

SUPPLEMENTAL/BID BULLETIN NO. 2

Procurement of CCTV System for the Department of Tourism (DOT-BAC IB NO. 2020-012)

This Supplemental/Bid Bulletin No. 2 is issued to clarify, modify and/or amend items in the Bidding Documents as discussed and agreed during the Virtual Pre-Bid Conference held on 04 December 2020 for the aforementioned project. This shall form part of the Bidding Documents.

I. The following portions of the Bidding Documents are hereby amended as follows:

A. Section VII. Technical Specifications

Section VII. Techi	nical Specifications
FROM (Old Provision)	TO (New Provision)
Scope of Work	Scope of Work
Supply, delivery, installation and deployment of a new CCTV system consisting of:	Supply, delivery, installation and deployment of a new CCTV system consisting of:
55 pcs. CCTV camera,	55 pcs. CCTV camera,
1 pc. Central Video Management Server,	1 pc. Central Video Management Server,
1 pc. CCTV Storage,	1 pc. CCTV Storage,
1 pc. workstation,	1 pc. workstation,
1 pc. uninterrupted power supply,	1 pc. uninterrupted power supply,
6 pcs. POE network switch and	6 pcs. POE network switch and
3 pcs. monitor at the New DOT Bldg. in Makati City.	3 pcs. monitor at the New DOT Bldg. in Makati City.
Shall also integrate the existing CCTV camera to the new CCTV system	Shall integrate <u>maximum of 50 units of the existing CCTV camera</u> to the new CCTV system
Must be able to store or record video for at least 30 days.	Must be able to store or record video for at least 30 days.
 Delivery service shall be free of charge; Delivery at DOT main office, 351 Sen Gil Puyat Ave Makati City. The Contractor shall perform the installation, testing and commissioning of all equipment. All necessary tests, services and inspections to assure the system functions and shall be checked and approved before the acceptance test. Consideration shall be given to the fact that installation or tests of other systems within the same building may be carried out during the same period. The work includes the furnishings of materials, cables, consumable materials, facilities, civil works, labor, tools, equipment, test instruments, apparatus, specialties and other services necessary to complete the installation and commissioning of the CCTV System at the New DOT Bldg. The project must be completed within thirty (30) calendar days including delivery of equipment upon receipt of notice to proceed. The contractor shall have access to the site seven (7) days a week from 8pm to 5am starting on the date of receipt of the Notice to Proceed. All works should be coordinated with DOT on 	 Delivery service shall be free of charge; Delivery at DOT main office, 351 Sen Gil Puyat Ave Makati City. The Contractor shall perform the installation, testing and commissioning of all equipment. All necessary tests, services and inspections to assure the system functions and shall be checked and approved before the acceptance test. Consideration shall be given to the fact that installation or tests of other systems within the same building may be carried out during the same period. The work includes the furnishings of materials, cables, consumable materials, facilities, civil works, labor, tools, equipment, test instruments, apparatus, specialties and other services necessary to complete the installation and commissioning of the CCTV System at the New DOT Bldg. The project must be completed within sixty-five (65) calendar days including the civil works, delivery and installation of equipment upon receipt of notice to proceed. The contractor shall have access to the site seven (7) days a week from 8pm to 5am or 7pm to 4am or 6pm to 3am or the time agreed by both parties

- The contractor shall submit a weekly progress report.
- The contractor shall submit the following documentation to DOT upon completion of the project.
- o As-built diagram
- o System brochures/ documentation for systems operational & Maintenance/User Manuals-one [1] original and three [3] copies. o Detailed equipment list stating the location, make model, serial numbers, firm ware among others.
- o Result of system test as per manufacturer standards
- o System and Workmanship Warranty/Guarantee
- o Certification of Parts availability and support for One [1] year
- o Training Certification of attendees for Operations and Maintenance of the system.
- The installation must include wireless connectivity for the cameras to be installed inside the elevators.
- The Contractor shall submit a detailed work plan to be presented during the project kick-off.
- 6. The Contractor shall prepare and furnish fully dimensioned scaled drawings of builder's work arising from the installation of the equipment and system as well as for the equipment layout plans at various locations.
- The work drawings shall show: o The general arrangement of cabinets and other facilities in the equipment areas as well as the operational area
 - o The general arrangement of cabling within the system.
- 8. As soon as the commissioning of the equipment and system have been completed, the Contractor shall amend or correct all his Approved Drawings, if so required, furnish three (3) sets of prints of all "As-built" drawings showing the works as finally installed and commissioned. These drawings shall be furnished in hard bound covers
- One (1) set of "As-built" drawings will be submitted in digital format in a USB drive
- 10. The "As-built" drawings shall show the general arrangement of all equipment's and auxiliaries, positions of all electrical outlets, fittings, switches, switch-boards and control panels, cables, pipes, ducts runs, markers and underground ducts, interwiriness, schedules, plant manufacturers name plates, models and type numbers and other information necessary to facilitate routine inspection and maintenance of installation.
- Roughing-ins including supports, boxes, fittings, cover plates, mounting brackets should be provided by the contractor.

- Notice to Proceed. All works should be coordinated with DOT on a weekly basis and can be revoked or suspended.
- The contractor shall submit a weekly progress report.
- The contractor shall submit the following documentation to DOT upon completion of the project.
- o As-built diagram
- o System brochures/ documentation for systems operational & Maintenance/User Manuals-one [1] original and three [3] copies. o Detailed equipment list stating the location, make model, serial numbers, firm ware among others.
- o Result of system test as per manufacturer standards
- o System and Workmanship Warranty/Guarantee
- o Certification of Parts availability and support for One [1] year o Training Certification of attendees for Operations and Maintenance of the system.
- 4. The installation must include wireless connectivity for the cameras to be installed inside the elevators.
- 5. The Contractor shall submit a detailed work plan to be presented during the project kick-off.
- 6. The Contractor shall prepare and furnish fully dimensioned scaled drawings of builder's work arising from the installation of the equipment and system as well as for the equipment layout plans at various locations.
- 7. The work drawings shall show: o The general arrangement of cabinets and other facilities in the equipment areas as well as the operational area
 - o The general arrangement of cabling within the system.
- 8. As soon as the commissioning of the equipment and system have been completed, the Contractor shall amend or correct all his Approved Drawings, if so required, furnish three (3) sets of prints of all "As-built" drawings showing the works as finally installed and commissioned. These drawings shall be furnished in hard bound covers
- One (1) set of "As-built" drawings will be submitted in digital format in a USB drive
- 10. The "As-built" drawings shall show the general arrangement of all equipment's and auxiliaries, positions of all electrical outlets, fittings, switches, switch-boards and control panels, cables, pipes, ducts runs, markers and underground ducts, interwiriness, schedules, plant manufacturers name plates, models and type numbers and other information necessary to facilitate routine inspection and maintenance of installation.
- Roughing-ins including supports, boxes, fittings, cover plates, mounting brackets should be provided by the contractor.

Eligibility Requirements

- A. Must have at least five (5) years of existence.
- B. Must have completed a similar project.
- C. Must offer CCTV brand or manufacturer that is not barred or banned by any country due to cyber security issues.
- D. Must offer CCTV brand or manufacturer that is ONVIF compliant
- E. Must offer a CCTV provider that produces own hardware and develops its own software applications.
- F. Must have at least two (2) certified technicians. Copies of their CV and certification to be provided.
- G. Claiming, providing and submitting false information during procurement process shall be immediately disqualify from the bidding. This is for the Department and committee protection from dishonest supplier purposely providing ICT equipment that are but not limited to overpricing, non-compliance ICT equipment, toy like ICT equipment, etc.
- H. Must present notarized certificates- one original each and two certified true copies, from the Original Equipment Manufacturer (OEM) stating the following:

Eligibility Requirements

- A. Must have at least five (5) years of existence.
- B. Must have completed a similar project.
- C. Must offer CCTV brand or manufacturer that is not barred or banned by any country due to cyber security issues. The principal manufacturer or Original Equipment Manufacturer (OEM) provider must provide a notarized statement that they are not banned in any country due to cyber security.
- D. Must offer CCTV brand or manufacturer that is ONVIF compliant
- E. Must offer a CCTV provider that produces own hardware and develops its own software applications.
- F. Must have at least two (2) certified technicians. Copies of their CV and certification to be provided.
- G. Claiming, providing and submitting false information during procurement process shall be immediately disqualify from the bidding. This is for the Department and committee protection from dishonest supplier purposely providing ICT equipment that are but not limited to overpricing, non-compliance ICT equipment, toy like ICT equipment, etc.

