



Beyond HD

Sony provides “Beyond HD” quality video
with its unique picture enhancement technologies

SNC-CH140

- 1/3 HD Exmor CMOS Image sensor
- HD resolution (720p)
- H.264 30 fps @ HD
- Day/Night with IR cut filter
- Wide Dynamic Range (View-DR)
- 2D/3D Dynamic Noise Reduction (XDNR)
- Visibility Enhancer
- Intelligent Video and Audio Analysis (DEPA Advanced)
- CF card slot for wireless and local recording
- CS Mount
- Auto back focus (Easy Focus)
- AC24V/DC12V/PoE

HD  **View-DR** 



CF card slot



SNC-DH140

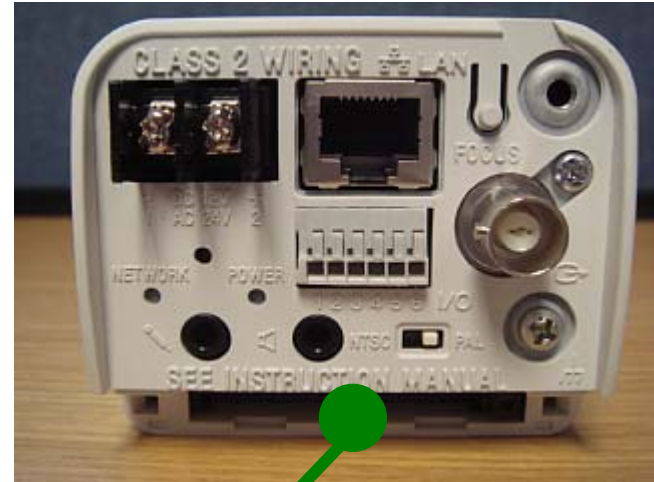
- 1/3 HD Exmor CMOS Image sensor
- HD resolution (720p)
- H.264 30 fps @ HD
- Day/Night with IR cut filter
- Wide Dynamic Range (View-DR)
- 2D/3D Dynamic Noise Reduction (XDNR)
- Visibility Enhancer
- Intelligent Video and Audio Analysis (DEPA Advanced)
- Ball joint mount lens
- Remote Zoom Control (Easy Zoom)
- Auto Focus (Easy Focus)
- AC24V/DC12V/PoE

HD  **View-DR** 



Wireless connection capability (SNC-CH140)

- Support IEEE 802.11b/g
 - SNCA-CFW5



SNCA-CFW5

DEPA Advanced

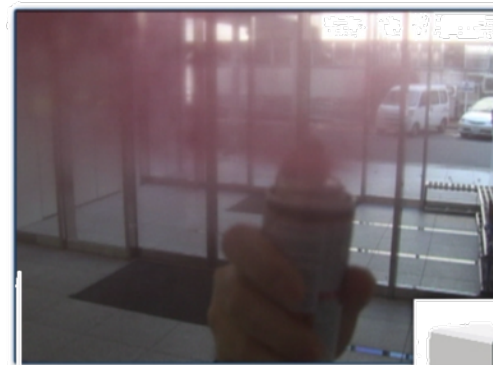
- DEPA Advanced expands the analysis capability to audio in addition to the video
 - Intelligent video analysis
 - Intelligent audio analysis
- New algorithm is developed
 - Tampering alarm
- Basic video analysis (VMF) capability by camera only
 - Virtual borderline
 - Tampering alarm
- Metadata streaming
 - Additional advanced video analysis
 - Analysis for search recording
 - Flexible integration with 3rd party software



*** Intelligent Object Detection is not available for 5G products**

Tampering Alarm

- Generating alarm when the camera is tampered
 - Moved from its original position
 - Sprayed
 - Covered with cloth
 - De-focused



