support	n/a
Color Retrieval	n/a	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a

CATEGORY	IP BULLET CAMERAS																
	MODEL	IP1PRB2447MX	IP4B428X	IP4E28X	IP4B28AIX	IP4B4212MX	IP4B4213MAIX	IP4B6143MX	IPB5E40X	IPB528X	IPB5M28X	IPB5E212MX	IPB5213MX	IPB5180X	IPB4KE28X	IPB4K28AIX	IPB4K212MX
Video																	
Resolution	2MP 1920 x 1080	4MP 2560 x 1440	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	4MP 2688 x 1520	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620	4K (8MP) 3840 x 2160	4K (8MP) 3840 x 2160	4K (8MP) 3840 x 2160
FPS @ Max Resolution	60	30	25	30	25	30	30	25	25	30	25	30	25	30	20	20	20
Lens	MVF 4.7 ~ 47mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	MVF 2.8~12mm	MVF 2.7~13.5mm	MVF 6.5~143mm	Fixed 4mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	MVF 2.8~12mm	MVF 2.7~13.5mm	Pano 1.68mm	Fixed 2.8mm	Fixed 2.8mm	MVF 2.8~12mm
Chipset	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar	Mstar
Sensor	1/2.8" CMOS	1/2.9" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/3" CMOS	1/2.8" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.8" CMOS
IR LED Max Range	164ft (50M)	98ft (30M)	164ft (50M)	131ft (40M)	164ft (50M)	164ft (50M)	492ft (150M)	164ft (50M)	131ft (40M)	262ft (80M)	164ft (50M)	164ft (50M)	66ft (20M)	98ft (30M)	98ft (30M)	164ft (50M)	164ft (50M)
Min Scene Illum (Lux)	0.001 (Col); 0 (BW, w/ IR)	0.01 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.01 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.002 (Col); 0 (BW, w/ IR)	0.0005 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.002 (Col); 0 (BW, w/ IR)	0.002 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.002 (Col); 0 (BW, w/ IR)	0.01 (Col); 0 (BW, w/ IR)	0.005 (Col); 0 (BW, w/ IR)	0.01 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)
WDR	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB	120dB
Corridor Mode	n/a	n/a	Yes	Yes	Yes	Yes	Yes	Yes	n/a	Yes	Yes	Yes	Yes	n/a	Yes	Yes	Yes
Video Streams	3	2	2	3	2	3	3	2	3	3	2	3	3	3	3	3	3
General																	
NDA Compliant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Material	Metal	Plastic	Plastic	Plastic	Plastic	Metal	Metal	Plastic	Plastic	Plastic	Metal	Plastic	Metal	Metal	Plastic	Plastic	Metal
Onboard Storage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Alarm I / O	2 / 1	n/a	n/a	n/a	n/a	n/a	1 / 1	2 / 1	n/a	n/a	1 / 1	n/a	1 / 1	n/a	n/a	n/a	1 / 1
Audio I / O	1 / 1	0 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	0 / 0 B/I Mic	1 / 1	1 / 1	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 1 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 0 B/I Mic	1 / 1 B/I Mic & Spkr	1 / 1
Operating Temp Range	-40°C ~ 60°C (-40°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-40°C ~ 60°C (-40°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)
Conformity Cert's	IP67, IK10	IP67	IP67	IP67	IP67	IP67	IP67, IK10	IP67	IP67	IP67	IP67	IP67, IK10	IP67	IP67	IP67	IP67	IP67
Power	12VDC / PoE 20W	12VDC / PoE 5.5W	12VDC / PoE 6W	12VDC / PoE 4W	12VDC / PoE 9.6W	12VDC / PoE 8.5W	12VDC / PoE 21W	12VDC / PoE 6W	12VDC / PoE 5W	12VDC / PoE 10W	12VDC / PoE 8.5W	12VDC / PoE 8W	12VDC / PoE 5.5W	12VDC / PoE 6.5W	12VDC / PoE 10.5W	12VDC / PoE 10.5W	
SMART Detection Features																	
Motion	n/a	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Ultra Motion	n/a	n/a	Support	Support	Support	n/a	Support	n/a	Support	Support	Support	n/a	Support	Support	Support	Support	Support