i. The Bidder is a duly recognized and authorized country reseller H. Must present notarized certificates- one original each and two by the Original Equipment Manufacturer. certified true copies, from the Original Equipment Manufacturer ii. The Bidder is recognized and authorized to support the DOT (OEM) stating the following: project by the OEM. i. The Bidder is a duly recognized and authorized country reseller iii. The Bidder is authorized by the OEM systems manufacturer to by the Original Equipment Manufacturer. extend the manufacturer's warranty support for the project. ii. The Bidder is recognized and authorized to support the DOT iv. That the OEM systems manufacturer will guarantee the project by the OEM. availability of spare parts for the system for not less than three iii. The Bidder is authorized by the OEM systems manufacturer to (3) years from the date of commissioning of the system by the extend the manufacturer's warranty support for the project. Department of Tourism. iv. That the OEM systems manufacturer will guarantee the availability of spare parts for the system for not less than three (3) years from the date of commissioning of the system by the Department of Tourism. Documentation Requirements **Documentation Requirements** A. Three (3) sets of As-built drawings in hard bound covers A. Three (3) sets of As-built drawings in hard bound covers B. One (1) set of As-built drawings in digital format in a USB drive B. One (1) set of As-built drawings in digital format in a USB drive C. Network diagram and System Architecture C. Network diagram and System Architecture D. System brochures /documentation for systems operational & D. System brochures /documentation for systems operational & Maintenance/ User Manuals-one [1] original and three [3] Maintenance/ User Manuals-one [1] original and three [3] copies. E. Detailed equipment list stating the location, make model, serial E. Detailed equipment list stating the location, make model, serial numbers, firm ware among others. numbers, firm ware among others. F. Result of system test as per manufacturer standards F. Result of system test as per manufacturer standards G. System and Workmanship Warranty/Guarantee G. System and Workmanship Warranty/Guarantee H. Certification of Parts availability and support for One [1] year H. Certification of Parts availability and support for One [1] year I. Training material I. Training material J. Training Certification of attendees for Operations and Maintenance J. Training Certification of attendees for Operations and Maintenance of the system. of the system. Training Requirements Training Requirements A. Training for at least 10 participants (GSD, Security, ITD) A. Training for at least 10 participants (GSD, Security, ITD) 1. End user product and configuration training 1. End user product and configuration training 2. Troubleshooting and Maintenance 2. Troubleshooting and Maintenance B. Training will be conducted on-site. Based on the availability of the B. Training will be conducted on-site. Based on the availability of the DOT trainees. DOT trainees. C. Training material to be provided by the Contractor C. Training material to be provided by the Contractor Maintenance Requirements Maintenance Requirements DOT needs a comprehensive maintenance service to include fault DOT needs a comprehensive maintenance service to include fault prevention, adjustments, corrections, repairs and replacementsprevention, adjustments, corrections, repairs and replacements-During the warranty period the contractor is required to provide the During the warranty period the contractor is required to provide the following: following: o 4- hours response time on server hardware, 24 x 7 (remote, onsite o 4- hours response time on server hardware, 24 x 7 (remote, onsite if needed) if needed) o Software technical assistance o Software technical assistance o Software/firmware updates if necessary o Software/firmware updates if necessary o NBD for CCTV software and hardware o NBD for CCTV software and hardware Service Feature Highlights Service Feature Highlights o Remote problem diagnosis support for hardware products o Remote problem diagnosis support for hardware products o Onsite hardware support o Onsite hardware support o Materials excluding consumables o Materials excluding consumables o Onsite response time for hardware support o Onsite response time for hardware support o Work to completion for hardware support o Work to completion for hardware support o Escalation/Service Level Management o Escalation/Service Level Management o Firmware and documentation updates o Firmware and documentation updates o Electronic support information and services o Electronic support information and services o Electronic remote support o Electronic remote support Technical Specification of ICT Equipment Technical Specification of ICT Equipment VIDEO VIDEO Item 1: 21 pcs. Indoor Dome CCTV Camera Item 1: 21 pcs. Indoor Dome CCTV Camera At least 1/2.8" 2MP CMOS At least 1/2.8" 2MP CMOS **Imaging Imaging** Device Device 1920x1080, 1280x960, 1280x720, 800x600, 1920x1080, 1280x960, 1280x720, 800x600, Resolution Resolution 800x448, 720x576, 720x480, 640x480. 800x448, 720x576, 720x480, 640x480, 640x360 640x360

	H.265/H.264: Max.
ramerate	30fps/25fps(60Hz/50Hz)
	MJPEG: Max. 15fps/12fps(60Hz/50Hz)
Min.	Color: 0.03Lux(F1.6, 1/30sec) BW: 0Lux(IR
llumination	LED on)
/ideo Out	CVBS: $1.0 \text{ Vp-p} / 75\Omega \text{ composite}$
ENIC	720x480(N), 720x576(P) for installation
ENS	2 2010
Focal Length	3.2~10mm(3.1x) manual varifocal
Zoom Ratio) Max.	F1.6(Wide)~F2.9(Tele)
viax. Aperture	F1.6(Wide) F2.9(Tele)
Ratio	
Angular Field	H: 109.0°(Wide)~33.2°(Tele) / V:
of View	57.4°(Wide)~18.7°(Tele) / D:
21 VICVV	132.0°(Wide)~38.0°(Tele)
ocus Control	Manual
ens Type	DC auto iris
Pan / Tilt /	0°~350° / 0°~67° / 0°~355°
Rotate Range	
OPERATIONAL	1
Camera	Title Displayed up to 85 characters
Day & Night	Auto(ICR)
Backlight	BLC, WDR, SSDR
Compensation	
Wide Dynamic	At least 120dB
Range	
Digital Noise	The images should be cleaner, sharper and
Reduction	retain more detail. The images are captured
	in low light applications, has usually the high
	levels of noise which make them unusable.
	Therefore, the noise should be eliminated,
	or even greatly reduced, this will greatly
	enhance the performance of a camera. With
	reduced noise, it will keep image file sizes
	down when recorded digitally.
Motion	4ea, polygonal zones
Detection	
Privacy	6ea, rectangular zones
Masking	
Gain Control	Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor
.DC	Support
-1	Minimum / Maximum /Anti flicker
Electronic	/4 /For4 /4 2 000 \
Shutter Speed	(1/5~1/12,000sec)
Shutter Speed /ideo	(1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°)
Shutter Speed Video Rotation	Flip, Mirror, Hallway view(90°/270°)
Shutter Speed /ideo	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection,
Shutter Speed Video Rotation	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering,
Shutter Speed Video Rotation Analytics	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line
Shutter Speed Video Rotation Analytics	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea
Shutter Speed //ideo Rotation Analytics Alarm I/O Alarm	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm
Shutter Speed Video Rotation Analytics Alarm I/O Alarm	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input
Shutter Speed //ideo Rotation Analytics Alarm I/O Alarm	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification
Shutter Speed Video Rotation Analytics Alarm I/O Alarm	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording
Shutter Speed Video Rotation Analytics Alarm I/O Alarm Triggers Alarm Events	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output
Shutter Speed Video Rotation Analytics Alarm I/O Alarm Friggers Alarm Events	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Built-in mic
Shutter Speed Video Rotation Analytics Alarm I/O Alarm Friggers Alarm Events Audio In R Viewable	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output
Shutter Speed Video Rotation Analytics Alarm I/O Alarm Friggers Alarm Events Audio In R Viewable Length	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Built-in mic
Shutter Speed Video Rotation Analytics Alarm I/O Alarm Friggers Alarm Events Audio In R Viewable Length NETWORK	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Built-in mic 20m(65.62ft)
Shutter Speed Video Rotation Analytics Alarm I/O Alarm Friggers Alarm Events Audio In R Viewable Length NETWORK Ethernet	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Built-in mic 20m(65.62ft)
hutter Speed ideo otation nalytics larm I/O larm riggers larm Events udio In R Viewable ength ETWORK	Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Built-in mic 20m(65.62ft)

Max.	H.265/H.264: Max.
Framerate	30fps/25fps(60Hz/50Hz)
	MJPEG: Max. 15fps/12fps(60Hz/50Hz)
Min.	Color: 0.03Lux(F1.6, 1/30sec) BW: 0Lux(IR
Illumination	LED on)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite,
Viaco out	720x480(N), 720x576(P) for installation
LENC	720X480(N), 720X370(1) 101 IIIstaliation
LENS	2 2010 (2 4.)
Focal Length	3.2~10mm(3.1x) manual varifocal
(Zoom Ratio)	
Max.	F1.6(Wide)~F2.9(Tele)
Aperture	
Ratio	
Angular Field	H: 109.0°(Wide)~33.2°(Tele) / V:
of View	57.4°(Wide)~18.7°(Tele) / D:
	132.0°(Wide)~38.0°(Tele)
Focus Control	Manual
Lens Type	DC auto iris
Pan / Tilt /	0°~350° / 0°~67° / 0°~355°
	0 330 / 0 0/ / 0 333
Rotate Range	<u>l</u>
OPERATIONAL	I
Camera	Title Displayed up to 85 characters
Day & Night	Auto(ICR)
Backlight	BLC, WDR, SSDR
Compensation	
Wide Dynamic	At least 120dB
Range	
Digital Noise	The images should be cleaner, sharper and
Reduction	retain more detail. The images are captured
Reduction	in low light applications, has usually the high
	levels of noise which make them unusable.
	Therefore, the noise should be eliminated,
	or even greatly reduced, this will greatly
	enhance the performance of a camera. With
	reduced noise, it will keep image file sizes
	· · · · · · · · · · · · · · · · · · ·
Motion	reduced noise, it will keep image file sizes
Motion Detection	reduced noise, it will keep image file sizes down when recorded digitally.
	reduced noise, it will keep image file sizes down when recorded digitally.
Detection Privacy	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones
Detection Privacy Masking	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones
Detection Privacy Masking Gain Control	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High
Detection Privacy Masking Gain Control White Balance	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor
Detection Privacy Masking Gain Control White Balance LDC	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support
Detection Privacy Masking Gain Control White Balance LDC Electronic	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec)
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°)
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection,
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering,
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection,
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation Analytics	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation Analytics Alarm I/O	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation Analytics Alarm I/O Alarm	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation Analytics Alarm I/O Alarm Triggers	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation Analytics Alarm I/O Alarm Triggers	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation Analytics Alarm I/O Alarm Triggers Alarm Events	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation Analytics Alarm I/O Alarm Triggers Alarm Events	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Built-in mic
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation Analytics Alarm I/O Alarm Triggers Alarm Events Audio In IR Viewable	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation Analytics Alarm I/O Alarm Triggers Alarm Events Audio In IR Viewable Length	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Built-in mic
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation Analytics Alarm I/O Alarm Triggers Alarm Events Audio In IR Viewable Length NETWORK	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Built-in mic 20m(65.62ft)
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation Analytics Alarm I/O Alarm Triggers Alarm Events Audio In IR Viewable Length NETWORK Ethernet	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Built-in mic 20m(65.62ft) RJ-45(10/100BASE-T)
Detection Privacy Masking Gain Control White Balance LDC Electronic Shutter Speed Video Rotation Analytics Alarm I/O Alarm Triggers Alarm Events Audio In IR Viewable Length NETWORK	reduced noise, it will keep image file sizes down when recorded digitally. 4ea, polygonal zones 6ea, rectangular zones Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor Support Minimum / Maximum /Anti flicker (1/5~1/12,000sec) Flip, Mirror, Hallway view(90°/270°) Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line Input 1ea / Output 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Built-in mic 20m(65.62ft)