Sprayed



Moving the direction



Covered with cloth

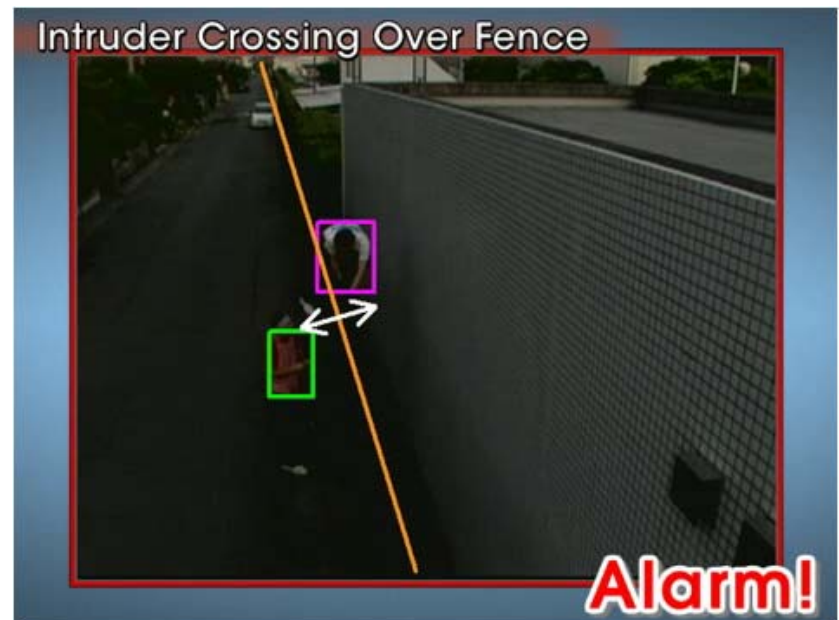


Lens de-focused



Virtual Borderline Analysis (Tripwire)

- Embedded intelligence analysis capability using virtual borderline (Tripwire)
 - Direction can be specified
 - Up to 3 borderlines



Visibility Enhancer (VE)