Tampering	n/a	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Audio	n/a	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Scene Change	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Defocus	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cross Line	n/a	Support	Support	n/a	Support	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a	n/a	Support	n/a	n/a
Enter Area	n/a	Support	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Leave Area	n/a	Support	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Intrusion	n/a	Support	Support	n/a	Support	n/a	n/a	Support	n/a	n/a	Support	n/a	n/a	n/a	Support	n/a	n/a
Human Body	n/a	Support	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Deep Learning SMART Features																	
Smart Intrusion	n/a	n/a	n/a	Support	n/a	Support	Support	n/a	Support	Support	Support	n/a	Support	Support	n/a	Support	Support
People Counting	n/a	n/a	n/a	Support	n/a	Support	Support	n/a	Support	Support	Support	n/a	Support	n/a	Support	Support	Support
People Flow Counting	n/a	n/a	n/a	Support	n/a	Support	Support	n/a	Support	Support	Support	n/a	Support	n/a	Support	Support	Support
Crowd Density Monitoring	n/a	n/a	n/a	Support	n/a	Support	Support	n/a	Support	Support	Support	n/a	Support	n/a	Support	Support	Support
Face Capture	n/a	n/a	n/a	Support	n/a	Support	Support	n/a	Support	Support	Support	n/a	Support	n/a	Support	Support	Support
Color Retrieval	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Support	n/a	n/a	n/a	n/a	n/a	n/a	n/a

CATEGORY					FISHEYE		
MODEL	IPCS2428X	IPCS2425X	IPCS254X	IPCS24K25X	MODEL	IPFE5360X	IPFE12360X
Video							
Resolution	2MP 1920 x 1080	4MP 2688 x 1520	5MP 2880 x 1620	4K (8MP) 3840 x 2160	Resolution	5MP 2592 x 1944	12MP 4000 x 3000
FPS @ Max Resolution	25	30	30	30	FPS @ Max Resolution	30	20
Lens	Fixed 2.8mm & MVF 4x, 2.8~12mm	MVF 25x 4.8~120mm	MVF 4x 2.8~12mm	MVF 25x 6~150mm	Lens	Fixed 1.4mm Pano	Fixed 1.8mm Pano
Chipset	Mstar	Mstar	Mstar	Mstar	Chipset	Mstar	Mstar
Sensor	1/2.8" CMOS	1/2.8" CMOS	1/2.7" CMOS	1/1.8" CMOS	Sensor	1/2.8" CMOS	1/1.7" CMOS
IR LED Max Range	164ft (50M)	328ft (100M)	164ft (50M)	656ft (200M)	IR LED Max Range	33ft (10M)	49ft (15M)
Min Scene Illum (Lux)	0.002 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)	Min Scene Illum (Lux)	0.01 (Col); 0 (BW, w/ IR)	0.003 (Col); 0 (BW, w/ IR)
WDR	120dB	120dB	120dB	Digital	WDR	120dB	Digital
Corridor Mode	Yes	n/a	n/a	n/a	Corridor Mode	n/a	n/a
Video Streams	2	3	3	3	Video Streams	3	3
General							
NDAA Compliant	Yes	Yes	Yes	Yes	NDAA Compliant	Yes	Yes
Material	Metal	Metal	Metal	Metal	Material	Metal	Metal
Onboard Storage	n/a	Yes	Yes	Yes	Onboard Storage	Yes	Yes
Alarm I / O	n/a	2 / 1	1 / 1	2 / 1	Alarm I / O	1 / 1	2 / 1
Audio I / O	B/I Spkr & 2 x Mic	1 / 1	B/I Mic & Spkr	1 / 1	Audio I / O	1 / 1 B/I Mic	1 / 1 B/I Mic & Spkr
Operating Temp Range	-20°C ~ 60°C (-4°F ~ 140°F)	-40°C ~ 70°C (-40°F ~ 158°F)	-20°C ~ 60°C (-4°F ~ 140°F)	-40°C ~ 65°C (-40°F ~ 149°F)	Operating Temp Range	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)
Conformity Cert's	IP66	IP67, IK10	IP66	IP66	Conformity Cert's	IP67, IK10	IP67, IK10
Power	12VDC / PoE 16W	12VDC / PoE 21W	12VDC / PoE 18W	24VAC/24VDC/PoE (Injector Req'd) 60W	Power	12VDC / PoE 8.5W	12VDC / PoE 12W
SMART Detection Features							
Motion	Support	Support	Support	Support	Motion	Support	Support
Ultra Motion	n/a	n/a	n/a	n/a	Ultra Motion	n/a	n/a
Tampering	n/a	Support	Support	Support	Tampering	Support	Support
Audio	Support	Support	Support	Support	Audio	Support	Support