Audio Compression	G.711 u-law /G.72 G.726(ADPCM) 8KI 16Kbps, 24Kbps, 3	Hz, G.711 8KHz G.726:	Audio Compression	G.711 u-law /G.726 Selectable G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps
Bitrate Control	H.264/H.265: CBR	or VBR	Bitrate Control	H.264/H.265: CBR or VBR
	MJPEG: VBR			MJPEG: VBR
Streaming	Unicast(6 users) / I streaming(Up to 3	•	Streaming	Unicast(6 users) / Multicast Multiple streaming(Up to 3 profiles)
Protocol	SSL/TLS, DHCP, FTF	SP, NTP, HTTP, HTTPS, P, SMTP, ICMP, IGMP, IIB-2), ARP, DNS, DDNS,	Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QOS, UPnP, Bonjour, LLDP
Security	HTTPS(SSL) Login A Login Authentication	uthentication Digest on IP Address Filtering 2.1X Authentication(EAP-	Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access log 802.1X Authentication(EAP- TLS, EAP-LEAP)
GENERAL			GENERAL	
Web Viewer	OSx10.12, 10.13, 1 Google Chrome, M	ndows 7, 8.1, 10, Mac 0.14 Supported Browser: S Explore11, MS Edge, ndow 64bit only), Apple	Web Viewer	Supported OS: Windows 7, 8.1, 10, Mac OSx10.12, 10.13, 10.14 Supported Browser: Google Chrome, MS Explore11, MS Edge, Mozilla Firefox(Window 64bit only), Apple Safari (Mac OSX)
Edge Storage	Micro SD/SDHC/SD	OXC 1slot 128GB	Edge Storage	Micro SD/SDHC/SDXC 1slot 128GB
Memory	512MB RAM, 256N		Memory	512MB RAM, 256MB Flash
	AL & ELECTRICAL			AL & ELECTRICAL
Operating Temperature / Humidity		F ~ +131°F) / Less than	Operating Temperature / Humidity	-10°C ~ +55°C(+14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-30°C ~ +60°C(-22° 90% RH	F ~ +140°F) / Less than	Storage Temperature / Humidity	-30°C ~ +60°C(-22°F ~ +140°F) / Less than 90% RH
Input Voltage	PoE(IEEE802.3af, C	lass3), 12VDC	Input Voltage	PoE(IEEE802.3af, Class3), 12VDC
Power Consumption	PoE: Max 7.70W, t 6.50W, typical 5.10	ypical 6.00W 12VDC: Max OW	Power Consumption	PoE: Max 7.70W, typical 6.00W 12VDC: Max 6.50W, typical 5.10W
tem No. 2: 30 pc /IDEO	s. Outdoor Bullet CC	TV Camera	Item No. 2: 30 pc VIDEO	s. Outdoor Bullet CCTV Camera
Imaging Device	At least 1/2	2.8" 2MP CMOS	Imaging Device	At least 1/2.8" 2MP CMOS
Resolution	1280x720,), 1280x960, 800x600, 800x448, (20x480, 640x480,	Resolution	1920x1080, 1280x960, 1280x720, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360
Max. Framerate	30fps/25fp	54: Max. s(60Hz/50Hz) MJPEG: s/12fps(60Hz/50Hz)	Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 15fps/12fps(60Hz/50Hz)
Min. Illuminatio		Lux(F1.6, 1/30sec)	Min. Illuminatio	n Color: 0.03Lux(F1.6, 1/30sec) BW: 0Lux(IR LED on)
Video Out		/p-p / 75Ω composite,), 720x576(P) for	Video Out	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation
LENS			LENS	
Focal Length (Zo Ratio)	oom 3.2~10mm varifocal	(3.1x) manual	Focal Length (Zo	oom Minimum: 3.0 ~ Maximum: 12mm (3.1x) manual varifocal
Max. Aperture F Angular Field of	Ratio F1.6(Wide)	rF2.9(Tele) Wide)~33.2°(Tele) / V:	Aperture Ratio	Maximum: F1.6(Wide) Maximum: F2.9(Tele)
Focus Control	57.4°(Wide	e)~18.7°(Tele) / D: de)~38.0°(Tele)	Angular Field of	Minimum: H: 109.0°(Wide)~33.2°(Tele)

Lens Type	DC auto iris
OPERATIONAL	
Camera Title	Displayed up to 85 characters
Day & Night	Auto(ICR)
Backlight	BLC, WDR, SSDR
Compensation	
Wide Dynamic Range	At least 120dB
Digital Noise	The images should be cleaner,
Reduction	sharper and retain more detail.
	The images are captured in low
	light applications, has usually the
	high levels of noise which make
	them unusable. Therefore, the
	noise should be eliminated, or
	even greatly reduced, this will
	greatly enhance the
	performance of a camera. With
	reduced noise, it will keep image
	file sizes down when recorded
	digitally.
Motion Detection	4ea, polygonal zones
Privacy Masking	6ea, rectangular zones
Gain Control	Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor /
	Outdoor
Electronic Shutter	Minimum / Maximum / Anti
Speed	flicker (1/5~1/12,000sec)
Video Rotation	Flip, Mirror, Hallway
	view(90°/270°)
Analytics	Defocus detection, Directional
	detection, Motion detection,
	Enter/Exit, Tampering, Virtual line
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Analytics, Network disconnect,
7 Harri 11166615	Alarm input
Alarm Events	File upload via FTP and e-mail
	Notification via e-mail
	SD/SDHC/SDXC or NAS recording
	at event triggers Alarm output
Audio In	Selectable(mic in/line in)
	Supply voltage: 2.5VDC(4mA),
	Input impedance: 2K Ohm
IR Viewable Length	30m(98.42ft)
NETWORK	35.11(30.7210)
	RI-45(10/100PASE_T)
Ethernet Video Compression	RJ-45(10/100BASE-T) H.265/H.264: Main/High, MJPEG
Video Compression	
Audio Compression	G.711 u-law /G.726 Selectable
	G.726(ADPCM) 8KHz, G.711 8KHz
	G.726: 16Kbps, 24Kbps, 32Kbps,
Ditunta Canturi	40Kbps
Bitrate Control	H.264/H.265: CBR or VBR
Ctrooming	MJPEG: VBR
Streaming	Unicast(6 users) / Multicast
	Multiple streaming(Up to 3
	profiles)
Duete sel	ID. A ID. C TCD/ID LIDD/ID
Protocol	IPv4, IPv6, TCP/IP, UDP/IP,
Protocol	RTP(UDP), RTP(TCP), RTCP, RTSP,
Protocol	RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP,
Protocol	RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP,
Protocol	RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS,
	RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPNP, Bonjour, LLDP
Protocol	RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP HTTPS(SSL) Login Authentication
	RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPNP, Bonjour, LLDP

	Minimum:
Facus Cantual	D:132.0°(Wide)~38.0°(Tele)
Focus Control	Manual DC auto iris
Lens Type OPERATIONAL	DC auto IIIs
Camera Title	Displayed up to 85 characters
Day & Night	Auto(ICR)
Backlight	BLC, WDR, SSDR
Compensation	, , , , , ,
Wide Dynamic Range	At least 120dB
Digital Noise	The images should be cleaner,
Reduction	sharper and retain more detail.
	The images are captured in low
	light applications, has usually the
	high levels of noise which make them unusable. Therefore, the
	noise should be eliminated, or
	even greatly reduced, this will
	greatly enhance the
	performance of a camera. With
	reduced noise, it will keep image
	file sizes down when recorded
	digitally.
Motion Detection	4ea, polygonal zones
Privacy Masking	6ea, rectangular zones
Gain Control	Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor
Electronic Shutter	Minimum / Maximum / Anti
Speed	flicker (1/5~1/12,000sec)
Video Rotation	Flip, Mirror, Hallway
	view(90°/270°)
Analytics	Defocus detection, Directional
	detection, Motion detection,
	Enter/Exit, Tampering, Virtual line
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Analytics, Network disconnect, Alarm input
Alarm Events	File upload via FTP and e-mail
Aldrii Events	Notification via e-mail
	SD/SDHC/SDXC or NAS recording
	at event triggers Alarm output
Audio In	Selectable(mic in/line in)
	Supply voltage: 2.5VDC(4mA),
	Input impedance: 2K Ohm
IR Viewable Length	30m(98.42ft)
NETWORK	DI 45/40/400DASS T)
Video Compression	RJ-45(10/100BASE-T)
Video Compression	H.265/H.264: Main/High, MJPEG G.711 u-law /G.726 Selectable
Audio Compression	G.711 d-law / G.726 Selectable G.726(ADPCM) 8KHz, G.711 8KHz
	G.726: 16Kbps, 24Kbps, 32Kbps,
	40Kbps
Bitrate Control	H.264/H.265: CBR or VBR
	MJPEG: VBR
Streaming	Unicast(6 users) / Multicast
	Multiple streaming(Up to 3
2	profiles)
Protocol	IPv4, IPv6, TCP/IP, UDP/IP,
	RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP,
	FTP, SMTP, ICMP, IGMP,
	SNMPv1/v2c/v3(MIB-2), ARP, DNS,
	DDNS, QoS, UPnP, Bonjour, LLDP

