

COLLEGE STATION I.S.D.
9304 ROCK PRAIRIE RD. COLLEGE STATION, TX. 77845
(979) 764-5408

PURCHASING OFFICE
INTER-DEPARTMENTAL MEMO

TO: Mike Martindale

DATE: February 1, 2019

SUBJECT: Security Camera System for River Bend Middle School

As part of the 2015 bond program, the Director of Technology has identified the Security Camera System requirements for the new River Bend Elementary School. The district has worked with Design Security Controls, Inc. (DSC) to provide the attached quote #DSCQ6912 for Samsung camera equipment, installation, engineering and design.

This security camera equipment and installation is available from DSC through the Education Service Center Region (ESC) 6 Educational Purchasing Interlocal Cooperative (EPIC6) purchasing program Contract #RFP 04.18. EPIC6 contracts have been competitively bid and meet the competitive bid requirements stipulated in Texas Government Code, Section 791.025.

It is the recommendation of Carmella Shafer, Director of Purchasing and David Hutchison, Director of Technology that we purchase the Security Camera System for River Bend Elementary School from Design Security Controls, Inc. for a total of \$61,782.85 per the above referenced EPIC 6 Contract using 2015 Bond funds.

Carmella Shafer

Carmella Shafer, Director of Purchasing

David Hutchison

David Hutchison, Director of Technology

Official Proposal



Design Security Controls, LLC
 1511 Upland Drive
 Suite 103
 Houston, TX 77043

Office 713.464.8407
 Fax 713.464.2560
 E-Mail info@ThinkDSC.com
 Web www.ThinkDSC.com




Texas HUB Certified
 Vendor # 49671



Texas SBE Certified
 Cert # 1229

License Numbers: B19447 | ACR-1930865 | SCR-G-2123149

Client	Project Location	Prepared By
College Station ISD David Hutchison CSISD River Bend Elementary 4070 Holleman Dr. South College Station, TX 77845 United States Phone	College Station ISD David Hutchison CSISD River Bend Elementary 4070 Holleman Dr. South College Station, TX 77845 United States	 Ricky Johnson General Manager Phone 713-464-8407 Mobile Fax 713-464-8407 E-Mail rjohnson@thinkDSC.com

Proposal Details & Introductory Notes

Proposal Number DSCQ6912 Proposal Date Dec 26, 2018 Quote Expires 2/24/2019

This proposal is for the installation of Hanwha NVR and network cameras for River Bend elementary school. A total of 37 cameras will be installed. Our price does not include cabling. Our price is for the installation of the cameras, the focusing in the programming of the NVR.

Manufacturer Part #	Description	Qty	Unit Price	Ext. Price
	River Bend Elementary CCTV System			
	Epic 6 Samsung camera equipment			
WAVE-EMB-64	WAVE Embedded Recorder License. Enables sixty-four (64) channel Hanwha Embedded Recorder playback, includes life-time SW upgrade. No annual & maintenance cost required.	1.00	\$1,980.00	\$1,980.00
PRN-4011-40TB	4K NVR, 64CH, 40TB RAW, H.265/H.264/MJPEG, ARB (Automatic Recovery Backup) & Failover (N+1), 400Mbps recording/ 32Mbps playback throughput, 12 Hot Swap HDD Bays, iSCSI, redundant power, HDMI/D-Sub VGA dual display, DI/O, 2-way audio, ONVIF, maximum camera resolution of 12MP recording/display and fisheye dewarping on WEB and CMS, Support RAID 5/6 (4TB * 10 RAID 5 Ready). Field configuration and setup required (recording storage 32TB on RAID 5)	1.00	\$12,630.00	\$12,630.00
Dell-U2414H	Dell UltraSharp 24 Monitor •Full HD resolution and ultra-wide viewing angle for crisp, clear viewing quality at virtually any angle •Carefully color calibrated at the factory, the Dell™ UltraSharp 24 Monitor – U2414H features more than 96-percent sRGB color space for impressive color from the moment you set it up. •Great detail with a broad range of 16.77 million colors covering 96% sRGB	2.00	\$307.69	\$615.38
LCD-1	Articulating LCD wall bracket	2.00	\$46.08	\$92.16
HDMI 10FT	306126	2.00	\$14.78	\$29.56