Heat Map	n/a	n/a	n/a	n/a	Heat Map	Support	n/a
Deep Learning SMART Features							
Smart Intrusion	Support	Support	Support	Support	Smart Intrusion	n/a	Support
People Counting	Support	Support	Support	Support	People Counting	n/a	n/a
People Flow Counting	Support	Support	Support	Support	People Flow Counting	n/a	n/a
Crowd Density Monitoring	n/a	Support	Support	Support	Crowd Density Monitoring	n/a	n/a
Face Capture	n/a	Support	Support	Support	Face Capture	n/a	n/a
Heat Map	n/a	n/a	n/a	n/a	Heat Map	n/a	Support
Auto Tracking	n/a	Support	Support	Support	Auto Tracking	n/a	n/a
Panoramic Linkage	Support	n/a	n/a	n/a	Panoramic Linkage	n/a	n/a

CATEGORY	NETWORK VIDEO RECORDERS (NVR)									
	NRD41XP	NRD81XP	NR162XPC	NR164X	NR324XPC	NR648XC	NR6416	NR12816	NR12824	NR25624
MODEL										
Alarm In	n/a	n/a	8-ch	16-ch	16-ch	16-ch	24-ch	24-ch	24-ch	24-ch
Alarm Out	n/a	n/a	2-ch	4-ch	4-ch	10-ch	8-ch	8-ch	8-ch	8-ch
Decoding Card Slots (optional)	n/a	n/a	n/a	n/a	n/a	n/a	2 Slots	2 Slots	n/a	n/a
Power Output	n/a	n/a	n/a	n/a	n/a	n/a	12V	12V	n/a	n/a
Port										
Interface	4 x RJ-45 10M/100M self-adaptive Ethernet Interface	8 x RJ-45 10M/100M self-adaptive Ethernet Interface	16 x RJ-45 10M/100M self-adaptive Ethernet Interface	n/a	16 x RJ-45 10M/100M self-adaptive Ethernet Interface	n/a	n/a	n/a	n/a	n/a
Maximum Power	Max 30W for single port Max 50W in total	Max 30W for single port Max 75W in total	Max 30W for single port Max 240W in total	n/a	Max 30W for single port Max 150W in total	n/a	n/a	n/a	n/a	n/a
Supported Standard	IEEE 802.3af/at	IEEE 802.3af/at	IEEE 802.3af/at	n/a	IEEE 802.3af/at	n/a	n/a	n/a	n/a	n/a
Compliant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NDAA Compliant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Power Supply	48V DC / 1.35A Power Consumption: ≤ 10W (without HDD)	53V DC / 1.8A Power Consumption: ≤ 10W (without HDD)	100 ~ 240V AC Power Consumption: ≤ 20W (without HDD)	100 ~ 240V AC Power Consumption: ≤ 25W (without HDD)	100 ~ 240V AC Power Consumption: ≤ 20W (without HDD)	100 ~ 240V AC Power Consumption: ≤ 50W (without HDD)	100 ~ 240V AC Power Consumption: ≤ 50W (without HDD)	100 ~ 240V AC Power Consumption: ≤ 50W (without HDD)	100 ~ 240V AC Power Consumption: ≤ 70W (without HDD)	100 ~ 240V AC Power Consumption: ≤ 70W (without HDD)
Working Environment	-10°C ~ +55°C (+14°F ~ +131°F) Humidity ≤ 90% RH (non-condensing)	-10°C ~ +55°C (+14°F ~ +131°F) Humidity ≤ 90% RH (non-condensing)	-10°C ~ +55°C (+14°F ~ +131°F) Humidity ≤ 90% RH (non-condensing)	-10°C ~ +55°C (+14°F ~ +131°F) Humidity ≤ 90% RH (non-condensing)	-10°C ~ +55°C (+14°F ~ +131°F) Humidity ≤ 90% RH (non-condensing)	-10°C ~ +55°C (+14°F ~ +131°F) Humidity ≤ 90% RH (non-condensing)	-10°C ~ +55°C (+14°F ~ +131°F) Humidity ≤ 90% RH (non-condensing)	-10°C ~ +55°C (+14°F ~ +131°F) Humidity ≤ 90% RH (non-condensing)	-10°C ~ +55°C (+14°F ~ +131°F) Humidity ≤ 90% RH (non-condensing)	-10°C ~ +55°C (+14°F ~ +131°F) Humidity ≤ 90% RH (non-condensing)
Dimensions	205mm × 212mm × 46mm (8.1" × 8.3" × 1.8")	205mm × 212mm × 46mm (8.1" × 8.3" × 1.8")	380mm × 322mm × 53mm (15.0" × 12.7" × 2.1")	442mm × 426mm × 89mm (17.4" × 16.8" × 3.5")	400mm × 368mm × 74mm (15.7" × 14.5" × 2.9")	442mm × 448mm × 93mm (17.4" × 17.6" × 3.7")	482mm × 477mm × 131mm (18.8" × 19.0" × 5.1")	482mm × 477mm × 131mm (18.8" × 19.0" × 5.1")	533mm × 484.6mm × 175.5mm (21.0" × 19.1" × 6.9")	533mm × 484.6mm × 175.5mm (21.0" × 19.1" × 6.9")