	802.1X Authentication(EAP-TLS, EAP-LEAP)		Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP	
GENERAL	EAP-LEAP)			Address Filtering User access log	
	Consider OC Monday 7 044	-		802.1X Authentication(EAP-TLS,	
Web Viewer	Supported OS: Windows 7, 8.1, 3 Mac OSx10.12, 10.13, 10.14	10,		EAP-LEAP)	
	Supported Browser: Google		GENERAL	LAI -LLAI)	
	Chrome, MS Explore11, MS Edge	,	Web Viewer	Supported OS: Windows 7, 8.1, 10,	
	Mozilla Firefox(Window 64bit	-,	Web viewer	Mac OSx10.12, 10.13, 10.14	,
	only), Apple Safari (Mac OSX)			Supported Browser: Google	
Edge Storage	Micro SD/SDHC/SDXC 1slot			Chrome, MS Explore11, MS Edge,	
	128GB			Mozilla Firefox(Window 64bit	
Memory	512MB RAM, 256MB Flash			only), Apple Safari (Mac OSX)	
ENVIRONMENTAL / ELEC	CTRICAL		Edge Storage	Micro SD/SDHC/SDXC 1slot	
Operating	-30°C ~ +55°C(-22°F ~ +131°F) /			128GB	
Temperature /	Less than 90% RH		Memory	512MB RAM, 256MB Flash	
Humidity			ENVIRONMENTAL / ELEC		
Storage Temperature	30°C ~ +60°C(-22°F ~ +140°F) /		Operating	-30°C ~ +55°C(-22°F ~ +131°F) /	
/ Humidity	Less than 90% RH		Temperature /	Less than 90% RH	
Certification	IP66, IK10		Humidity		
Input Voltage	PoE(IEEE802.3af, Class3), 12VDC		Storage Temperature	30°C ~ +60°C(-22°F ~ +140°F) /	
Power Consumption	PoE: Max 7.40W, typical 5.40W		/ Humidity	Less than 90% RH	
	12VDC: Max 6.50W, typical		Certification	IP66, IK10	
	4.80W		Input Voltage	PoE(IEEE802.3af, Class3), 12VDC	
			Power Consumption	PoE: Max 7.40W, typical 5.40W	
				12VDC: Max 6.50W, typical	
N 2 . 2 Mi i D.	CCT/ Common for all and a N	550	Harris Na 2 2 and Mile De	4.80W	
•	me CCTV Camera for elevators VI	DEO		me CCTV Camera for elevators VIDE	:0
Imaging Device	At least 1/2.8" 2MP CMOS		Imaging Device	At least 1/2.8" 2MP CMOS	
Resolution	1920x1080, 1280x960, 1280x720, 800x600,		Resolution	1920x1080, 1280x960,	
	800x448, 720x576,			1280x720, 800x600, 800x448, 720x576,	
	720x480, 640x480,			720x480, 640x480,	
	640x360			640x360	
Max. Framerate	H.265/H.264: Max.		Max. Framerate	H.265/H.264: Max.	
iviax. I raillerate	30fps/25fps(60Hz/50Hz)		Iviax. I fairierate	30fps/25fps(60Hz/50Hz)	
	MJPEG: Max.			MJPEG: Max.	
	15fps/12fps(60Hz/50Hz)			15fps/12fps(60Hz/50Hz)	
Min. Illumination	Color: 0.03Lux(F2.0,		Min. Illumination	Color: 0.03Lux(F2.0,	
	1/30sec)			1/30sec)	
LENS	,		LENS	, , , , , , , , , , , , , , , , , , , ,	
Focal Length (Zoom	2.8mm fixed focal		Focal Length (Zoom		
Ratio)			Ratio)	2.8mm fixed focal	
Max. Aperture Ratio	F2.0		Max.Aperture Ratio	Maximum: F2.0	
Angular Field of View	H: 113.7 / V: 61.5° / D: 134.5°			Minimum: H: 113.7°	
Focus Control	Fixed			Minimum: V: 61.5°	
Pan / Tilt / Rotate	0°~350° / 0°~69° /		Angular Field of View	Minimum: D: 134.5°	
Range	0°~355°		Focus Control	Fixed	
OPERATIONAL	1 - 555		Pan / Tilt / Rotate	0°~350° / 0°~69° /	
Camera Title	Displayed up to 85		Range	0°~355°	
	characters		OPERATIONAL		
Day & Night	Auto(Electrical)		Camera Title	Displayed up to 85	
Backlight	BLC, WDR, SSDR		22	characters	
Compensation			Day & Night	Auto(Electrical)	
Wide Dynamic Range	120dB		Backlight	BLC, WDR, SSDR	
Digital Noise Reduction	The images should be		Compensation	.,,	
2.0.tal Holse Reduction	cleaner, sharper and		Wide Dynamic Range	120dB	
	retain more detail. The		Digital Noise Reduction	The images should be	
	images are captured in		- Signal Holde Neduction	cleaner, sharper and	
	low light applications,			retain more detail. The	
	has usually the high			images are captured in	
	levels of noise which			low light applications,	
]		has usually the high	
	I make them unusable	1			
	make them unusable. Therefore, the noise			levels of noise which	

		T	
	even greatly reduced,		Therefore, the noise
	this will greatly enhance		should be eliminated, or
	the performance of a		even greatly reduced,
	camera. With reduced		this will greatly enhance
	noise, it will keep image		the performance of a
	file sizes down when		camera. With reduced
Matian Date	recorded digitally.		noise, it will keep image
Motion Detection	4ea, polygonal zones		file sizes down when
Privacy Masking	6ea, rectangular		recorded digitally.
	zones	Motion Detection	4ea, polygonal zones
Gain Control	Low / Middle / High	Privacy Masking	6ea, rectangular
White Balance	ATW / AWC / Manual /		zones
	Indoor / Outdoor	Gain Control	Low / Middle / High
Electronic Shutter	Minimum / Maximum /	White Balance	ATW / AWC / Manual /
Speed	Anti flicker		Indoor / Outdoor
	(1/5~1/12,000sec)	Electronic Shutter	Minimum / Maximum /
Video Rotation	Flip, Mirror, Hallway	Speed	Anti flicker
	view(90°/270°)		(1/5~1/12,000sec)
Analytics	Defocus detection,	Video Rotation	Flip, Mirror, Hallway
	Motion detection,		view(90°/270°)
	Tampering	Analytics	Defocus detection,
Business Intelligence	People counting		Motion detection,
Alarm Triggers	Analytics, Network		Tampering
	disconnect	Business Intelligence	People counting
Alarm Events	File upload via FTP and	Alarm Triggers	Analytics, Network
	e-mail Notification via		disconnect
	e-mail SD/SDHC/SDXC	Alarm Events	File upload via FTP and
	or NAS recording at		e-mail Notification via
	event triggers		e-mail SD/SDHC/SDXC
NETWORK			or NAS recording at
Ethernet	RJ-45(10/100BASE-T)		event triggers
Video Compression	H.265/H.264: Main/High,	NETWORK	
	MJPEG	Ethernet	RJ-45(10/100BASE-T)
Bitrate Control	H.264/H.265: CBR or	Video Compression	H.265/H.264: Main/High,
	VBR MJPEG: VBR		MJPEG
Streaming	Unicast(6 users) /	Bitrate Control	H.264/H.265: CBR or
	Multicast Multiple		VBR MJPEG: VBR
	streaming(Up to 3	Streaming	Unicast(6 users) /
	profiles)		Multicast Multiple
Protocol	IPv4, IPv6, TCP/IP,		streaming(Up to 3
	UDP/IP, RTP(UDP),		profiles)
	RTP(TCP), RTCP, RTSP,	Protocol	IPv4, IPv6, TCP/IP,
	NTP, HTTP, HTTPS,		UDP/IP, RTP(UDP),
	SSL/TLS, DHCP, FTP,		RTP(TCP), RTCP, RTSP,
	SMTP, ICMP, IGMP,		NTP, HTTP, HTTPS,
	SNMPv1/v2c/v3(MIB-2),		SSL/TLS, DHCP, FTP,
	ARP, DNS, DDNS, QoS,		SMTP, ICMP, IGMP,
	UPnP, Bonjour, LLDP		SNMPv1/v2c/v3(MIB-2),
Security	HTTPS(SSL) Login		ARP, DNS, DDNS, QoS,
- 1	Authentication Digest		UPnP, Bonjour, LLDP
	Login Authentication IP	Security	HTTPS(SSL) Login
	Address Filtering User		Authentication Digest
	access log 802.1X		Login Authentication IP
	Authentication(EAP-TLS,		Address Filtering User
	EAP-LEAP)		access log 802.1X
GENERAL			Authentication(EAP-TLS,
Veb Viewer	Supported OS: Windows		EAP-LEAP)
MEN AIGMEI	7, 8.1, 10, Mac	GENERAL	2.0 22.0 /
	OSx10.12, 10.13, 10.14	Web Viewer	Supported OS: Windows
	Supported Browser:	web viewer	7, 8.1, 10, Mac
	Google Chrome, MS		OSx10.12, 10.13, 10.14
	Explore11, MS Edge,		Supported Browser:
	Mozilla Firefox(Window		Google Chrome, MS
	64bit only), Apple Safari		Explore11, MS Edge,
	(Mac OSX)		Mozilla Firefox(Window
			I Mozilla Firetoy/Mindow