Manufacturer Part #	Description	Qty	Unit Price	Ext. Price
XNF-8010R	Wisenet X powered by Wisenet 5 network indoor fisheye, 6MP CMOS sensor, 2048x2048 @ 30fps with WDR off/on(120dB), 1.6mm fixed lens (192°), H.265/H.264/MJPEG, WiseStream II compression technology, true WDR, USB port for easy installation, advanced video, audio and business analytics, simple focus, dual SD card, HLC, defog detection, DIS, 12VDC/PoE, IP66, IK10	2.00	\$712.00	\$1,424.00
XNV-8080R	WiseNet X powered by WiseNet 5 network IR outdoor vandal dome camera, 5MP @30fps WDR off/on, Motorized Vari-Focal Lens 2.4x (3.9~9.4mm) (92.1°~38.7°), H.265/H.264/MJPEG, WiseStream II compression technology, 120dB WDR, USB port for easy installation, Advanced video analytics and sound classification, High powered IR LEDs range of 164', True D/N, Dual SD card, Hallway view, HLC, Defog detection with simple focus, DIS , 12VDC/24VAC/PoE, IP67, IK10, Nema 4X, Built-in -40°F Heater	13.00	\$1,162.50	\$15,112.50
QND-7080R	4MP indoor dome network camera , Triple Codec H.265/H.264/MJPEG, Wisestream,2.8 ~ 12.0mm motorized varifocal lens, IR, PoE/12VDC, 120dB True WDR, Defocus Detection, Hallway View, One way audio and SD card slot (SD/SDHC/SDXC up to 128GB).	22.00	\$419.25	\$9,223.50
SBP-300HM6	samsung Medium Cap Adapter	13.00	\$36.75	\$477.75
SBP-300B	Wall Mount Base Accessory,	13.00	\$66.75	\$867.75
SBP-300WM1	Wall Mount for Samsung Mini PTZ	13.00	\$59.25	\$770.25
Labor Installation	Installation Labor	144.00	\$120.00	\$17,280.00
Engineering	Engineering and Design	16.00	\$80.00	\$1,280.00
			SubTotal	\$61,782.85
			Tax	\$0.00
			Shipping	\$0.00
			Total	\$61,782.85

Project is based upon acceptance of a mutually agreed upon contract Terms & Conditions. DSC considers this proposal an integral as part of any contract and/or purchase order offer. A written acceptance of this proposal, Letter of Intent, Signed Contract or Purchase Order will be required for DSC to begin any work on this project. Depending on the size and scope please allow 2-6 weeks for engineering submittals.

Most systems that are installed by DSC require connection to a network or Internet. It is the customer's responsibility to make sure that this connection is available. If DSC has to spend additional time troubleshooting network connections or port forwarding issues there will be an additional charge for the labor. Any Patch and Paint is by others.

Electrical work and conduit is excluded from this bid unless explicitly stated as a line item in this bid or proposal. Electrical Contractor is responsible for providing and installing all conduit/raceway, cable tray system, underground conduit, penetrations, sleeves with plastic bushings and fireproofing thereof, stub-ups, device boxes, standard electrical boxes, all special boxes furnished by DSC, mechanical areas and other areas as required, caddy bars and boxes, fittings and supports required for all field devices and control panels. J-box paint and label if required, A.C. power and connections to control panels, power supplies and devices such as actuators, dampers, DDC controllers, AHU'S fans, VFD'S, elevator recall etc. and as required by project drawings and DSC requirements.

Unless stated otherwise in the scope above, all materials and/or labor provided by DSC shall be under warranty against defects in material and workmanship under normal use and service, for a period of one year from date of acceptance or beneficial use, whichever occurs first.

If this quote contains lease payment options, the lease options are provided as an estimate only. Final lease payment amount is subject to credit verification and applicable taxes as required by law.

For clarification or further information on these exclusions and limitations, please contact us.

