

	AHD, HD-CVI, HD-TVI, PAL CAMERA APTI-H14MF-37 PINHOLE - 720p, 3.7 mm	AHD, HD-CVI, HD-TVI, PAL CAMERA APTI-H20VS PINHOLE - 1080p, 3.7 mm	AHD, HD-CVI, HD-TVI, PAL CAMERA APTI-H20YS1 PINHOLE - 1080p, 3.7 mm	AHD, HD-CVI, HD-TVI, PAL CAMERA APTI-H24M-36- 1080p, 4 mm	AHD, HD-CVI, HD-TVI HIDDEN CAMERA APTI- H50FE-36 2Mpx / 5Mpx 3.6 mm	AHD, HD-CVI, HD-TVI, PAL CAMERA APTI-H54B - 8.3 Mpx, 4K UHD	AHD, CVI, TVI, CVBS MOBILE CAMERA HAC- HMW32001-0210B-S5 - 1080p, 2.1 mm DAHUA	AHD, CVI, TVI, CVBS MOBILE CAMERA HAC-HMW3200L- FR-0210B-S5 - 1080p, 2.1 mm, 2.8 mm DAHUA	AHD, HD-CVI, HD-TVI HIDDEN CAMERA APTI- H50YK-37 2Mpx / 5Mpx 3.7 mm APTI	HD-CVI VANDALPROOF CAMERA HAC- BW3802-0250B - 8.3 Mpx, 4K UHD 2.5 mm - Fish Eye DAHUA	AHD, HD-CVI, HD-TVI, PAL CAMERA HAC- FW2501-0140B - 5 Mpx 1.4 mm - Fish Eye DAHUA	AHD, HD-CVI, HD-TVI, PAL CAMERA HAC-HFW2497J8- A-N1-0306B Full-Color - 1080p 3.6 mm DAHUA	AHD, HD-CVI, HD-TVI, PAL HIDDEN CAMERA HAC- HUM3200A-0280P-S5 - 1080p, 2.8 mm DAHUA	AHD, HD-CVI, HD-TVI, PAL CAMERA HAC-HUM3201B- P-0280B-S2 PINHOLE - 1080p, 2.8 mm DAHUA
														
Standard	AHD, HD-CVI, HD-TVI, PAL	AHD, HD-CVI, HD-TVI, PAL	AHD, HD-CVI, HD-TVI, PAL	AHD / HD-CVI / HD-TVI / PAL	AHD, HD-CVI, HD-TVI	AHD, HD-CVI, HD-TVI, PAL	AHD, HD-CVI, HD-TVI, PAL	AHD, HD-CVI, HD-TVI, PAL	AHD, HD-CVI, HD-TVI	HD-CVI	AHD, HD-CVI, HD-TVI, PAL	AHD, HD-CVI, HD-TVI, CVBS	AHD, HD-CVI, HD-TVI, PAL	AHD, HD-CVI, HD-TVI, CVBS
Sensor	1/3 " Sony CMOS IMX222	1/2.9 " Sony CMOS IMX323	1/2.9 " Sony CMOS IMX323	1/2.8 " Sony CMOS - STARVIS Back-illuminated	1/2.7 " Progressive Scan CMOS	1/2.8 " SONY Starvis™ Back illuminated CMOS	1/2.7 " Progressive Scan CMOS	1/2.7 " Progressive Scan CMOS	1/2.7 " CMOS	1/2 " CMOS	1/2.8 " CMOS	1/2.8 " Progressive Scan CMOS	Progressive Scan CMOS	1/2.8 " Progressive Scan CMOS
Digital Image Processor	HTC960E	---	---	---	---	---	---	---	---	---	---	---	---	---
Matrix size	---	---	---	2.1 Mpx	5 Mpx	8.3 Mpx	2.1 Mpx	2.1 Mpx	5 Mpx	8.3 Mpx	5 Mpx	2.1 Mpx	2.1 Mpx	2.1 Mpx
IR illuminator power adjustment	---	---	---	---	---	---	---	---	---	Automatic	Automatic	---	---	---
IR illuminator	---	---	✓	---	---	---	---	---	---	---	---	---	---	---
PIR detector	---	---	---	---	---	---	---	---	---	---	---	---	---	---
View angle	• 66 ° (manufacturer data) • 60 ° (our tests result)	• 76 ° (manufacturer data) • 66 ° (our tests result)	• 76 ° (manufacturer data) • 66 ° (our tests result)	• 72 ° (manufacturer data) • 80 ° (our tests result)	• 95 ° (manufacturer data) • 80 ° (our tests result)	---	• 132 ° (manufacturer data) • 128 ° (our tests result)	132 ° - Camera for observing the interior of the vehicle / 109 ° - Front / rear view camera (manufacturer data) 127 ° - Camera for observing the interior of the vehicle / 104 ° - Front / rear view camera (our tests result)	• 80 ° (manufacturer data) • 70 ° (our tests result)	180 °	180 °	• 90 ° (manufacturer data) • 84 ° (our tests result)	105 °	103 °