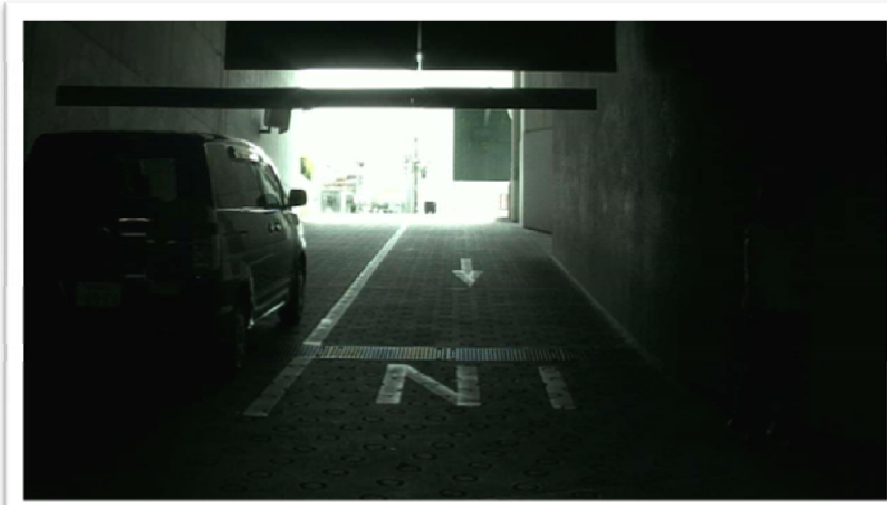
Visibility Enhancer OFF



Visibility Enhancer ON



View-DR : Visibility enhanced wide Dynamic Range



View-DR OFF

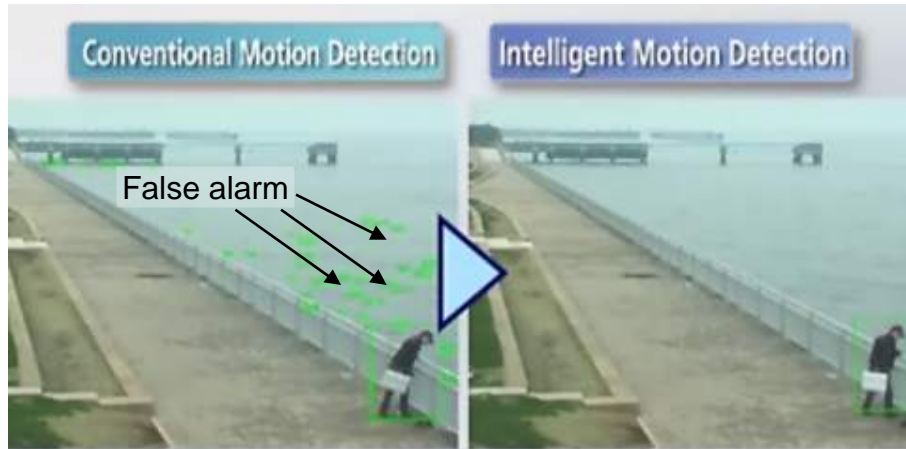


View-DR ON

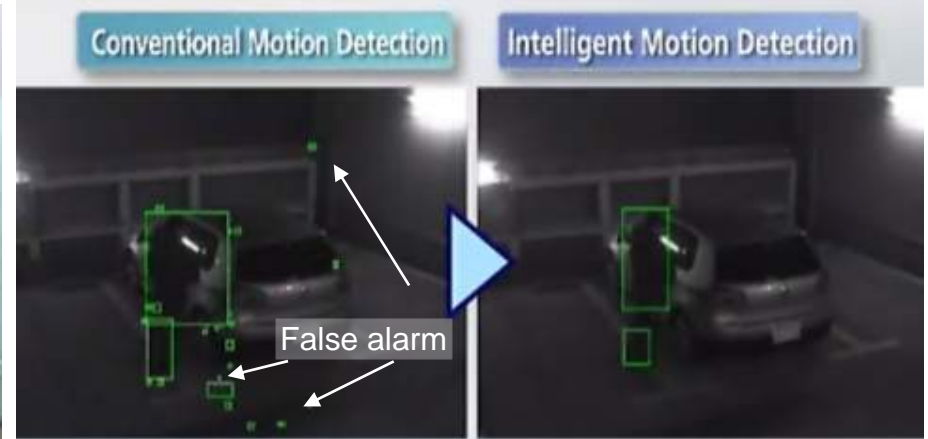


Intelligent Motion Detection (IMD)

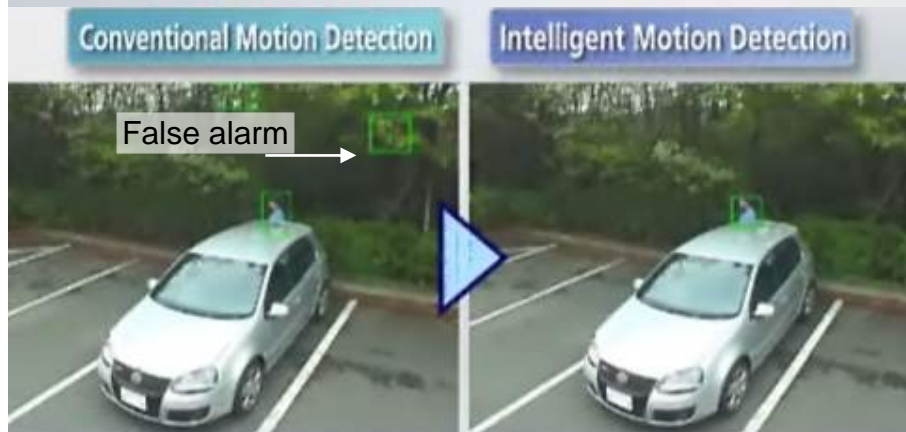
- Intelligent Motion Detection **eliminates the false alarm** generated by environmental noise (such as tree leaves, water front, gain noise etc)



False Alarms



False Alarms



False Alarms



False Alarms

Streaming capability-frame rate

Note: the values shown in the tables are calculated value

Selectable frame rate list (fps)

1,2,3,4,5,6,8,10,15,20,25,30

1280 x 720 Mode example

	1st			2nd		
	Codec	Resolution	fps	Codec	Resolution	fps
Single Codec Stream	H.264	1280x720	30			
	MPEG-4	1280x720	30			
	JPEG	1280x720	30			
Dual Codec Stream	H.264	1280x720	25	H.264	1280x720	4
	H.264	1280x720	25	JPEG	1280x720	10
	H.264	1280x720	25	MPEG-4	1280x720	6
	MPEG-4	1280x720	30	MPEG-4	1280x720	10
	MPEG-4	1280x720	30	JPEG	1280x720	15
	JPEG	1280x720	30	JPEG	1280x720	30