Weight	≤ 0.98Kg (2.16lb)	≤ 0.98Kg (2.16lb)	≤ 2.6Kg (5.73lb)	≤ 5.7Kg (12.57lb)	≤ 4Kg (8.82lb)	≤ 6Kg (13.23lb)	≤ 10 Kg (22.05 lb)	≤ 10 Kg (22.05 lb)	≤ 12.5 Kg (27.56 lb)	≤ 12.5 Kg (27.56 lb)
Certifications	FCC, CE (UL – Power Supply only)	FCC, CE (UL – Power Supply only)	FCC, CE (UL – Power Supply only)	FCC, CE (UL – Power Supply only)	FCC, CE (UL – Power Supply only)	FCC, CE (UL – Power Supply only)	FCC, CE (UL – Power Supply only)	FCC, CE (UL – Power Supply only)	FCC, CE (UL – Power Supply only)	FCC, CE (UL – Power Supply only)
SMART Features										
Face Detection (Capture)	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Intrusion Detection	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Cross Line Detection	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Audio Detection	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Human Body Detection	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
VCA Playback/Backup	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Face Search	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Behavior Search	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
People Counting (Regular)	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
People Flow Counting (Deep Learning)	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Crowd Density Monitoring (Deep Learning)	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Intelligent Mark	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Scene Change Detection	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Defocus Detection	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Auto Tracking	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Face Recognition by Camera	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Face Recognition by NVR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Vehicle Recognition by Camera	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Heat Map	n/a	n/a	Support	n/a	n/a	Support	n/a	n/a	n/a	n/a
Object Left Behind	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Object Removed	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
SIP by Camera	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
SIP by NVR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
UMD by Camera	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
UMD by NVR (w/ UVT IPC)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Dual-lens Cameras	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Box-Dome Linkage	Support	Support	Support	Support	Support	Support	Support	Support	Support	Support
Thermal Imaging Cameras (Fire Detection, Smoking Detection, Temperature Measurement, Smoking and Fire Detection)	n/a	n/a	n/a	Support	n/a	n/a	Support	Support	Support	Support
Non-Economic Fisheye configuration	n/a	n/a	n/a	Support	n/a	n/a	Support	Support	Support	Support
Dewarping by NVR	n/a	n/a	Support	Support	Support	Support	Support	Support	n/a	n/a
Color Attributes Search by NVR	n/a	n/a	Support	Support	Support	Support	Support	Support	Support	Support

CATEGORY	AHD TURRET CAMERAS					
MODEL	UHDT228X	UHDT2EC28X	UHDT2C28X	UHDT528X	UHDT5EC28X	UHDT5C28X
Video						
Resolution	2MP 1920 x 1080	2MP 1920 x 1080	2MP 1920 x 1080	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620
Protocol	TVI / AHD / CVI / CVBS	TVI / AHD / CVI / CVBS	TVI / AHD / CVI / CVBS	TVI / AHD / CVI / CVBS	TVI / AHD / CVI / CVBS	TVI / AHD / CVI / CVBS