Edea Characa		Maria CD (CDLIC (CDVC				California Annala Cafari	1
Edge Storage		Micro SD/SDHC/SDXC 1slot 128GB				64bit only), Apple Safari (Mac OSX)	
Memory		512MB RAM, 256MB		Edge Storage		Micro SD/SDHC/SDXC	-
Welliory		Flash		Luge Storage		1slot 128GB	
ENVIRONMENT	AL & ELE			Memory		512MB RAM, 256MB	
Operating		-10°C ~ +55°C(-14°F ~		5111 // 50111 4511	0 515	Flash	_
Temperature /		+131°F) / Less than 90%		ENVIRONMENT	AL & ELE		
Humidity Storage Temper	atura /	RH -30°C ~ +60°C(-22°F ~	-	Operating		-10°C ~ +55°C(-14°F ~	
Humidity	ature /	+140°F) / Less than 90%		Temperature / Humidity		+131°F) / Less than 90%	
riaimaity		RH		Storage Temper	rature /	-30°C ~ +60°C(-22°F ~	-
Certification		IP42, IK08		Humidity	ratare /	+140°F) / Less than 90%	
Input Voltage		PoE(IEEE802.3af,		. rannancy		RH	
,		Class2)		Certification		IP42, IK08	
Power Consump	otion	PoE: Max 4.80W, typical		Input Voltage		PoE(IEEE802.3af,	
		2.80W				Class2)	
		•		Power Consum	ption	PoE: Max 4.80W, typical	
						2.80W	
em No. 4: 2 pcs.		Bullet CCTV Camera with LPR	VIDEO	Item No. 4: 2 pcs.		Bullet CCTV Camera with LPR	VIDEO
Imaging	At leas	t 1/1.8" CMOS		Imaging	At leas	t 1/1.8" CMOS	
Device	2040	24.60, 20724726	_	Device	2040	24.00, 20724720	\dashv
Resolution		2160, 3072x1728,		Resolution		2160, 3072x1728,	
		1944, 2688x1520, 1440, 2048x1536,				1944, 2688x1520, 1440, 2048x1536,	
		1440, 2048x1336, 1080, 1600x1200,				1080, 1600x1200,	
	1	1024,1280x960, 1280x720,				1024,1280x960, 1280x720,	
		768, 800 x 600, 800 x 448,				768, 800 x 600, 800 x 448,	
	720 x 5	576, 720x480, 640x480,			720 x 5	576, 720x480, 640x480,	
	640x3	60			640x36	50	
Max.	H.265/	/H.264: Max.		Max.	H.265/	'H.264: Max.	
Framerate	30fps/	25fps(60Hz/50Hz) MJPEG:		Framerate		25fps(60Hz/50Hz) MJPEG:	
		.5fps/12fps(60Hz/50Hz)				5fps/12fps(60Hz/50Hz)	
Min. Illumination		0.05Lux(F1.6, 1/30sec) BW: R LED on)		Min. Illumination		0.05Lux(F1.6, 1/30sec) BW: R LED on)	
Video Out	<u> </u>	1.0 Vp-p / 75Ω composite,		Video Out		1.0 Vp-p / 75Ω composite,	-
video out		80(N), 720x576(P) for		Video Out		30(N), 720x576(P) for	
		ation USB: Micro USB Type				ation USB: Micro USB Type	
	1	0x720 for installation				0x720 for installation	
LENS				LENS			
Focal Length	4.5~10	0mm(2.2x) motorized		Focal Length	Minim	um: 4.2~ Maximum: 12mm	
(Zoom Ratio)	varifoo			(Zoom Ratio)	(2.2x)	motorized varifocal	
Max.	F1.6(W	/ide)~F2.65(Tele)		Aperture		<u>ium: F1.6(Wide)</u>	
Aperture				Ratio		num: F2.65(Tele)	
Ratio	U.104	4°(\\/ida\~4F F°/Tala\ /	-		Minim		
Angular Field of View	1	4°(Wide)~45.5°(Tele) / °(Wide)~25.5°(Tele) /				<u>4°(Wide)~45.5°(Tele)</u> um: V:53.6°(Wide)~25.5°(Tele)	
OI VICW		7°(Wide)~52.3°(Tele)		Angular Field	Minim		
Min. Object	0.5m(2		-	of View		<u>um.</u> 7°(Wide)~52.3°(Tele)	
Distance	(.	- 17		Min. Object	0.5m(1		
Focus Control	Simple	focus		Distance		•	
Lens Type	•	to iris, P iris		Focus Control	Simple	focus	
OPERATIONAL				Lens Type	DC aut	o iris, P iris	
Camera Title	Display	yed up to 85 characters		OPERATIONAL			
Day & Night	Auto(I	CR)		Camera Title	Display	ed up to 85 characters	
Backlight	BLC, H	LC, WDR, DWDR, SSDR		Day & Night	Auto(I	•	
Compensation				Backlight	BLC, H	LC, WDR, DWDR, SSDR	
Digital Noise		lages should be cleaner,		Compensation	ļ		
Reduction		er and retain more detail.		Digital Noise		ages should be cleaner,	
	1	lages are captured in low		Reduction		r and retain more detail.	
		pplications, has usually the				ages are captured in low	
		evels of noise which make				oplications, has usually the	
		unusable. Therefore, the				vels of noise which make	
	1	should be eliminated, or				inusable. Therefore, the	
	even g	reatly reduced, this will			noise s	hould be eliminated, or	

_	
	greatly enhance the performance
	of a camera. With reduced noise, it
	will keep image file sizes down
	when recorded digitally.
Digital Image	Stabilization Support(built-in gyro
Stabilization	sensor)
Motion	8ea, polygonal zones
Detection	
Privacy	6ea, rectangle zones Color:
Masking	Gray/Green/Red/Blue/Black/White
Gain Control	Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor /
	Outdoor
LDC	Support
Electronic	Minimum / Maximum / Anti flicker
Shutter Speed	(1/5~1/12,000sec)
Video	Flip, Mirror, Hallway
Rotation	view(90°/270°)
Analytics	Classified object type :
	Person/Face/Vehicle/License plate
	with attributes, BestShot per
	Object
	Analytics events based on Al
	engine : Object detection, Face mask detection, Directional
	detection, Digital auto tracking,
	Enter/Exit, Loitering, Virtual line
	Analytics events : Defocus
	detection, Motion detection,
	Appear/Disappear, Tampering,
	Audio detection, Sound
	classification, Shock detection
Business	People counting, Queue
Intelligence	management, Heatmap based on
G	Al engine
Alarm I/O	Input 1ea / Output 1ea / DC 12V
	Power(Max. 50mA) 1ea
Alarm	Analytics, Network disconnect,
Triggers	Alarm input
Alarm Events	File upload via FTP and e-mail
	Notification via e-mail
	SD/SDHC/SDXC or NAS recording
	at event triggers Alarm output
	Handover Audio playback
Audio In	Selectable(mic in/line in)
	Supply voltage: 2.5VDC(4mA),
	Input impedance: 2K Ohm
Audio Out	Line out, Max.output level: 1Vrms
IR Viewable	30m(98.42ft)
Length	
NETWORK	
Ethernet	Metal shielded RJ-45(10/100/1000
	BASE-T)
Video	H.265/H.264: Main/High, MJPEG
Compression	
Audio	G.711 u-law /G.726 Selectable
Compression	
	G.726(ADPCM) 8KHz, G.711 8KHz
	G.726: 16Kbps, 24Kbps, 32Kbps,
	40Kbps
1	AAC-LC: 48Kbps at 16KHz
Bitrate	H.264/H.265: CBR or VBR MJPEG:
Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR

greatly enhance the performance of a camera. With reduced noise, it will keep image file sizes down when recorded digitally. Digital Image Stabilization Support(built-in gyro sensor) Motion Bea, polygonal zones Privacy Gea, rectangle zones Color: Gray/Green/Red/Blue/Black/White Gain Control Low / Middle / High White Balance Outdoor LDC Support Minimum / Maximum / Anti flicker (1/5~1/12,000sec) Video Flip, Mirror, Hallway view(90°/270°) Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object with attributes, BestShot per object Analytics events: Defocus detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business People counting, Queue management, Heatmap based on Al engine Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2. SVDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.726 (ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	-	
of a camera. With reduced noise, it will keep image file sizes down when recorded digitally. Digital Image Stabilization Support(built-in gyro sensor) Motion Bea, polygonal zones Privacy Gea, rectangle zones Color: Gray/Green/Red/Blue/Black/White Gain Control Low / Middle / High White Balance ATW / AWC / Manual / Indoor / Outdoor LDC Support Electronic Shutter Speed (1/5~1/12,000sec) Video Flip, Mirror, Hallway view(90°/270°) Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on Al engine: Object detection, Face mask detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		even greatly reduced, this will
will keep image file sizes down when recorded digitally. Digital Image Stabilization Support(built-in gyro sensor) Motion Bea, polygonal zones Privacy Gea, rectangle zones Color: Gain Control Low / Middle / High White Balance ATW / AWC / Manual / Indoor / Outdoor LDC Support Electronic Shutter Speed (1/5~1/12,000sec) Video Flip, Mirror, Hallway view(90°/270°) Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on Al engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence People counting, Queue management, Heatmap based on Al engine Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		greatly enhance the performance
when recorded digitally. Digital Image Stabilization Support(built-in gyro sensor) Motion 8ea, polygonal zones Detection Privacy 6ea, rectangle zones Color: Gray/Green/Red/Blue/Black/White Gain Control Low / Middle / High White Balance Outdoor LDC Support Electronic Shutter Speed (1/5~1/12,000sec) Video Flip, Mirror, Hallway view(90°/270°) Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on Al engine: Object detection, Face mask detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm I/O Input 2ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		-
Digital Image Stabilization Support(built-in gyro sensor) Motion Detection Privacy Gea, rectangle zones Color: Gray/Green/Red/Blue/Black/White Gain Control White Balance Outdoor LDC Support Electronic Shutter Speed Video Rotation View (90°/270°) Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on Alengine: Object detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Analytics, Network disconnect, Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		will keep image file sizes down
Stabilization Sea, polygonal zones		
Motion Detection Privacy Masking Gray/Green/Red/Blue/Black/White Gain Control Low / Middle / High White Balance Low / Middle / High Low / Middle / Middle / High Low / Middle / License plate Low / License plate Low / Middle / License plate Low / Middle / License plate Low / Middle / License plate Low / License plate Low / Middle / License plate Low / License plate Low / License plate L	Digital Image	Stabilization Support(built-in gyro
Detection Privacy Masking Gain Control White Balance Low / Middle / High White Balance Low / Middle / High White Balance LDC Support Electronic Shutter Speed Video Rotation Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on Al engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Alarm I/O Alarm I/O Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio Out In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Iin out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Stabilization	sensor)
Privacy Masking Gain Control Low / Middle / High White Balance Low / Middle / High White Balance Low / Middle / High White Balance Low / Middle / High ATW / AWC / Manual / Indoor / Outdoor LDC Support Electronic Shutter Speed Video Rotation Rotation Analytics Filip, Mirror, Hallway view(90°/270°) Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on Al engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.721 u-law /G.726 Selectable Compression G.726(16Kbps, 24Kbps, 32Kbps, 40Kbps	Motion	8ea, polygonal zones
Masking Gain Control Low / Middle / High White Balance Dutdoor LDC Support Electronic Shutter Speed Video Rotation Analytics Flip, Mirror, Hallway view(90"/270") Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on Al engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Detection	
Gain Control White Balance White Balance ATW / AWC / Manual / Indoor / Outdoor LDC Support Electronic Shutter Speed Video Rotation Analytics Flip, Mirror, Hallway view(90°/270°) Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on Al engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Privacy	6ea, rectangle zones Color:
White Balance ATW / AWC / Manual / Indoor / Outdoor LDC Support Electronic Shutter Speed Video Rotation Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on Al engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Alarm I/O Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC on NAS recording at event triggers Alarm output Handover Audio playback Audio Out IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Masking	Gray/Green/Red/Blue/Black/White
White Balance ATW / AWC / Manual / Indoor / Outdoor LDC Support Electronic Shutter Speed Video Rotation Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on Al engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Alarm I/O Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC on NAS recording at event triggers Alarm output Handover Audio playback Audio Out IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Gain Control	Low / Middle / High
Dutdoor		
Electronic Shutter Speed Video Rotation Flip, Mirror, Hallway view(90°/270°) Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on Al engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Intelligence Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
Electronic Shutter Speed Video Rotation Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on Al engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Shock detection Business Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	LDC	Support
Shutter Speed (1/5~1/12,000sec)		
Video Rotation Rotation Rotation Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on Al engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm I/O Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
Rotation view(90°/270°) Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on AI engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business People counting, Queue management, Heatmap based on AI engine Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Triggers Alarm input File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
Analytics Classified object type: Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on AI engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Intelligence Intelligence Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Triggers Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
Person/Face/Vehicle/License plate with attributes, BestShot per object Analytics events based on AI engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business People counting, Queue management, Heatmap based on AI engine Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Triggers Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video G.711 u-law /G.726 Selectable Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
with attributes, BestShot per object Analytics events based on AI engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business People counting, Queue management, Heatmap based on AI engine Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Triggers Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video G.711 u-law /G.726 Selectable Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Allalytics	· · · · · · · · · · · · · · · · · · ·
object Analytics events based on AI engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Triggers Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
Analytics events based on AI engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business People counting, Queue management, Heatmap based on AI engine Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Triggers Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video H.265/H.264: Main/High, MJPEG Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
engine: Object detection, Face mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Triggers Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		-
mask detection, Directional detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business People counting, Queue management, Heatmap based on AI engine Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video H.265/H.264: Main/High, MJPEG Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
detection, Digital auto tracking, Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Intelligence Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
Enter/Exit, Loitering, Virtual line Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Intelligence Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		•
Analytics events: Defocus detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business People counting, Queue management, Heatmap based on Al engine Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video H.265/H.264: Main/High, MJPEG Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		_ =
detection, Motion detection, Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
Appear/Disappear, Tampering, Audio detection, Sound classification, Shock detection Business Intelligence Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		•
Audio detection, Sound classification, Shock detection Business People counting, Queue management, Heatmap based on Al engine Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video H.265/H.264: Main/High, MJPEG Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
Classification, Shock detection Business Intelligence Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
Business Intelligence Intelligence Intelligence Intelligence Intelligence Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		· ·
Intelligence management, Heatmap based on Al engine Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		classification, Shock detection
Al engine Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Business	People counting, Queue
Alarm I/O Input 1ea / Output 1ea / DC 12V Power(Max. 50mA) 1ea Alarm Analytics, Network disconnect, Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Ine out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Intelligence	management, Heatmap based on
Alarm Analytics, Network disconnect, Alarm Input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		Al engine
Alarm Triggers Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Alarm I/O	Input 1ea / Output 1ea / DC 12V
Triggers Alarm input Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video H.265/H.264: Main/High, MJPEG Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		Power(Max. 50mA) 1ea
Alarm Events File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Alarm	Analytics, Network disconnect,
Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Triggers	Alarm input
SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video H.265/H.264: Main/High, MJPEG Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Alarm Events	File upload via FTP and e-mail
at event triggers Alarm output Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		Notification via e-mail
Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		SD/SDHC/SDXC or NAS recording
Handover Audio playback Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		at event triggers Alarm output
Audio In Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Audio Out IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Audio In	
Input impedance: 2K Ohm Audio Out IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio Compression G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
Audio Out Line out, Max.output level: 1Vrms IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video H.265/H.264: Main/High, MJPEG Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
IR Viewable Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video Compression Audio Compression G.711 u-law /G.726 Selectable G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Audio Out	
Length NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video H.265/H.264: Main/High, MJPEG Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		·
NETWORK Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video H.265/H.264: Main/High, MJPEG Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		33(30.12.6)
Ethernet Metal shielded RJ-45(10/100/1000 BASE-T) Video H.265/H.264: Main/High, MJPEG Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		
BASE-T) Video H.265/H.264: Main/High, MJPEG Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		Metal shielded PL-45/10/100/1000
Video Compression Audio Compression G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Luieillet	• • •
Compression Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Vidoo	·
Audio G.711 u-law /G.726 Selectable Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		n.205/n.204: Main/Hign, MJPEG
Compression G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	· ·	C 744 levy /C 725 5 - 1 - 1 - 1
G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps		G./11 u-law/G./26 Selectable
G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps	Compression	0.700(4.000(4.000)
40Kbps		
A A C L C A QUE		
AAC-LC: 48Kpps at 16KHz		AAC-LC: 48Kbps at 16KHz
Bitrate H.264/H.265: CBR or VBR MJPEG:	Bitrate	H.264/H.265: CBR or VBR MJPEG:
Control VBR	Control	VBR