1280 x 1024 Mode example

	1st			2nd		
	Codec	Resolution	fps		Resolution	fps
Single Codec Stream	H.264	1280x1024	20			
	MPEG-4	1280x1024	25			
	JPEG	1280x1024	30			
Dual Codec Stream	H.264	1280x1024	15	H.264	1280x1024	6
	H.264	1280x1024	15	JPEG	1280x1024	12
	H.264	1280x1024	15	MPEG-4	1280x1024	8
	MPEG-4	1280x1024	20	MPEG-4	1280x1024	9
	MPEG-4	1280x1024	25	JPEG	1280x1024	6
	JPEG	1280x1024	30	JPEG	1280x1024	14

Constant bit rate algorithm for JPEG

Note: the values shown in the tables are calculated value

Level	Compression Ratio	Data Size (KB)			
		320x192	640x480	1280x720	1280x1024
1	1/60	3	15	44	62
2	1/50	3.5	18	53	75
3	1/40	4.4	22	55	94
4	1/35	5	25	75	107
5	1/30	5.8	29	89	124
6	1/25	7	35	110	150
7	1/20	8.7	44	130	188
8	1/15	12	59	180	262
9	1/10	17	87	270	384
10	1/6	30	150	480	673

Alarm buffer recording time

Note: the values shown in the tables are calculated value

MPEG-4/H.264

bitrate(kbps)	8192	7168	6144	5120	4096	3072	2048	1536	1024	768	512	384	256	128	64
capacity (sec)	4	5	6	7	9	12	19	25	38	51	76	102	120	120	120

JPEG

1280 x 1024

Quality	1	2	3	4	5	6	7	8	9	10	
Framerate(fps)	1	89	74	59	52	44	37	29	22	14	8
	2	44	37	29	26	22	18	14	11	7	4
	3	29	24	19	17	14	12	9	7	4	2
	4	22	18	14	13	11	9	7	5	3	2
	5	17	14	11	10	8	7	5	4	2	1
	6	14	12	9	8	7	6	4	3	2	1
	8	11	9	7	6	5	4	3	2	1	1
	10	8	7	5	5	4	3	2	2	1	1
	12	7	6	4	4	3	3	2	1	1	1
	15	5	4	3	3	2	2	1	1	1	1
25	3	2	2	2	1	1	1	1	1	1	
30	2	2	1	1	1	1	1	1	1	1	

1280 x 720

Quality	1	2	3	4	5	6	7	8	9	10	
Framerate(fps)	1	120	106	84	74	63	53	42	31	21	12
	2	63	53	42	37	31	26	21	15	10	6
	3	42	35	28	24	21	17	14	10	7	4
	4	31	26	21	18	15	13	10	7	5	3
	5	25	21	16	14	12	10	8	6	4	2
	6	21	17	14	12	10	8	7	5	3	2
	8	15	13	10	9	7	6	5	3	2	1
	10	12	10	8	7	6	5	4	3	2	1
	12	10	8	7	6	5	4	3	2	1	1
	15	8	7	5	4	4	3	2	2	1	1
25	5	4	3	2	2	2	1	1	1	1	
30	4	3	2	2	2	1	1	1	1	1	




640 x 480

Quality	1	2	3	4	5	6	7	8	9	10	
Framerate(fps)	1	120	120	120	120	120	120	95	63	38	
	2	120	120	120	111	95	79	63	47	31	19
	3	120	106	84	74	63	53	42	31	21	12
	4	95	79	63	55	47	39	31	23	15	9
	5	76	63	50	44	38	31	25	19	12	7
	6	63	53	42	37	31	26	21	15	10	6
	8	47	39	31	27	23	19	15	11	7	4
	10	38	31	25	22	19	15	12	9	6	3
	12	31	26	21	18	15	13	10	7	5	3
	15	25	21	16	14	12	10	8	6	4	2
25	15	12	10	8	7	6	5	3	2	1	
30	12	10	8	7	6	5	4	3	2	1	