Frame Rates	TVI / AHD / CVI: 1080P @ 30fps, 1080P @ 25fps; 720P @ 30fps, 720P @ 25fps CVBS: NTSC, PAL	TVI / AHD / CVI: 1080P @ 30fps, 1080P @ 25fps; 720P @ 30fps, 720P @ 25fps CVBS: NTSC, PAL	TVI / AHD / CVI: 1080P @ 25fps, 1080P @ 25fps; 720P @ 30fps, 720P @ 25fps CVBS: NTSC, PAL	TVI: 5MP @ 20fps, 5MP @ 12.5fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps AHD: 5MP @ 20fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps CVI: 5MP @ 25fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps CVBS: NTSC, PAL	TVI: 5MP @ 20fps, 5MP @ 12.5fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps AHD: 5MP @ 20fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps CVI: 5MP @ 25fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps CVBS: NTSC, PAL	TVI: 5MP @ 20fps, 5MP @ 12.5fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps AHD: 5MP @ 20fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps CVI: 5MP @ 25fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps CVBS: NTSC, PAL
Lens	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm
Chipset	Fullhan	Fullhan	Fullhan	Fullhan	Fullhan	Fullhan
Sensor	1/3" CMOS	1/3" CMOS	1/2.9" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS
IR LED Max Range	65ft (20M)	n/a	n/a	65ft (20M)	n/a	n/a
White Light Illuminators Range	n/a	One; 65ft (20M)	Two; 130ft (40M)	n/a	One; 65ft (20M)	Two; 130ft (40M)
Min Scene Illum (Lux)	0.02 (Col); 0 (BW, w/ IR)	0.02 (Col); 0 (BW, w/ white light on)	0.005 (Col); 0 (BW, w/ white light on)	0.02 (Col); 0 (BW, w/ IR)	0.02 (Col); 0 (BW, w/ white light on)	0.005 (Col); 0 (BW, w/ white light on)
WDR	Digital	Digital	Digital	Digital	Digital	Digital
General						
NDAA Compliant	Yes	Yes	Yes	Yes	Yes	Yes
Material	Plastic	Plastic	Metal	Plastic	Plastic	Metal
Power Interface	5.5mm Barrel	5.5mm Barrel	5.5mm Barrel	5.5mm Barrel	5.5mm Barrel	5.5mm Barrel
Video Output	BNC	BNC	BNC	BNC	BNC	BNC
Alarm I / O	n/a	n/a	n/a	n/a	n/a	n/a
Audio I / O	n/a	n/a	1 / 0 B/I Mic	n/a	n/a	1 / 0 B/I Mic
Operating Temp Range	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)
Conformity Cert's	IP67	IP67	IP67	IP67	IP67	IP67
Power	12VDC 2.88W	12VDC 2.4W	12VDC 3.12W	12VDC 3.6W	12VDC 2.4W	12VDC 3.28W
CATEGORY	UHDB528X Series					
MODEL	UHDB228X	UHDB2EC28X	UHDB2C28X	UHDB528X	UHDB5EC28X	UHDB5C28X
Video						
Resolution	2MP 1920 x 1080	2MP 1920 x 1080	2MP 1920 x 1080	5MP 2880 x 1620	5MP 2880 x 1620	5MP 2880 x 1620
Protocol	TVI / AHD / CVI / CVBS	TVI / AHD / CVI / CVBS	TVI / AHD / CVI / CVBS	TVI / AHD / CVI / CVBS	TVI / AHD / CVI / CVBS	TVI / AHD / CVI / CVBS
Frame Rates	TVI / AHD / CVI: 1080P @ 30fps, 1080P @ 25fps; 720P @ 30fps, 720P @ 25fps CVBS: NTSC, PAL	TVI / AHD / CVI: 1080P @ 30fps, 1080P @ 25fps; 720P @ 30fps, 720P @ 25fps CVBS: NTSC, PAL	TVI / AHD / CVI: 1080P @ 25fps, 1080P @ 25fps; 720P @ 30fps, 720P @ 25fps CVBS: NTSC, PAL	TVI: 5MP @ 20fps, 5MP @ 12.5fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps AHD: 5MP @ 20fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps CVI: 5MP @ 25fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps CVBS: NTSC, PAL	TVI: 5MP @ 20fps, 5MP @ 12.5fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps AHD: 5MP @ 20fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps CVI: 5MP @ 25fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps CVBS: NTSC, PAL	TVI: 5MP @ 20fps, 5MP @ 12.5fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps AHD: 5MP @ 20fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps CVI: 5MP @ 25fps, 4MP @ 30fps, 4MP @ 25fps, 1080P @ 30fps, 1080P @ 25fps CVBS: NTSC, PAL