Streaming	,	users) / Multicast reaming(Up to 3		Streaming		sers) / Multicast reaming(Up to 3	
	profiles)	rearring(Up to 3			profiles)	caming(oh to 3	
Protocol		TCP/IP, UDP/IP,	-	Protocol		TCP/IP, UDP/IP,	
Trotocor		RTP(TCP), RTCP,RTSP,		11010001	1	RTP(TCP), RTCP,RTSP,	
		, HTTPS, SSL/TLS, DHCP,				HTTPS, SSL/TLS, DHCP,	
		, ICMP, IGMP,				ICMP, IGMP,	
		2c/v3(MIB-2), ARP, DNS,				2c/v3(MIB-2), ARP, DNS,	
		S, UPnP, Bonjour, LLDP,				, UPnP, Bonjour, LLDP,	
	-	UDP Unicast)				UDP Unicast)	
Security	HTTPS(SSL)) Login Authentication		Security	HTTPS(SSL)	Login Authentication	
	Digest Logi	in Authentication IP			Digest Logi	n Authentication IP	
	Address Fil	Itering User access log			Address Fil	tering User access log	
	802.1X Aut	thentication(EAP-TLS,			802.1X Aut	hentication(EAP-TLS,	
	EAP-LEAP)				EAP-LEAP)		
		(Hanwha Techwin Root				Hanwha Techwin Root	
GENERAL	CA)		-	GENERAL	CA)		
Web Viewer	Supported	OS: Windows 7, 8.1, 10,	1	Web Viewer	Supported	OS: Windows 7, 8.1, 10,	
	Mac OSx10	0.12, 10.13, 10.14			Mac OSx10	.12, 10.13, 10.14	
		Browser: Google				Browser: Google	
		NS Explore11, MS Edge,				S Explore11, MS Edge,	
		efox(Window 64bit				efox(Window 64bit	
		le Safari (Mac OSX)	-			e Safari (Mac OSX)	
Edge Storage	Micro SD/S 512GB	SDHC/SDXC 2slots		Edge Storage	Micro SD/S 512GB	DHC/SDXC 2slots	
Memory		AM, 512MB Flash	1	Memory		AM, 512MB Flash	
ENVIRONMENT	1]	ENVIRONMENTA	ı		
Operating		5°C(-40°F ~ +131°F) /		Operating		s°C(-40°F ~ +131°F) /	
Temperature	Less than 9	90% RH		Temperature	Less than 9	0% RH	
/ Humidity Storage	-50°C ~ +60	0°C(-58°F ~ +140°F) /	-	/ Humidity Storage	-50°C ~ +60)°C(-58°F ~ +140°F) /	-
Temperature	Less than 9	• • • • • • • • • • • • • • • • • • • •		Temperature	Less than 9	•	
/ Humidity				/ Humidity			
Certification	IP66/IP67,	IK10, NEMA4X		Certification	IP66/IP67,	IK10, NEMA4X	
Input Voltage	PoE+(IEEE8	802.3at), 12VDC		Input Voltage	PoE+(IEEE8	02.3at), 12VDC	
Power		20.0W, typical 17.00W		Power		20.0W, typical 17.00W	
Consumption	12VDC: Ma 16.00W	ax 18.00W, typical		Consumption	12VDC: Ma 16.00W	x 18.00W, typical	
tom No F. 1	10.00	o Management Software SYS				Management Software SY	STEM
-	Central Video	o Management Software St.					
MANAGEMENT				MANAGEMENT		Minimum, 120	
MANAGEMENT Camera Connec	tion	Up to 3,000 channels		MANAGEIVIENT		Minimum: 128	
IANAGEMENT	tion	Up to 3,000 channels Data sharing,		MANAGEMENT		channels	
1ANAGEMENT Camera Connec	tion	Up to 3,000 channels Data sharing, Failure			tion	channels Maximum: 3,000	
IANAGEMENT Camera Connec Server Clusterin	etion	Up to 3,000 channels Data sharing, Failure management		Camera Connec		channels Maximum: 3,000 channels	
IANAGEMENT Camera Connec	etion	Up to 3,000 channels Data sharing, Failure management Real-time system status				channels Maximum: 3,000	
IANAGEMENT Camera Connect Server Clusterin System Dashboo	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring		Camera Connec		channels Maximum: 3,000 channels Data sharing,	
IANAGEMENT Camera Connect Server Clusterin System Dashboo	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user		Camera Connec	g	channels Maximum: 3,000 channels Data sharing, Failure management	
IANAGEMENT Camera Connect Server Clusterin System Dashboo	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP		Camera Connec Server Clusterin	g	channels Maximum: 3,000 channels Data sharing, Failure	
IANAGEMENT Camera Connect Server Clusterin System Dashboo	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device		Camera Connector Server Clustering System Dashboa	g ard	channels Maximum: 3,000 channels Data sharing, Failure management Real-time system status	
ANAGEMENT Camera Connect Server Clusterin System Dashboo	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP		Camera Connec Server Clusterin	g ard	channels Maximum: 3,000 channels Data sharing, Failure management Real-time system status monitoring	
ANAGEMENT Camera Connect Server Clusterin System Dashboo	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority,		Camera Connector Server Clustering System Dashboa	g ard	channels Maximum: 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user	
IANAGEMENT Camera Connec Server Clusterin System Dashboa User Manageme	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level		Camera Connector Server Clustering System Dashboa	g ard	channels Maximum: 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP	
IANAGEMENT Camera Connec Server Clusterin System Dashboa User Manageme	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority		Camera Connector Server Clustering System Dashboa	g ard	channels Maximum: 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device	
IANAGEMENT Camera Connec Server Clusterin System Dashboa User Manageme	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority SSL, Database		Camera Connector Server Clustering System Dashboa	g ard	channels Maximum: 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority,	
IANAGEMENT Camera Connec Server Clusterin System Dashbox User Manageme	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority SSL, Database encryption, Login		Camera Connector Server Clustering System Dashboa	g ard	channels Maximum: 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level	
IANAGEMENT Camera Connec Server Clusterin System Dashbox User Manageme	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority SSL, Database encryption, Login lockdown, Multi-		Camera Connector Server Clustering System Dashboa User Manageme	g ard	channels Maximum: 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority	
IANAGEMENT Camera Connect Server Clusterin System Dashbox User Manageme	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority SSL, Database encryption, Login lockdown, Multi- level user access authority		Camera Connector Server Clustering System Dashboa User Manageme	g ard	channels Maximum: 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority SSL, Database	
IANAGEMENT Camera Connect Server Clusterin System Dashbox User Manageme	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority SSL, Database encryption, Login lockdown, Multi- level user access		Camera Connector Server Clustering System Dashboa User Manageme	g ard	channels Maximum: 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority SSL, Database encryption, Login	
IANAGEMENT Camera Connect Server Clusterin System Dashbox User Manageme	ition g ard	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority SSL, Database encryption, Login lockdown, Multi- level user access authority Multi-tier domain		Camera Connector Server Clustering System Dashboa User Manageme	g ard	channels Maximum: 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority SSL, Database encryption, Login lockdown, Multi-	
IANAGEMENT Camera Connect Server Clusterin System Dashbox User Manageme Security Federation DEVICE MANAG	ent SEMENT	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority SSL, Database encryption, Login lockdown, Multi- level user access authority Multi-tier domain federation, Max 100 domains		Camera Connector Server Clustering System Dashboa User Manageme	g ard	channels Maximum: 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority SSL, Database encryption, Login lockdown, Multi- level user access authority Multi-tier domain	
IANAGEMENT Camera Connect Server Clusterin System Dashboo User Manageme Security Federation	ent SEMENT	Up to 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority SSL, Database encryption, Login lockdown, Multi- level user access authority Multi-tier domain federation, Max		Camera Connect Server Clustering System Dashboa User Manageme Security	g ard	channels Maximum: 3,000 channels Data sharing, Failure management Real-time system status monitoring Configurable user group, LDAP supported Device access authority, Feature level authority SSL, Database encryption, Login lockdown, Multi- level user access authority	