XNF-8010R/8010RV/8010RVM

6MP Sensor Fisheye Camera

XNF-8010R/8010RV/8010RVM



XNF-8010R

XNF-8010RV/8010RVM

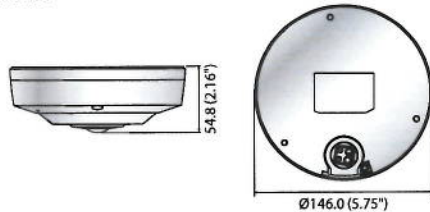
XNF-8010R/8010RV/8010RVM	
VIDEO	
Imaging Device	1/1.8" 6M CMOS
Total Pixels / Effective Pixels	3,096(H) x 2,094(V) / 2,048(H) x 2,048(V)
Scanning System	Progressive
Min. Illumination	Color: 0.1 Lux (F1.6), B/W: 0 Lux (IR LED On)
S/N Ratio	50dB
Video Output	CVBS: 1.0 Vpp / 75Ω Composite, 714 x 480(N), 702 x 576(P) for Installation; D/P Connector Type: USB
LENS	
Focal Length / Max. Aperture Ratio	1.6mm / F1.6
Angular Field of View	H: 192° / V: 192° / D: 192°
Min. Object Distance	0.3m (0.98ft)
Focus Control	Simple focus / Manual, Remote control Via network
Lens Type / Mount Type	Fixed / Board-in Type
OPERATIONAL	
Viewable Length	15m (49.21ft)
Camera Title	Off / On (Displayed up to 85 characters) - W/W: English / Numeric / Special characters - China: English / Numeric / Special / Chinese characters - Common: Multi-line (Max. 5), Color (Gray / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC / WDR
Wide Dynamic Range	120dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D + 3D Noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, polygonal) - Color: Gray, Green, Red, Blue, Black, White - Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital Zoom	8x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On
Intelligent Video Analytics	Tampering, Loitering, Directional detection, Virtual line, Enter/Exit, (Dis)Appear, Audio detection, Sound classification, People counting, Heatmap, Queue management
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload Via FTP and E-Mail, Notification via E-Mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output
Viewing Composition	Camera Side: Fisheye, Single panorama, Double panorama, Fisheye + 4 PTZ Quad View, Fisheye + 8 PTZ
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100 BASE-T)
Video Compression Format	H.265 / H.264 / MJPEG
Resolution	Original view: 2048x2048, 1280x1280, 1080x1080, 960x960, 768x768, 720x720, 640x640, 480x480 Single panorama: 2048 x 512, 1920 x 480, 1280 x 320, 640 x 160, 704 x 176 Double panorama: 2048 x 1024, 1920 x 960, 1280 x 640, 640 x 320, 704 x 352 Quad View: 2048x1536, 1600x1200, 1280x960, 1024x768, 800x600, 640x480, 704x576 [Q1 / 2 / 3 / 4] 1024 x 768, 800 x 600, 640 x 480
Max. Framerate	H.265 / H.264: 30fps@2,048 x 2,048, MJPEG: Max. 15fps
Smart Codec / WiseStreamII	Manual mode (area-based - Sea) / support
Video Quality Adjustment	H.265 / H.264: Target bitrate level control, MJPEG: Quality level control
Bitrate Control Method	H.265 / H.264: CBR or VBR, MJPEG: VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in / Built-in mic)
Audio Out	Supply voltage: 2.5V DC (4mA), Input impedance: Approx. 2K Ohm Line out (3.5mm mono jack), Max output level: 1 Vrms
Audio Compression Format	G.711 u-law/G.726 Selectable, G.726 (ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC: 48Kbps at 16KHz (XNF-8010R) (at 8 / 16 / 32 / 48KHz: XNF-8010RV/8010RVM)
Audio Communication	Bi-directional (2way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTCP/RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, iQMP, IGMP, SNMPv1/v2c/v3 (MIB-2), ARP, DNS, DDNS, QoS, PIMSM, UPnP, Bonjour, SIP
Security	HTTPS (SSL) login authentication, Digest login authentication IP address filtering, User access log, 802.1x Authentication (EAP-TLS, EAP-LEAP)
Streaming Method	Unicast / Multicast
Max. User Access	20 users at unicast mode
Edge Storage	SD/SDHC/SDXC 2slot (up to 512GB) - Continuous recording (1st slot to 2nd slot) - Motion images recorded in the SD/SDHC/SDXC memory card can be downloaded. - Camera can detect automatically when the memory is connected - Memory status display (Normal / Error / Active / Formatting / Lock) NAS (Network Attached Storage), Local PC for instant recording (Plug-in Viewer only)
Application Programming Interface	ONVIF Profile S/G, SUNAPI, Wisenet open platform
Webpage Language	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Portuguese, Turkish, Polish, Czech, Dutch, Hungary, Greek
Web Viewer	Supported OS: Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 [Plug-in Free Webviewer] Supported Browser: Google Chrome 60, MS Edge 40, Mozilla Firefox 55 (Window 64bit only), Apple Safari 10 (Max OS X only) [Plug-in Webviewer] Supported Browser: MS Explore 11, Apple Safari 10 (Mac OS X only)
Central Management Software	SmartViewer, SSM