Range of IR illumination	---	---	---	---	---	---	3 m	3 m	---	15 m	10 m	---	10 m, 940 nm (invisible to the human eye)	---
S/N ratio	---	---	---	---	> 50 dB	---	> 65 dB	> 65 dB	---	> 65 dB	> 65 dB	---	> 65 dB	---
Vandal-proof	---	---	---	---	---	---	---	---	---	IK10	---	---	---	---
"Index of Protection"	---	---	---	---	IP40	---	---	---	---	---	---	IP67	---	---
Resolution	1280 x 720 - 720p AHD-M / HD-CVI / HD-TVI, 960 x 576 - 960H PAL	1920 x 1080 - 1080p AHD / HD-CVI / HD-TVI, 960 x 576 - 960H PAL	1920 x 1080 - 1080p AHD / HD-CVI / HD-TVI, 960 x 576 - 960H PAL	• 1920 x 1080 - 1080p, AHD / HD-CVI / HD-TVI • 1280 x 720 - 720p / AHD / HD-CVI / HD-TVI • 960 x 576 - 960H, PAL	• 2592 x 1440 - 5 Mpx @ 12.5 fps; • 2560 x 1440 - 4 Mpx @ AHD / HD-CVI / HD-TVI @ 25 fps; • 1920 x 1080 - 1080p @ AHD / HD-CVI / HD-TVI @ 25 fps	3840 x 2160 - 8.3 Mpx, 4K UHD @ AHD / HD-CVI / HD-TVI @ 12.5 fps, 15 fps; 2592 x 1944 - 5 Mpx @ AHD / HD-CVI / HD-TVI, 20 fps; 2592 x 1944 - 5 Mpx @ AHD / HD-TVI @ 12.5 fps; 2560 x 1440 - 4 Mpx @ AHD / HD-CVI / HD-TVI @ 30 fps, 25 fps; 2560 x 1440 - 4 Mpx @ AHD @ 15 fps 1920 x 1080 - 1080p @ AHD / HD-TVI / HD-CVI, 30 fps / 25 fps; 960 x 576 - 960H @ CVBS	1920 x 1080 - 1080p, 1280 x 720 - 720p, 960 x 576 - 960H PAL	1920 x 1080 - 1080p, 1280 x 720 - 720p, 960 x 576 - 960H PAL	• 2592 x 1944 - 5 Mpx @ 12.5 fps; • 2560 x 1440 - 4 Mpx @ AHD / HD-CVI / HD-TVI @ 25 fps, 30 fps; • 1920 x 1080 - 1080p @ AHD / HD-CVI / HD-TVI @ 25 fps, 30 fps	3840 x 2160 - 8.3 Mpx, 4K UHD; 2560 x 1440 - 3.7 Mpx, 960 x 576 - 960H, CVBS	2592 x 1944 - 5 Mpx, 2560 x 1440 - 3.7 Mpx	1920 x 1080 - 1080p, 1280 x 720 - 720p, 960 x 576 - 960H, PAL	1920 x 1080 - 1080p, AHD, HD-CVI, HD-TVI, 960 x 576 - 960H PAL	1920 x 1080 - 1080p, HD-CVI, HD-TVI, 960 x 576 - 960H
Application	The camera is designed for indoor use, due to the possibility of steam condensation.	For indoor use	The camera is designed for indoor use, due to the possibility of steam condensation.	The camera is designed for indoor use, due to the possibility of steam condensation.	The camera is designed for indoor use, due to the possibility of steam condensation.	---	The camera is designed for installation inside vehicles	The camera is designed for installation inside vehicles	For indoor use	---	---	---	The camera is designed for indoor use, due to the possibility of steam condensation.	The camera is designed for indoor use, due to the possibility of steam condensation.