and add-on server				
	r			
registration				
Maintenance Setup file backup	/			
restore, Device				
firmware update				
EVENT MANAGEMENT				
Event Configuration 4 levels event price	rity,			
Configurable even	it			
color				
Event Action Rule based event				
and triggering				
action setup Insta	nt			
viewer pop-up,				
Alert sound, E-ma	il			
notification				
SITE / LAYOUT / MAP DESIGN				
Multi-Layered Site Flexible site design	n,			
Configuration Site access	-			
authority				
Layout & Pattern User defined layo	ut			
and tile pattern				
Map 2D image map				
RECORDING MODULE				
Max. Camera Per Server Up to 128 channe	l			
Recording Performance Up to 400Mbps				
(@4 HDD)				
Recording Mode Manual,				
Continuous, Even	t,			
Schedule				
Pre / Post Event Recording Pre : 10 ~ 60 sec /	Post :			
1,200 sec				
RAID Hardware RAID				
controller require	d			
Etc ARB (Auto recove	ry			
backup) from				
camera edge				
storage, Recoding				
retention time,				

Centralized Device	Auto / Manual		
Configuration	discovery, Device		
	and add-on server		
	registration		
Maintenance	Setup file backup /		
	restore, Device		
	firmware update		
EVENT MANAGEMENT			
Event Configuration	4 levels event priority,		
	Configurable event		
	color		
Event Action	Rule based event		
	and triggering		
	action setup Instant		
	viewer pop-up,		
	Alert sound, E-mail		
	notification		
SITE / LAYOUT / MAP DESIG	N		
Multi-Layered Site	Flexible site design,		
Configuration	Site access		
_	authority		
Layout & Pattern	User defined layout		
	and tile pattern		
Мар	2D image map		
RECORDING MODULE			
Max. Camera Per Server	Up to 128 channel		
Recording Performance	Up to 400Mbps		
	(@4 HDD)		
Recording Mode	Manual,		
	Continuous, Event,		
	Schedule		
Pre / Post Event Recording	Pre: 10 ~ 60 sec / Post		
	1,200 sec		
RAID	Hardware RAID		
	controller required		
Etc	ARB (Auto recovery		
	backup) from		
	camera edge		
	storage, Recoding		
	retention time,		
	iSCSI support		

Item No. 6: 1 pc. Central Video Management Server

- 1 x PowerEdge R440 Motherboard
- $1\,x$ Intel Xeon Gold 5217 3.0G, 8C/16T, 10.4GT/s, 11M Cache,
- Turbo, HT (115W) DDR4-2666
- 1 x iDRAC Group Manager, Enabled
- 1 x iDRAC Service Module (ISM), Pre-installed in OS
- 1 x iDRAC Factory Generate Password
- 1 x Chassis with up to 8 x 2.5" HOT Plug Hard Drives
- 1 x Standard Bezel
- 1 x Riser Config 1, 1 x 16 FH
- 1 x 14G OpenManage Placemat
- 1 x Quick Sync 2 (at-the-box mgmt.)
- 1 x 3200MT/s RDIMMs
- 1 x Performance Optimized
- 6 x 8GB RDIMM, 3200MT/s, Single Rank
- 1 x iDRAC, Enterprise
- 2 x 480GB SSD SATA Mix Use Gbps 512 2.5in Hot-plug AG Drive, 3 DWPD, 2628 TBW
- 1 x PERC H330 RAID Controller, Adapter, Low Profile
- 1 x Standard Heat Sink
- 1 x DVD +/-RW, SATA, Internal
- 1 x Dual, Hot Plug, Redundant Power Supply (1+1) 550W
- 2 x NEMA 5-15P to C13 Wall Plug, 10 feet (3m), 125V, 15AMP

Power Cord North America

- tem No. 6: 1 pc. Central Video Management Server
 1 x PowerEdge R440 Motherboard
- 1 x Intel Xeon Gold 5217 3.0G, 8C/16T, 10.4GT/s, 11M Cache,

Turbo, HT (115W) DDR4-2666

- 1 x iDRAC Group Manager, Enabled
- 1 x iDRAC Service Module (ISM), Pre-installed in OS
- 1 x iDRAC Factory Generate Password
- 1 x Chassis with up to 8 x 2.5" HOT Plug Hard Drives
- 1 x Standard Bezel
- 1 x Riser Config 1, 1 x 16 FH
- 1 x 14G OpenManage Placemat
- 1 x Quick Sync 2 (at-the-box mgmt.)
- 1 x 3200MT/s RDIMMs
- 1 x Performance Optimized
- 6 x 8GB RDIMM, 3200MT/s, Single Rank
- 1 x iDRAC, Enterprise
- $2 \times 480 \text{GB}$ SSD SATA Mix Use Gbps 512 2.5in Hot-plug AG Drive, 3 DWPD, 2628 TBW
- 1 x PERC H330 RAID Controller, Adapter, Low Profile
- 1 x Standard Heat Sink
- 1 x DVD +/-RW, SATA, Internal
- 1 x Dual, Hot Plug, Redundant Power Supply (1+1) 550W
- 2 x NEMA 5-15P to C13 Wall Plug, 10 feet (3m), 125V, 15AMP

Power Cord North America

- 1 x Broadcom 5720 Dual Port 1GbE Base-T Adapter, PCIe Full Height
- 1 x Dual-Port 1GbE On-board LOM
- 1 x ReadyRails Sliding Rails With Cable Management Arm
- 1 x RAID 1
- 1 x OpenManage Enterprise Advanced
- 1 x Windows Server 2019 Standard, 16Core, Digitally Fulfilled Recovery Image, Multi Language
- 1 x Windows Server 2019 Standard, 16Core, FI, No Med, No CAL, Multi Language
- 1 x No Systems Documentation, No OpenManage DVD Kit
- 1 x For SADMG Countries only No Installation Service Required
- 1 x Integration Information
- 1 x OpenManage Enterprise Advanced
- 1 x Basic Next Business Day 36 Months-ACDTS
- 1 x ProSupport Plus and 4Hr Mission Critical-ACDTS Initial, 36 Month(s)
- 1 x ProSupport Plus and 4Hr Mission Critical-ACDTS Extension, 24 Month(s)

- 1 x Broadcom 5720 Dual Port 1GbE Base-T Adapter, PCIe Full Height
- 1 x Dual-Port 1GbE On-board LOM
- 1 x ReadyRails Sliding Rails With Cable Management Arm
- 1 x RAID 1
- 1 x OpenManage Enterprise Advanced
- 1 x Windows Server 2019 Standard, 16Core, Digitally Fulfilled Recovery Image, Multi Language
- 1 x Windows Server 2019 Standard, 16Core, FI, No Med, No CAL, Multi Language
- 1 x No Systems Documentation, No OpenManage DVD Kit
- 1 x For SADMG Countries only No Installation Service Required
- 1 x Integration Information
- 1 x OpenManage Enterprise Advanced
- 1 x Basic Next Business Day 36 Months-ACDTS
- 1 x ProSupport Plus and 4Hr Mission Critical-ACDTS Initial, 36 Month(s)
- 1 x ProSupport Plus and 4Hr Mission Critical-ACDTS Extension, 24 Month(s)

tem No. 7: 1 pc. Workstation

Enterprise or Business model Desktop

Equivalent to 10th Generation Intel Core i5-10500 Processor (6 Cores/12MB/12T/3.1GHz to 4.5GHz/65W)

At least 360W up to 92% efficient Power Supply (80Plus Platinum)

Energy Star Qualified

EPEAT Registered

Must have Trusted Platform Module (TPM)

Must have cable cover tower

At least 8x DVD+/-RW 9.5mm Optical Disk Drive

8GB DDR4 non-ECC Memory

3.5" 1TB 7200rpm SATA Hard Disk Drive

Equivalent to NVIDIA® GeForce® GT 730, 2 GB, GDDR5

With speaker for tower

Internal Wireless Antennas
Equivalent to intel wi-fi 6 AX201, Dual-band 2x2 802.11ax with MUMIMO + Bluetooth 5.1

1 x Gigabit LAN

Wired Mouse Same brand of desktop Black

Wired Keyboard Same brand of desktop Black

Latest Propriety Operating System (Professional) 64 bit

Must have Client System Update (for BIOS, Drivers, Firmware and Apps)

Must Support OS Recovery Tool

Equivalent to Waves Maxx Audio Must have optimizer within builtin AI, intelligent audio and Intel Adaptix technology to learn usage or how a typical applications, continuously improving and applying settings to get the most nimble performance possible. Automatically tune system by adjusting background noise, managing speech volume and refining overall sound experience for every conference call in the room no matter where.