320 x 240


Quality	1	2	3	4	5	6	7	8	9	10	
Framerate (fps)	1	120	120	120	120	120	120	120	120	120	120
	2	120	120	120	120	120	120	120	120	120	76
	3	120	120	120	120	120	120	120	120	84	50
	4	120	120	120	120	120	120	120	95	63	38
	5	120	120	120	120	120	120	101	76	50	30
	6	120	120	120	120	120	106	84	63	42	25
	8	120	120	120	111	95	79	63	47	31	19
	10	120	120	101	89	76	63	50	38	25	15
	12	120	106	84	74	63	53	42	31	21	12
	15	101	84	67	59	50	42	33	25	16	10
25	61	50	40	35	30	25	20	15	10	6	
30	50	42	33	29	25	21	16	12	8	5	

Fixed HD camera comparison

	Sony SNC-CH140 	Axis P1344 	Panasonic DG-NP502 
Image Sensor	1/3 type progressive scan CMOS	1/4 Progressive Scan RGB CMOS	1/3 type progressive scan CCD
Focus adjustment	Auto back focus	Manual focus	Auto back focus
Day & Night	Yes with IR cut filter	Yes with IR cut filter	Yes with IR cut filter
Wide Dynamic Range	Yes (View-DR, Visibility Enhancer)	No	Yes (Megapixel Super Dynamic)
Dynamic Range	125dB	N/A	52dB
Noise Reduction	Yes (XDNR)	No	Yes (Adaptive DNR)
Sensitivity boost	x4 times sensitivity boost (Visibility Enhancer +	No	No
Video compression	JPEG, MPEG4, H.264	JPEG, H.264	JPEG, MPEG4, H.264
Resolutions	Max 1280 x 1024 720p HD support	Max 1280 x 1024 720p HD support	Max 2048 x 1536 (JPEG only) No HD support
Frame rate	30 fps @1280x720 (H.264, MPEG4, JPEG)	30 fps @1280x720 (JPEG, H.264)	30 fps @1280x960 (H.264, JPEG) 15 fps @1280x960 with Wide-D on
Video Motion Detection	Intelligent Motion Detection with false alarm	Basic Motion Detection with false alarm	Basic Motion Detection with false alarm
Virtual Borderline (Tripwire)	Yes	No	No
Tampering alarm	Yes	Yes	No
Metadata streaming	Yes	No	No
Audio playback	Yes Voice alert	No	No
Privacy Zone Masking	Yes x8 Privacy Masking	Yes x? Privacy Masking	Yes x8 Privacy Masking
HTTPS	Yes	Yes	No
IEEE802.1x	Yes	Yes	No
Input/Output	x1 sensor in x2 Alarm out	x1 sensor in x1 Alarm out	x1 sensor in x2 Alarm out
Analogue video out	Yes	No	Yes
Open standard	ONVIF V1.0	ONVIF V1.0	No
Operating conditions	-10-50°C	0-50°C	-10-50°C
Power Supply	AC24V, DC12V, PoE	8-20 V DC, PoE	DC12V, PoE



Fixed HD camera comparison :

Continued

	Sony SNC-CH140 	Pelco IX10DN 	Arecont AV1305 
Image Sensor	1/3 type progressive scan CMOS	1/3 type Progressive Scan CMOS	1/2 type Progressive Scan CMOS
Focus adjustment	Auto back focus	Auto back focus	Manual focus
Day & Night	Yes with IR cut filter	Yes with IR cut filter	Yes with IR cut filter
Wide Dynamic Range	Yes (View-DR, Visibility Enhancer)	Yes	No
Dynamic Range	125dB	60dB	60dB
Noise Reduction	Yes (XDNR)	No	No
Sensitivity boost	x4 times sensitivity boost (Visibility Enhancer +	No	No
Video compression	JPEG, MPEG4, H.264	JPEG, H.264	JPEG, H.264
Resolutions	Max 1280 x 1024 720p HD support	Max 1280 x 1024 720p HD support	Max 1280 x 1024 720p HD support
Frame rate	30 fps @1280x720 (H.264, MPEG4, JPEG)	12.5 fps @1280x720 (H.264) 30 fps @1280x720 (JPEG)	30 fps @1280x720 (JPEG, H.264)
Video Motion Detection	Intelligent Motion Detection with false alarm	Basic Motion Detection with false alarm	Basic Motion Detection with false alarm
Virtual Borderline (Tripwire)	Yes	No	No
Tampering alarm	Yes	No	No
Metadata streaming	Yes	No	No
Audio playback	Yes Voice alert	No	No
Privacy Zone Masking	Yes x8 Privacy Masking	No	No
HTTPS	Yes	Yes	No
IEEE802.1x	Yes	No	No
Input/Output	x1 sensor in x2 Alarm out	x1 sensor in x1 Alarm out	No
Analogue video out	Yes	Yes	No
Open standard	ONVIF V1.0	No	No
Operating conditions	-10-50°C	-10 to 50°C	0-50°C
Power Supply	AC24V, DC12V, PoE	AC24V, PoE	PoE