Key Features

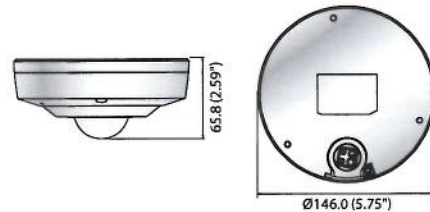
- Max. 2048 x 2048 resolution
- H.265, H.264, MJPEG codec supported
- Variable view mode (Fisheye, Single panorama, Double panorama, Quad view)
- On board dewarping, Digital PTZ (8x), Bi-directional audio
- True WDR (120dB), WiseStreamII support
- Tampering, Loitering, Directional detection, Audio detection, Sound classification, Heatmap, People counting, Queue management
- Motion detection, Handover
- M12 connector (XNF-8010RVM)
- IP66 / IK10 (XNF-8010RV/8010RVM)
- SD / SDHC / SDXC memory slot (Max. 512GB), 12V DC / PoE
- IR viewable length 15m (49.21ft)

Dimensions

Unit : mm (inch)



XNF-8010R



XNF-8010RV/8010RVM

Accessories (Optional)



ENVIRONMENTAL	
Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / Less than 90% RH (XNF-8010R) -40°C ~ +55°C (-40°F ~ +131°F) / Less than 90% RH (XNF-8010RV/8010RVM)
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Ingress Protection / Vandal Resistance	IP66 / IK10 (XNF-8010RV/8010RVM)
ELECTRICAL	
Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af, Class3)
Power Consumption	Max. 11W (12V DC), Max. 12W (PoE) (XNF-8010R) Max. 12W (12V DC), Max. 12.95W (PoE) (XNF-8010RV/8010RVM)
MECHANICAL	
Color / Material	Ivory / Aluminum
Dimension (WxHxD)	Ø146 x 54.8mm (Ø5.75" x 2.16") (XNF-8010R) Ø146 x 65.8mm (Ø5.75" x 2.59") (XNF-8010RV/8010RVM)
Weight	730g (1.61 lb) (XNF-8010R) / 785g (1.73 lb) (XNF-8010RV) / 790g (1.74 lb) (XNF-8010RVM)

* The latest product information / specification can be found at hanwha-security.com
* Design and specifications are subject to change without notice.

XNV-8080R

5M Vandal-Resistant Network IR Dome Camera

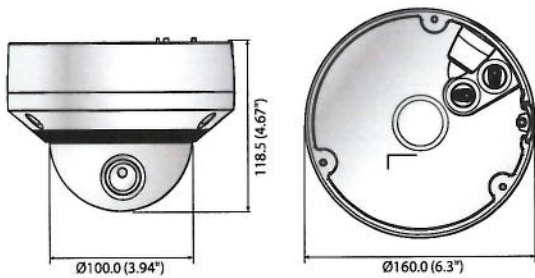


Key Features

- Max. 5 megapixel (2560 x 1920) resolution
- 3.9~9.4mm (2.4x) motorized varifocal lens
- Max. 30fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (120dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support
- IR viewable length 50m, IP67/IP66, NEMA 4X, IK10
- LDC support (Lens Distortion Correction)
- PoE / 24V AC, 12V DC, Bi-directional audio support