Lens	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm	Fixed 2.8mm
Chipset	Fullhan	Fullhan	Fullhan	Fullhan	Fullhan	Fullhan
Sensor	1/3" CMOS	1/3" CMOS	1/2.9" CMOS	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS
IR LED Max Range	65ft (20M)	n/a	n/a	65ft (20M)	n/a	n/a
White Light Illuminators Range	n/a	One; 65ft (20M)	Two; 130ft (40M)	n/a	One; 65ft (20M)	Two; 130ft (40M)
Min Scene Illum (Lux)	0.02 (Col); 0 (BW, w/ IR)	0.02 (Col); 0 (BW, w/ white light on)	0.005 (Col); 0 (BW, w/ white light on)	0.02 (Col); 0 (BW, w/ IR)	0.02 (Col); 0 (BW, w/ white light on)	0.005 (Col); 0 (BW, w/ white light on)
WDR	Digital	Digital	Digital	Digital	Digital	Digital
General						
NDAA Compliant	Yes	Yes	Yes	Yes	Yes	Yes
Material	Plastic	Plastic	Metal	Plastic	Plastic	Metal
Power Interface	5.5mm Barrel	5.5mm Barrel	5.5mm Barrel	5.5mm Barrel	5.5mm Barrel	5.5mm Barrel
Video Output	BNC	BNC	BNC	BNC	BNC	BNC
Alarm I / O	n/a	n/a	n/a	n/a	n/a	n/a
Audio I / O	n/a	n/a	1 / 0 B/I Mic	n/a	n/a	1 / 0 B/I Mic
Operating Temp Range	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)	-30°C ~ 60°C (-22°F ~ 140°F)
Conformity Cert's	IP67	IP67	IP67	IP67	IP67	IP67
Power	12VDC 2.88W	12VDC 2.44W	12VDC 3.12W	12VDC 3.6W	12VDC 2.4W	12VDC 3.28W

CATEGORY	AHD HYBRID VIDEO RECORDERS (HVR)			
	HNR041X	HNR081X	HNR162X	HNR322X
MODEL				
Video & Audio Inputs				
Analog Video	4-ch, BNC	8-ch, BNC	16-ch, BNC	32-ch, BNC
IP Video	2-ch (only IP up to 6-ch), each channel up to 4MP	4-ch (only IP up to 12-ch), each channel up to 8MP	8-ch (only IP up to 24-ch), each channel up to 8MP	4-ch (only IP up to 36-ch), each channel up to 8MP
Supported Analog Camera Types	AHD Input: 8MP @ 15fps, 5MP @ 20fps, 4MP @ 30fps, 1080p @ 30fps, 720p @ 30fps TVI Input: 8MP @ 15fps, 5MP @ 20fps, 4MP @ 30fps, 1080p @ 30fps, 720p @ 30fps CVI Input: 8MP @ 15fps, 5MP @ 25fps, 4MP @ 30fps, 1080p @ 30fps, 720p @ 30fps CVBS Input	AHD Input: 8MP @ 15fps, 5MP @ 20fps, 4MP @ 30fps, 1080p @ 30fps, 720p @ 30fps TVI Input: 8MP @ 15fps, 5MP @ 20fps, 4MP @ 30fps, 1080p @ 30fps, 720p @ 30fps CVI Input: 8MP @ 15fps, 5MP @ 25fps, 4MP @ 30fps, 1080p @ 30fps, 720p @ 30fps CVBS Input	AHD Input: 8MP @ 15fps, 5MP @ 20fps, 4MP @ 30fps, 1080p @ 30fps, 720p @ 60fps TVI Input: 8MP @ 15fps, 5MP @ 20fps, 4MP @ 30fps, 1080p @ 30fps, 720p @ 60fps CVI Input: 8MP @ 15fps, 5MP @ 25fps, 4MP @ 30fps, 1080p @ 30fps, 720p @ 60fps CVBS Input	AHD Input: 8MP @ 15fps, 5MP @ 20fps, 4MP @ 30fps, 1080p @ 30fps, 720p @ 60fps TVI Input: 8MP @ 15fps, 5MP @ 20fps, 4MP @ 30fps, 1080p @ 30fps, 720p @ 60fps CVI Input: 8MP @ 15fps, 5MP @ 25fps, 4MP @ 30fps, 1080p @ 30fps, 720p @ 60fps CVBS Input
Audio	1-ch, RCA	1-ch, RCA	1-ch, RCA	1-ch, RCA
Audio Compression	G.711U	G.711U	G.711U	G.711U
Video & Audio Outputs				
CVBS Output	1-ch, BNC	1-ch, BNC	1-ch, BNC	1-ch, BNC
VGA Output	1920 x 1080p / 60Hz, 1920 x 1080p / 50Hz, 1600 x 1200 / 60Hz, 1280 x 1024 / 60Hz, 1280 x 720 / 60Hz, 1024 x 768 / 60Hz	1920 x 1080p / 60Hz, 1920 x 1080p / 50Hz, 1600 x 1200 / 60Hz, 1280 x 1024 / 60Hz, 1280 x 720 / 60Hz, 1024 x 768 / 60Hz	1920 x 1080p / 60Hz, 1920 x 1080p / 50Hz, 1600 x 1200 / 60Hz, 1280 x 1024 / 60Hz, 1280 x 720 / 60Hz, 1024 x 768 / 60Hz	1920 x 1080p / 60Hz, 1920 x 1080p / 50Hz, 1600 x 1200 / 60Hz, 1280 x 1024 / 60Hz, 1280 x 720 / 60Hz, 1024 x 768 / 60Hz