Fixed HD camera comparison :

Continued

	Sony SNC-CH140 	Indigovision 
Image Sensor	1/3 type progressive scan CMOS	1/3 type Progressive Scan CMOS
Focus adjustment	Auto back focus	Manual focus
Day & Night	Yes with IR cut filter	No
Wide Dynamic Range	Yes (View-DR, Visibility Enhancer)	No
Dynamic Range	125dB	N/A
Noise Reduction	Yes (XDNR)	No
Sensitivity boost	x4 times sensitivity boost (Visibility Enhancer +	No
Video compression	JPEG, MPEG4, H.264	H.264
Resolutions	Max 1280 x 1024 720p HD support	Max 1280 x 720 720p HD support
Frame rate	30 fps @1280x720 (H.264, MPEG4, JPEG)	15 fps @1280x720 (H.264)
Video Motion Detection	Intelligent Motion Detection with false alarm	Basic Motion Detection with false alarm
Virtual Borderline (Tripwire)	Yes	No
Tampering alarm	Yes	No
Metadata streaming	Yes	No
Audio playback	Yes Voice alert	No
Privacy Zone Masking	Yes x8 Privacy Masking	No
HTTPS	Yes	No
IEEE802.1x	Yes	No
Input/Output	x1 sensor in x2 Alarm out	x2 sensor in x1 Alarm out
Analogue video out	Yes	No
Open standard	ONVIF V1.0	No
Operating conditions	-10-50°C	0-40°C
Power Supply	AC24V, DC12V, PoE	AC24V, DC24V, PoE

HD Minidome camera comparison

	Sony SNC-DH140 	Axis P3344 	Pelco ID10DN8-1 
Image Sensor	1/3 type progressive scan CMOS	1/4 Progressive Scan RGB CMOS	1/3 type progressive scan CMOS
Focus adjustment	Auto focus	Auto focus	Auto back focus
Day & Night	Yes with IR cut filter	Yes with IR cut filter	Yes with IR cut filter
Wide Dynamic Range	Yes (View-DR, Visibility Enhancer)	Yes	Yes
Dynamic range	125dB	?	60dB
Noise Reduction	Yes (XDNR)	No	No
Sensitivity boost	x4 times sensitivity boost (Visibility Enhancer + XDNR)	No	No
Video compression	JPEG, MPEG4, H.264	JPEG, H.264	JPEG, H.264
Resolutions	Max 1280 x 1024 720p HD support	Max 1280 x 1024 720p HD support	Max 1280 x 1024 720p HD support
Frame rate	30 fps @1280x720 (H.264, MPEG4, JPEG)	30 fps @1280x720 (JPEG, H.264)	12.5 fps @1280x720 (H.264) 30 fps @1280x720 (JPEG)
Video Motion Detection	Intelligent Motion Detection with false alarm reduction	Basic Motion Detection with false alarm	Basic Motion Detection with false alarm
Virtual Borderline (Tripwire)	Yes	No	No
Beam intrusion detector	Yes *1	No	No
Tampering alarm	Yes	Yes	No
Metadata streaming	Yes	No	No
Audio playback	Yes Voice alert	No	No
Privacy Zone Masking	Yes x8 Privacy Masking	Yes x? Privacy Masking	No
HTTPS	Yes	Yes	Yes
IEEE 802.1x	Yes	Yes	No
Input/Output	x1 sensor in x2 Alarm out	x1 sensor in x1 Alarm out	x1 sensor in x1 Alarm out
Analogue video out	Yes	No	Yes
Open standard	ONVIF V1.0	ONVIF V1.0	No
Operating conditions	-10-50°C	0-50°C	0-50°C
Power Supply	AC24V, DC12V, PoE	PoE	AC24V, PoE