Dimensions

Unit : mm (inch)



Accessories (Optional)



XNV-8080R

VIDEO	
Imaging Device	1/1.8" 6M CMOS
Total Pixels	3,096(H) x 2,094(V)
Effective Pixels	2,616(H) x 1,976(V)
Scanning System	Progressive Scan
Min. Illumination	Color: 0.07Lux (F1.3, 1/30sec), B/W: 0Lux (IR LED on)
S / N Ratio	50dB
Video Out	CVBS: 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB: micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	3.9 ~ 9.4mm (2.4x) motorized varifocal
Max. Aperture Ratio	F1.3
Angular Field of View	H: 92.1° ~ 38.7° / V: 67.2° ~ 29.0° / D: 119.9° ~ 48.6°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Simple focus (Motorized V/F) / Manual, Remote control via network (Manual, Simple focus)
Lens / Mount Type	DC auto iris, P-Iris / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
IR Viewable Length	50m (164.04ft) Off / On (Displayed up to 85 characters) - W/W: English / Numeric / Special characters - China: English / Numeric / Special / Chinese characters - Common: Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Camera Title	
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	120dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color: Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High / Manual
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view: 90°/270° Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification
Video & Audio Analytics	
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	2560 x 1920, 2560 x 1440, 1920 x 1080, 1600 x 1200, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264: Max. 30fps at all resolutions, MJPEG: Max. 30fps
Smart Codec	Manual mode (Area-based : Sea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264: Target bitrate level control, MJPEG: Target bitrate level control
Bitrate Control Method	H.265 / H.264: CBR or VBR, MJPEG: VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Supply voltage: 2.5V DC (4mA), Input impedance: approx. 2K Ohm
Audio Out	Line out, Max output level: 1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC: 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3 (MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour HTTPS (SSL) login authentication, Digest login authentication IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Security	Unicast / Multicast
Streaming Method	20 users at unicast mode
Max. User Access	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot)
Edge Storage	NAS (Network Attached Storage), Local PC for instant recording
Application Programming Interface	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek Supported OS: Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser: Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only
Web Viewer	Plug-in Webviewer - Supported Browser: MS Explore 11, Apple Safari 9 * Mac OS X only
SmartViewer, SSM	
Central Management Software	
ENVIRONMENTAL	
Operating Temperature / Humidity	-40°C ~ +55°C (-40°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Ingress Protection / Vandal Resistance	IP67, IP66, NEMA 4X / IK10
ELECTRICAL	
Input Voltage / Current	24V AC ±10%, 12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 11.5W (12VDC), Max. 12.95W (PoE), Max. 14W (24VAC)
MECHANICAL	
Color / Material	Ivory / Aluminum
Dimensions (WxH)	Ø160.0 x 118.5mm (Ø6.3" x 4.67")
Weight	1.01kg (2.23lb)

* The latest product information / specification can be found at hanwha-security.eu
* Design and specifications are subject to change without notice.

QND-7080R

4Megapixel Network IR Dome Camera

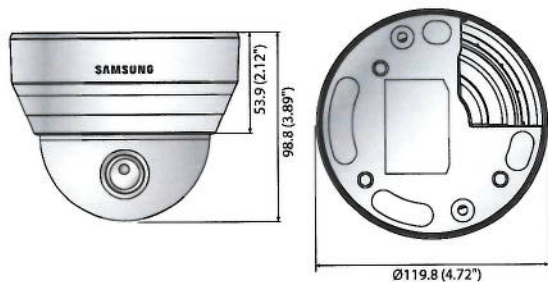


Key Features

- Max. 4M resolution
- 2.8 ~ 12mm (4.3x) motorized varifocal lens
- Max. 20fps@4M, Max.30fps@2M all resolutions
- H.265, H.264, MJPEG codec supported
- Day & Night (ICR), WDR (120dB)
- Motion detection, Tampering, Defocus detection
- micro SD (128GB) memory slot, PoE / 12V DC
- IR viewable length 20m
- Hallway view support
- LDC support (Lens Distortion Correction)