HDMI Output	3840 x 2160 / 30Hz, 1920 x 1080p / 60Hz, 1920 x 1080p / 50Hz, 1600 x 1200 / 60Hz, 1280 x 1024 / 60Hz, 1280 x 720 / 60Hz, 1024 x 768 / 60Hz	3840 x 2160 / 30Hz, 1920 x 1080p / 60Hz, 1920 x 1080p / 50Hz, 1600 x 1200 / 60Hz, 1280 x 1024 / 60Hz, 1280 x 720 / 60Hz, 1024 x 768 / 60Hz	3840 x 2160 / 30Hz, 1920 x 1080p / 60Hz, 1920 x 1080p / 50Hz, 1600 x 1200 / 60Hz, 1280 x 1024 / 60Hz, 1280 x 720 / 60Hz, 1024 x 768 / 60Hz	3840 x 2160 / 30Hz, 1920 x 1080p / 60Hz, 1920 x 1080p / 50Hz, 1600 x 1200 / 60Hz, 1280 x 1024 / 60Hz, 1280 x 720 / 60Hz, 1024 x 768 / 60Hz
Audio Output	1-ch, RCA	1-ch, RCA	1-ch, RCA	1-ch, RCA
Synchronous Playback	4	8	16	16
Live view display	HDMI / VGA: 1 / 4 / 6 / 8 / 9	HDMI / VGA: 1 / 4 / 6 / 8 / 9 / 16	HDMI / VGA: 1 / 4 / 6 / 8 / 9 / 16 / 25	HDMI / VGA: 1 / 4 / 6 / 8 / 9 / 16 / 25 / 36
Two-way Audio	1-ch, RCA	1-ch, RCA	1-ch, RCA	1-ch, RCA
Snapshot				
FTP / Schedule / Event Snapshot Network	n/a	n/a	n/a	32-ch snapshot, up to 704 x 576 resolution
Incoming Bandwidth	40Mbps (Up to 48Mbps after all analog channel conversion)	40Mbps (Up to 56Mbps after all analog channel conversion)	80Mbps (Up to 112Mbps after all analog channel conversion)	80Mbps (Up to 144Mbps after all analog channel conversion)
Outgoing Bandwidth	48Mbps	64Mbps	160Mbps	160Mbps
Remote Users	128	128	128	128
Protocols	TCP/IP, P2P, UPnP, DHCP, HTTP, HTTPS, DNS, DDNS, SMTP	TCP/IP, P2P, UPnP, DHCP, HTTP, HTTPS, DNS, DDNS, SMTP	TCP/IP, P2P, UPnP, NTP, DHCP, PPPoE, HTTP, HTTPS, DNS, DDNS, SMTP	TCP/IP, P2P, UPnP, NTP, DHCP, PPPoE, HTTP, HTTPS, DNS, DDNS, SMTP
Supported Browsers	IE (IE10/11) for Windows Firefox (version 52.0 and above) for Windows Chrome (version 45 and above) for Windows Edge (version 79 and above) for Windows	IE (IE10/11) for Windows Firefox (version 52.0 and above) for Windows Chrome (version 45 and above) for Windows Edge (version 79 and above) for Windows	IE (IE10/11) for Windows Firefox (version 52.0 and above) for Windows Chrome (version 45 and above) for Windows Edge (version 79 and above) for Windows	IE (IE10/11) for Windows Firefox (version 52.0 and above) for Windows Chrome (version 45 and above) for Windows Edge (version 79 and above) for Windows
Encoding				
Recording Resolution	8MP Lite / 5MP Lite / 4MP Lite / 1080P / 720P / CIF	8MP Lite / 5MP Lite / 4MP Lite / 1080P / 720P / CIF	8MP Lite / 5MP Lite / 4MP Lite / 1080P / 720P / CIF	8MP Lite / 5MP Lite / 4MP Lite / 1080P / 720P / CIF
Recording Frame Rate	Main Stream: 8MP Lite @ 8fps, 5MP Lite @ 12fps, 4MP Lite @ 15fps, 1080p @ 15fps, 720p @ 30fps Sub-Stream: D1 @ 8fps, D1 @ 12fps, D1 @ 15fps, D1 @ 15fps, D1 @ 30fps	Main Stream: 8MP Lite @ 8fps, 5MP Lite @ 12fps, 4MP Lite @ 15fps, 1080p @ 15fps, 720p @ 30fps Sub-Stream: D1 @ 8fps, D1 @ 12fps, D1 @ 15fps, D1 @ 15fps, D1 @ 30fps	Main Stream: 8MP Lite @ 8fps, 5MP Lite @ 12fps, 4MP Lite @ 15fps, 1080p @ 15fps, 720p @ 30fps Sub-Stream: D1 @ 8fps, D1 @ 12fps, D1 @ 15fps, D1 @ 15fps, D1 @ 30fps	Main Stream: 8MP Lite @ 8fps, 5MP Lite @ 12fps, 4MP Lite @ 15fps, 1080p @ 15fps, 720p @ 30fps Sub-Stream: D1 @ 8fps, D1 @ 12fps, D1 @ 15fps, D1 @ 15fps, D1 @ 30fps
Audio Sample Rate	8KHz, 16 bit per channel	8KHz, 16 bit per channel	8KHz, 16 bit per channel	8KHz, 16 bit per channel
Audio Bit Rate	64Kbps per channel	64Kbps per channel	64Kbps per channel	64Kbps per channel
Decoding				