Specifications

Specifications

< Camera >

Image device	1/3 type progressive scan Exmor CMOS Sensor
Number of effective pixels	1,390,000 pixels, 1,329 (H) x 1049 (V)
Zoom ratio	CH140 : Optical x2.9 (x2 Digital Zoom) DH140 : Optical x2.9 (x2 Digital Zoom)
Focal length	CH140 : f=2.8 – 8.0mm DH140 : f=3.1 – 8.9mm
Horizontal view angle	CH140 : 96.5 – 33.9 degree DH140 : 85.4 – 31.2 degree
F Number	CH140 : F1.2 (Wide end), F1.9 (Tele end) DH140 : F1.2 (Wide end), F2.1 (Tele end)
Iris	Auto
Minimum illumination	CH140/DH140 0.20lx (Color), 0.10lx (B/W) F1.2 / View-DR Off/VE Off / AGC High / XDNR Middle / 50IRE Equivalent 0.10lx (Color), 0.05lx (B/W) F1.2 / View-DR Off/VE Off / AGC High / XDNR Middle / 30IRE Equivalent
Minimum object distance	300 mm
Shutter speed	1 – 1/10,000 second
< Image >	
Compression format	H.264, MPEG-4, JPEG
Image Size	1280 x 1024, 1280 x 960, 1280 x 800, 1280 x 720, 1024 x 768, 1024 x 576, 800 x 480, 768 x 576, 640 x 480, 640x 368, 384 x 288, 320 x 240, 320 x 192
Maximum frame rate	H.264/MPEG-4/JPEG HD (1280 x 720) or lower : max. 30fps

< Network >

Protocols	IPv4, IPv6, UDP, TCP, ARP, ICMP, HTTP, FTP(client/server), SMTP,DHCP, DNS,NTP, RTP/RTCP, RTSP, SNMP (MIB-2)
Max simultaneous access	10 clients

< Interface>

Ethernet I/O port	10BASE-T / 100BASE-TX (RJ-45)
Analog video Output	Composite video (1Vp-p)
Audio input	Mini-jack (Monaural), MIC IN : 2.2k ohm, 2.47VDC plug-in power LINE IN:
Audio line output	Mini-jack (Monaural), Max output level: 1 Vrms

<Analog video output>

Signal system	NTSC / PAL
Horizontal Resolution	600 TV lines
S/N ratio	more than 50dB (AGC OFF, Weight ON)

< System Requirements >

OS	Windows XP, Windows Vista (except 64bit version)
CPU	Intel Core2 Duo 2GHz or higher
Memory	1GB or more
Web browser	Microsoft Internet Explorer Ver6.0 or 7.0
Display resolution	1600 x 1200 pixels or more

< General >

Mass	CH140 : approx. 600g : Including lens DH140 : approx. 750g
Dimensions	CH140 : 72 x 63 x 145 (W x H x D mm) without lens DH140 : 140 x 118 (φ x H mm)

< General >

Power requirement PoE (IEEE-802.3af), AC24V, DC12V

Power consumption CH140 : max. 9.0W

DH140 : max. 8.0W

Operating temperature

CH140 : -10 degree to +50 degree

DH140 : -10 degree to +50 degree

Note : Cold start temperature must be greater than 0 degree

Storage temperature

-20 degree to +60 degree

Operating humidity 20 to 80%

Storage humidity

20 to 95%

< **Supplied accessories** > CH140 : CD-ROM (User's guides, SNC Toolbox), Installation manual,

Wire rope, Warranty card.

DH140 : CD-ROM (User's guides, SNC Toolbox), Installation manual,

Template, Wire rope, Bracket, LAN cable, BNC cable, Power input cable, I/O cable, Audio Cable, Warranty card

M4 shoulder screw M4 screws (2) (DH140)

< **Optional accessories** > YT-ICB140 / YT-ICB45 In-ceiling mount kit

Safety regulation and EMC certification

UL2044,

FCC Class A Digital Device

IC Class A Digital Device

IEC60950-1

EN55022(A)+EN55024+EN50130-4

JATE 電気通信事業法, VCCI Class A

AN/NZS CISPR22

MTBF

SNC-CH140 : Approx. xxx years

SNC-DH140 : Approx. xxx years