Video output	1 Vpp / 75 Ω - AHD-M, HD-CVI, HD-TVI, PAL	1 Vpp / 75 Ω - AHD, HD-CVI, HD-TVI, PAL	1 Vpp / 75 Ω - AHD, HD-CVI, HD-TVI, PAL	1 Vpp / 75 Ω - AHD / HD-CVI / HD-TVI / PAL	1 Vpp 75 Ω, AHD, HD-CVI, HD-TVI - selectable by switch	1 Vpp 75 Ω, AHD, HD-CVI, HD-TVI, PAL - selectable by buttons	1 Vpp / 75 Ω - M12, 4-pin socket, Code A	2 x 1 Vpp / 75 Ω - M12, 4-pin socket, Code A	1 Vpp 75 Ω, AHD, HD-CVI, HD-TVI	• HD-CVI, 1 Vpp / 75 Ω / CVBS, 1 Vpp / 75 Ω	AHD / HD-CVI / HD-TVI / CVBS, 1 Vpp / 75 Ω	AHD / HD-CVI / HD-TVI / CVBS, 1 Vpp / 75 Ω	1 Vpp 75 Ω, AHD, HD-CVI, HD-TVI, PAL	1 Vpp / 75 Ω - AHD / HD-CVI / HD-TVI / CVBS
Permissible relative humidity	---	---	---	---	---	---	---	---	---	---	---	---	---	≤ 95%
Lens	3.7 mm (pinhole)	3.7 mm (pinhole)	3.7 mm (pinhole)	4 mm	3.6 mm	---	2.1 mm	2.1 mm - Camera for observing the interior of the vehicle, 2.8 mm - Front / rear view camera	3.7 mm	2.5 mm - Fish Eye, F2.0	1.4 mm - Fish Eye, F2.0	3.6 mm	2.8 mm	2.8 mm (pinhole), F2.4
Auto Iris socket	---	---	---	---	---	DC	---	---	---	---	---	---	---	---
Length of the cable	---	---	---	---	---	---	0.5 m	2 x 0.5 m	---	---	---	---	---	---
Min. illumination	0.01 Lux	---	---	0.001 Lux	---	0.001 Lux @ F1.2	0.02 Lux F2.0 @ 30IRE	---	---	---	---	---	---	0.004 Lux (color) 0.0004 Lux (B/W)
IR illuminator support	---	---	---	---	---	---	ICR - Movable InfraRed filter	---	---	ICR - Movable InfraRed filter	ICR - Movable InfraRed filter	---	---	---
Audio	---	• Microphone built-in • Audio output - Cinch socket	• Microphone built-in • Audio output - Cinch socket	---	---	---	Microphone built-in	Microphone built-in	---	---	Microphone built-in	• Microphone built-in - HD-CVI only • External microphone input - HD-CVI only	---	• Audio input - RCA (CINCH) • Audio output - BNC socket • HD-CVI only
Alarm inputs / outputs	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RS-485 interface	---	---	---	---	---	---	---	---	---	---	---	---	---	---
OSD menu	✓	✓	✓	✓	✓	✓	✓	✓	OSD - with the in-line remote control	OSD menu available via recorder	OSD menu available via recorder	OSD menu available via DAHUA recorder	OSD menu available via DAHUA recorder	OSD menu available via DAHUA recorder
Main features	• DNR - Digital Noise Reduction • BLC - Back Light Compensation • Auto White Balance • AGC - Automatic Gain Control • Sharpness - sharper image outlines	• D-WDR - Wide Dynamic Range • 2D-DNR - Digital Noise Reduction • Sense-UP - (Slow Shutter) Increase the sensor sensitivity • BLC - Back Light Compensation • Auto White Balance • AGC - Automatic Gain Control • Sharpness - sharper image outlines	• D-WDR - Wide Dynamic Range • 2D-DNR - Digital Noise Reduction • Sense-UP - (Slow Shutter) Increase the sensor sensitivity • BLC - Back Light Compensation • Auto White Balance • AGC - Automatic Gain Control • Sharpness - sharper image outlines	• WDR - Wide Dynamic Range • 3D-DNR - Digital Noise Reduction • BLC - configurable Back Light Compensation • White Balance - ATW/Manual • AGC - Automatic Gain Control • Sharpness - sharper image outlines • Day/Night mode (color/b&w/auto)	• D-WDR - Wide Dynamic Range • 2D-DNR - Digital Noise Reduction • ICR - Movable InfraRed filter • AGC - Automatic Gain Control • BLC - Back Light Compensation • Day/Night mode (color/b&w/auto) • Auto White Balance • Sharpness - sharper image outlines	• WDR - Wide Dynamic Range • 3D-DNR - Digital Noise Reduction • ICR - Movable InfraRed filter • AGC - Automatic Gain Control • Sharpness - sharper image outlines	• D-WDR - Wide Dynamic Range • 2D-DNR - Digital Noise Reduction • AGC - Automatic Gain Control • BLC/HLC - Back Light / High Light Compensation • Auto White Balance • Day/night mode - Camera for observing the interior of the vehicle • Mirror - Mirror image • Privacy zones - max. 8 • Ergonomically designed High-impact ABS case for durability - EN50155	• AGC - Automatic Gain Control • BLC/HLC - Back Light / High Light Compensation • 2D-DNR - Digital Noise Reduction • Auto White Balance • Day/night mode - Camera for observing the interior of the vehicle • Mirror - Mirror image • Privacy zones - max. 8 • Ergonomically designed High-impact ABS case for durability - EN50155	• D-WDR - Wide Dynamic Range • DNR - Digital Noise Reduction • Mirror - Mirror image • Motion Detection • Sharpness - sharper image outlines • Auto White Balance	• 2D-DNR / 3D-DNR - Digital Noise Reduction • WDR - 120 dB - Wide Dynamic Range • Fish-eye Distortion - correction of the "fish eye" view to the perspective view • BLC - configurable Back Light Compensation • HLC - High Light Compensation (spot) • AGC - Automatic Gain Control • Auto White Balance	• 2D-DNR / 3D-DNR - Digital Noise Reduction • WDR - 120 dB - Wide Dynamic Range • BLC - configurable Back Light Compensation • HLC - High Light Compensation (spot) • AGC - Automatic Gain Control • Auto White Balance	• WDR - 120 dB - Wide Dynamic Range • 2D-DNR, 3D-DNR - Digital Noise Reduction • F-DNR (Defog) - Reduction of image noise caused by precipitation • BLC/HLC - Back Light / High Light Compensation • Mirror - Mirror image • Privacy zones - max. 8 • Motion Detection • Auto White Balance • Sharpness - sharper image outlines	• D-WDR - Wide Dynamic Range • 2D-DNR - Digital Noise Reduction • BLC/HLC - Back Light / High Light Compensation • Mirror - Mirror image • Privacy zones - max. 8 • BLC - Back Light Compensation (spot) • HLC - High Light Compensation (spot) • Privacy zones • Length of the cable : 2.8 m	• WDR - 120 dB - Wide Dynamic Range • 3D-DNR - Digital Noise Reduction • F-DNR (Defog) - Reduction of image noise caused by precipitation • ICR - Movable InfraRed filter • D-ZOOM - Digital Zoom - 4x • AGC - Automatic Gain Control • BLC - Back Light Compensation • HLC - High Light Compensation (spot) • Mirror - Mirror image • Privacy zones • Length of the cable : 2.8 m
Power supply	12 V DC / 90 mA	12 V DC / 70 mA	12 V DC / 70 mA	12 V DC / 120 mA	12 V DC / 110 mA	12 V DC / 150 mA	12 V DC / 160 mA - Powering the cameras with 12V DC voltage directly from recorder	12 V DC / 160 mA - Powering the cameras with 12V DC voltage directly from recorder	12 V DC / 70 mA	12 V DC / 620 mA	12 V DC / 610 mA	12 V DC / 200 mA	12 V DC / 280 mA	12 V DC / 180 mA
Power consumption	≤ 1.1 W	≤ 0.9 W	≤ 0.9 W	---	---	≤ 1.9 W	max. 1.9 W	max. 1.9 W	≤ 0.8 W	≤ 7.4 W	≤ 7.3 W	≤ 2.4 W	≤ 3.3 W	≤ 2.1 W
Housing	Mini, Metal	Mini, Plastic	Mini, Plastic	Mini, Metal	Spy, Plastic	BOX, Metal	Plastic	Plastic	Spy - Plastic	Dome, Metal	Dome, Plastic	Compact, Aluminum	Spy, Plastic	Mini, Aluminum
Color	Black	Black	Black	Black	White	White + Black	Black	Black	White	White	White	White	Black	Black
Operation temp	-10 °C ... 50 °C	-20 °C ... 50 °C	-20 °C ... 50 °C	-10 °C ... 50 °C	-10 °C ... 50 °C	-20 °C ... 60 °C	-40 °C ... 60 °C	-40 °C ... 60 °C	-10 °C ... 50 °C	-30 °C ... 60 °C	-30 °C ... 60 °C	-40 °C ... 60 °C	-40 °C ... 60 °C	-30 °C ... 60 °C
Weight	0.06 kg	0.06 kg	0.06 kg	0.06 kg	0.11 kg	0.54 kg	0.08 kg	0.16 kg	0.12 kg	0.57 kg	0.26 kg	0.77 kg	0.12 kg	0.04 kg
Dimensions	27 x 24 x 20 mm	66 x 11 x 12 mm	62 x 11 x 12 mm	50 x 30 x 29 mm (without bracket)	Ø 120 x 56 mm	149 x 82 x 58 mm	72 x 61 x 46 mm	116 x 100 x 50 mm	119 x 69 x 48 mm	Ø 150 x 48 mm	Ø 126 x 44 mm	244 x 90 x 90 mm	120 x 62 x 59 mm	44 x 36 x 30 mm
Supported languages	English, Chinese, French, Spanish, Italian	---	---	Polish, English, French, Spanish, Japanese, Portuguese, Russian, Italian	Polish, English, French, Spanish, Portuguese, Russian, Italian	English, Spanish, Portuguese	Polish, English, French, Spanish, German, Portuguese, Russian, Italian	Polish, English, French, Spanish, German, Portuguese, Russian, Italian	---	---	---	Polish, English, French, Spanish, German, Portuguese, Russian, Italian	Polish, English	---
Manufacturer / Brand	APTI	APTI	APTI	APTI	APTI	APTI	DAHUA	DAHUA	APTI	DAHUA	DAHUA	DAHUA	DAHUA	DAHUA
Guarantee	2 years	2 years	2 years	2 years	2 years	2 years	2 years	2 years	3 years	5 years	5 years	5 years	3 years	5 years

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