Frame Rate Capability	Analog: 4 x 8MP Lite @ 8, 4 x 5MP Lite @ 12, 4 x 4MP Lite @ 15, 4 x 1080P @ 15 IP: 1 x 4MP @ 30, 2 x 1080p @ 30	Analog: 8 x 8MP Lite @ 8, 8 x 5MP Lite @ 12, 8 x 4MP Lite @ 15, 8 x 1080P @ 15 IP: 1 x 8MP @ 30, 2 x 4MP @ 30, 4 x 1080p @ 30	Analog: 16 x 8MP Lite @ 8, 16 x 5MP Lite @ 12, 16 x 4MP Lite @ 15, 16 x 1080P @ 15, 16 x 720P @ 30 IP: 24 x D1 @ 30, 16 x 720P @ 30, 8 x 1080P @ 30	Analog: 16 x 8MP Lite @ 8, 16 x 5MP Lite @ 12, 16 x 4MP Lite @ 15, 16 x 1080P @ 15, 16 x 720P @ 30 IP: 16 x 720P @ 30, 8 x 1080P @ 30, 4 x 4MP @ 30, 2 x 8MP @ 30
Hard Disk Drive				
SATA	1 Interface	1 Interface	2 Interfaces	2 Interfaces
Maximum Capacity	Up to 10TB	Up to 10TB	Up to 10TB each	Up to 10TB each
System Alarm				
General	Motion Detection	Motion Detection	Motion Detection	Motion Detection
Alert	IP Conflict, Network Disconnected, Disk Offline, Disk Abnormal, Illegal Access, Hard Disk Space Low, Hard Disk Full, Recording / Snapshot Abnormal	IP Conflict, Network Disconnected, Disk Offline, Disk Abnormal, Illegal Access, Hard Disk Space Low, Hard Disk Full, Recording / Snapshot Abnormal	IP Conflict, Network Disconnected, Disk Offline, Disk Abnormal, Illegal Access, Hard Disk Space Low, Hard Disk Full, Recording / Snapshot Abnormal	IP Conflict, Network Disconnected, Disk Offline, Disk Abnormal, Illegal Access, Hard Disk Space Low, Hard Disk Full, Recording / Snapshot Abnormal
External Interfaces				
Network	1 x RJ45 10M/100M self-adaptive Ethernet Interface	1 x RJ45 10M/100M self-adaptive Ethernet Interface	1 x RJ45 10M/100M self-adaptive Ethernet Interface	1 x RJ45 10M/100M self-adaptive Ethernet Interface
USB	Rear panel: 2 x USB2.0	Rear panel: 2 x USB2.0	Rear panel: 1 x USB3.0 Front panel: 1 x USB2.0	Rear panel: 1 x USB3.0 Front panel: 1 x USB2.0
RS232	n/a	n/a	n/a	n/a
RS485	1	1	1	1
Alarm In	4 – Terminal Strip	4 – Terminal Strip	4 – Terminal Strip	4 – Terminal Strip
Alarm Out	1 – Terminal Strip	1 – Terminal Strip	1 – Terminal Strip	1 – Terminal Strip
General				
NDAA Compliant	Yes	Yes	Yes	Yes
Power Supply	12V DC; Power Consumption: ≤ 10 W (without HDD)	12V DC; Power Consumption: ≤ 10 W (without HDD)	12V DC; Power Consumption: ≤ 12 W (without HDD)	12V DC; Power Consumption: ≤ 38W (without HDD)
Working Environment	-10°C ~ +55°C (+14°F ~ +131°F), Humidity ≤ 90% RH (non-condensing)	-10°C ~ +55°C (+14°F ~ +131°F), Humidity ≤ 90% RH (non-condensing)	-10°C ~ +55°C (+14°F ~ +131°F), Humidity ≤ 90% RH (non-condensing)	-10°C ~ +55°C (+14°F ~ +131°F), Humidity ≤ 90% RH (non-condensing)
Dimensions	260 × 226 × 47mm (10.2 × 8.9 × 1.8")	260 × 226 × 47mm (10.2 × 8.9 × 1.8")	380 × 326 × 53mm (15.0 × 12.8 × 2.1")	380 × 326 × 53mm (15.0 × 12.8 × 2.1")
Weight	1.1Kg (2.42lb)	1.1Kg (2.42lb)	≤ 2.0 Kg (4.4lb)	≤ 2.6Kg (5.72lb)
Certifications	FCC, CE (UL – Power Supply only)	FCC, CE (UL – Power Supply only)	FCC, CE (UL – Power Supply only)	FCC, CE (UL – Power Supply only)
SMART Features				
Ultra Motion Detection	Analog camera - Support	Analog camera - Support	Analog camera - Support	Analog camera - Support
Face Detection	IP camera - Support	IP camera - Support	IP camera - Support	IP camera - Support
Intrusion Detection	n/a	n/a	IP camera - Support	n/a
Cross Line Detection	n/a	n/a	IP camera - Support	n/a
Enter Area / Leave Area	n/a	n/a	IP camera - Support	n/a
Defocus Detection	n/a	n/a	IP camera - Support	IP camera - Support
Scene Change Detection	n/a	n/a	IP camera - Support	IP camera - Support
Object Removed	n/a	n/a	IP camera - Support	IP camera - Support
Object Left Behind	n/a	n/a	IP camera - Support	IP camera - Support
Auto Tracking	n/a	n/a	IP camera - Support	IP camera - Support