Dimensions

Unit: mm (inch)



Accessories (Optional)



QND-7080R

VIDEO	
Imaging Device	1/3" 4M CMOS
Total Pixels	2,720(H) x 1,536(V)
Effective Pixels	2,688(H) x 1,520(V)
Scanning System	Progressive
Min. Illumination	Color : 0.15Lux (30IRE), B/W : 0Lux (IR LED on)
LENS	
Focal Length (Zoom Ratio)	2.8 ~ 12mm (4.3x) motorized varifocal
Max. Aperture Ratio	F1.4
Angular Field of View	H : 109.7° ~ 26.0° / V : 60.8° ~ 15.2° / D : 131.3° ~ 30.1°
Focus Control	Simple focus (Motorized V/F) / Manual, Remote control via network
Lens Type	DC auto iris
Mount Type	Board type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 350° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
IR Viewable Length	20m (65.62ft)
Camera Title	Off / On (Displayed up to 20 characters per line) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Day & Night	True Day & Night
Backlight Compensation	Off / BLC / WDR
Wide Dynamic Range	120dB
Digital Noise Reduction	SSNR (Off / On)
Motion Detection	Off / On (4ea polygonal zones)
Privacy Masking	Off / On (6ea rectangular zones)
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker
Flip / Mirror	Flip / Mirror / Hallway view
Intelligent Video Analytics	Motion detection with metadata, Tampering, Defocus detection
Alarm I/O	Input 1 / Output 1
Alarm Triggers	Motion detection, Tampering detection, SD card error, NAS error, Alarm input, Defocus detection
Alarm Events	File upload via FTP and E-mail, Local storage recording at event, Notification via E-mail, External output
Pixel Counter	Support (Plug-in viewer only)
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265, H.264, MJPEG
Resolution	2592 x 1520, 2560 x 1440 (16:9), 2304 x 1296, 1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 450, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265/H.264 : Max. 20fps at 4M, Max. 30fps at 2M all resolutions, MJPEG : Max. 15fps
Smart Codec	WiseStream
Video Quality Adjustment	H.265/H.264 : Target bitrate level control, MJPEG : Quality level control
Bitrate Control Method	H.265/H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 3 profiles)
Audio I/O	Built-in mic
Audio Compression Format	G.711 u-law / G.726 selectable G.726 (ADPCM) 8KHz, G.711 8KHz, G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps
Audio Communication	Uni-directional audio
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Security	HTTPS (SSL) login authentication, Digest login authentication IP address filtering, User access log, 802.1x authentication
Streaming Method	Unicast / Multicast
Max. User Access	6 users at unicast mode
Storage	micro SD/SDHC/SDXC max. 128G, NAS - Motion images recorded in the SD memory card can be downloaded - Manual recording at local PC
Application Programming Interface	ONVIF Profile S/G, SUNAPI (HTTP API)
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungary, Greek
Web Viewer	Supported OS : Windows 7, 8.1, 10, Mac OS X 10.9, 10.10, 10.11 Plug-in free Webviewer - Supported Browser : Google Chrome 47, MS Edge 20 Plug-in Webviewer - Supported Browser : MS Explore 11, Mozilla Firefox 43, Apple Safari 9 * Mac OS X only
Central Management Software	SmartViewer
ENVIRONMENTAL	
Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-30°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH
ELECTRICAL	
Input Voltage / Current	PoE (IEEE802.3af, Class3) / 12V DC
Power Consumption	Max. 7.2W (PoE), Max. 6.4W (12V DC)
MECHANICAL	
Color / Material	Ivory / Plastic
Dimensions (WxH)	Ø119.8 x 98.8mm (Ø4.72" x 3.89")
Weight	355g (0.78 lb)

* The latest product information / specification can be found at <http://security.hanwhatechwin.com>