Must be capable of digital delivery client for safe keeping of licenses key.

Ports:

1 Universal Audio Jack (front)

2 USB 3.2 Gen 1 Type-A port (front)

2 USB 2.0 ports (front)

1 RJ-45 port 10/100/1000 Mbps (rear)

2 USB 2.0 ports with Smart Power on (rear)

2 USB 3.2 Gen 1 Type-A ports (rear)

1 Line-out audio port (rear)

1 DisplayPort 1.4 (rear)

1 HDMI 1.4 port (rear)

1 Optional 3rd Video Port (VGA/DP 1.4/HDMI 2.0b)

1 Serial /PS2 slot (optional)
Warranty and Support

Limited Warranty:

B years labor and parts – PH:

tem No. 7: 1 pc. Workstation

Enterprise or Business model Desktop Equivalent to 10th Generation Intel Core i5-10500 Processor (6

Cores/12MB/12T/3.1GHz to 4.5GHz/65W)

At least 360W up to 92% efficient Power Supply (80Plus Platinum)

Energy Star Qualified

EPEAT Registered

Must have Trusted Platform Module (TPM)

Must have cable cover tower

At least 8x DVD+/-RW 9.5mm Optical Disk Drive

8GB DDR4 non-ECC Memory

3.5" 1TB 7200rpm SATA Hard Disk Drive

Equivalent to NVIDIA® GeForce® GT 730, 2 GB, GDDR5

With speaker for tower

Internal Wireless Antennas

Equivalent to intel wi-fi 6 AX201, Dual-band 2x2 802.11ax with MU-MIMO + Bluetooth 5.1

1 x Gigabit LAN

Wired Mouse Same brand of desktop Black

Wired Keyboard Same brand of desktop Black

Latest Propriety Operating System (Professional) 64 bit

Must have Client System Update (for BIOS, Drivers, Firmware and Apps)

Must Support OS Recovery Tool

Equivalent to Waves Maxx Audio Must have optimizer within builtin AI, intelligent audio and Intel Adaptix technology to learn usage or how a typical applications, continuously improving and applying settings to get the most nimble performance possible. Automatically tune system by adjusting background noise, managing speech volume and refining overall sound experience for every conference call in the room no matter where.

Must be capable of digital delivery client for safe keeping of licenses key.

Ports:

1 Universal Audio Jack (front)

2 USB 3.2 Gen 1 Type-A port (front)

2 USB 2.0 ports (front)

1 RJ-45 port 10/100/1000 Mbps (rear)

2 USB 2.0 ports with Smart Power on (rear)

2 USB 3.2 Gen 1 Type-A ports (rear)

1 Line-out audio port (rear)

1 DisplayPort 1.4 (rear)

1 HDMI 1.4 port (rear)

1 Optional 3rd Video Port (VGA/DP 1.4/HDMI 2.0b)

1 Serial /PS2 slot (optional) Warranty and Support

Limited Warranty:

3 years labor and parts – PH:

At least 1 year on battery and accessories At least 1 year on battery and accessories BYr Technical Support –PH 3Yr Technical Support –PH Parts and labor response Parts and labor response 7x24 Technical Support & Assistance: PH 7x24 Technical Support & Assistance: PH Same or NBD Onsite Service – PH Direct Online cases and dispatch Same or NBD Onsite Service – PH Direct Online cases and dispatch Dispatch monitoring and crisis management Dispatch monitoring and crisis management Escalation management Collaborative 3rd party assistance Predictive Escalation management Collaborative 3rd party assistance Predictive proactive automated issue detection, notification and case creation proactive automated issue detection, notification and case creation Predictive / proactive issue detection for failure prevention VIP / Predictive / proactive issue detection for failure prevention VIP / Priority Access to engineers Accidental damage repair Priority Access to engineers Accidental damage repair Hard Drive Retention Hard Drive Retention Dedicated Technical Account Handler Dedicated Technical Account Handler Monthly support history and contract reporting Monthly support history and contract reporting Item No. 8: 1 pc. CCTV Storage Item No. 8: 1 pc. CCTV Storage 1 x PowerEdge R740/R740XD Motherboard 1 x PowerEdge R740/R740XD Motherboard 2 x Intel Xeon Silver 4212 2.2G, 12C/24T, 9.6GT/s, 16.5M Cache, 2 x Intel Xeon Silver 4212 2.2G, 12C/24T, 9.6GT/s, 16.5M Cache, Turbo, HT (85) DDR4-2400 Turbo, HT (85) DDR4-2400 1 x iDRAC. Factory Generated Password 1 x iDRAC, Factory Generated Password 1 x iDRAC9, Enterprise 1 x iDRAC9, Enterprise 1 x Chassis with up to 12 x 3.5" HDDs on BP, 4 x 3.5" HDDs on MP and 1 x Chassis with up to 12 x 3.5" HDDs on BP, 4 x 3.5" HDDs on MP and 2 x 3.5" HDDs Flexbay, 1 and 2 CPU Configuration 2 x 3.5" HDDs Flexbay, 1 and 2 CPU Configuration 1 x 2U LCD Bezel 1 x 2U LCD Bezel 1 x Riser Config 2, 3x8 , 1x16 slots 1 x Riser Config 2, 3x8, 1x16 slots 4 x 16GB RDIMM, 3200MT/s, Dual Rank 4 x 16GB RDIMM, 3200MT/s, Dual Rank 9 x 8TB 7.2K RPM NLSAS 12Gbps 512e 3.5" Hot-Plug Hard Drive 9 x 8TB 7.2K RPM NLSAS 12Gbps 512e 3.5" Hot-Plug Hard Drive 2 x 600GB 10K RPM SAS 12Gbps 512e 2.5" Flex Bay Hard Drive, 3.5" 2 x 600GB 10K RPM SAS 12Gbps 512e 2.5" Flex Bay Hard Drive, 3.5" HYB CARR **HYB CARR** 1 x PERC H730P RAID 1 x PERC H730P RAID 2 x 1U Pipe Low Profile Heatsink 2 x 1U Pipe Low Profile Heatsink 1 x 6 Performance Fan 1 x 6 Performance Fan 1 x Dual, Hot-Plug, Redundant Power Supply (1+1), 750W 1 x Dual, Hot-Plug, Redundant Power Supply (1+1), 750W 1 x Trusted Platform Module 2.0 1 x Trusted Platform Module 2.0 1 x Quick Sync 2 (at the box management) 1 x Quick Sync 2 (at the box management) 1 x Performance Optimized 1 x Performance Optimized 2 x NEMA 5-15P to C13 Wall Plug, 10 feet (3m), 125V, 15AMP Power 2 x NEMA 5-15P to C13 Wall Plug, 10 feet (3m), 125V, 15AMP Power Cord North America Cord North America 1 x Intel X550 Dual Port 10GbE Base-T &i350 Dual Port, 1 GbE Base-T, 1 x Intel X550 Dual Port 10GbE Base-T &i350 Dual Port, 1 GbE Base-T, 1 x Windows Storage Servers 2016 Standard Edition 1 x Windows Storage Servers 2016 Standard Edition 1 x ReadyRails Sliding Rails with Cable Management Arm 1 x ReadyRails Sliding Rails with Cable Management Arm 1 x RAID 6 1 x RAID 6 1 x OpenManage Enterprise Advanced 1 x OpenManage Enterprise Advanced 1 x 5 Yr ProSupport Plus & Mission Critical(7x24) 4-hr Onsite Service 1 x 5 Yr ProSupport Plus & Mission Critical(7x24) 4-hr Onsite Service 1 x 5 Yr ProSupport Plus & Mission Critical(7x24) Technical Support & 1 x 5 Yr ProSupport Plus & Mission Critical(7x24) Technical Support & Assistance Assistance 1 x 1-3 ProSupport Plus & Mission Critical(7x24) 4-hr Onsite Service 1 x 1-3 ProSupport Plus & Mission Critical(7x24) 4-hr Onsite Service x 4-5 ProSupport Plus & Mission Critical(7x24) 4-hr Onsite Service x 4-5 ProSupport Plus & Mission Critical(7x24) 4-hr Onsite Service Item No. 9: 6 pcs. 24 port Network Switch (POE) Item No. 9: 6 pcs. 24 port Network Switch (POE) 10/100/1000 BaseT, POE+ 24 10/100/1000 BaseT, POE+ 24 10/100/1000 SFP Ports 10/100/1000 SFP Ports 19" 1U Rackmount Rackmount 19" 1U Total PoE Budget 185W Total PoE Budget 185W PoE+ Capable Ports 1 to 24 PoE+ Capable Ports 1 to 24 **Switching Capacity** 56 Gbps Switching Capacity 56 Gbps Forwarding Mode Store-and-forward Forwarding Mode Store-and-forward MAC Address Table MAC Address Table 8k 8k Packet Buffer Memory 512 KB Packet Buffer Memory 512 KB 100 to 240 VAC (50/60Hz) 100 to 240 VAC (50/60Hz) **Power Source Power Source Full Load Power** 228.10 Watts **Full Load Power** 228.10 Watts Consumption Consumption VIANS Max 4094 Static Groups, Voice VIANS Max 4094 Static Groups, Voice VIAN VIAN Network Standards IEEE 802.3 Ethernet IEEE **Network Standards** IEEE 802.3 Ethernet IEEE 802.3i 10Base-T Ethernet IEEE 802.3i 10Base-T Ethernet IEEE

802.3u 100Base-TX Fast

802.3u 100Base-TX Fast

	Ethernet IEEE 802.3ab			Ethernet IEEE 802.3ab
	10000Base-T Gigabit Ethernet			10000Base-T Gigabit Ethernet
	IEEE 802.3x Full-Duplex Flow			IEEE 802.3x Full-Duplex Flow
	Control IEEE 802.3z Gigabit			Control IEEE 802.3z Gigabit
	Ethernet 1000Base-SX/LX IEEE			Ethernet 1000Base-SX/LX IEEE
	802.3ad Link Aggregation			802.3ad Link Aggregation
	(Trunking) IEEE 802.1D			(Trunking) IEEE 802.1D
	Spanning Tree Protocol (STP)			Spanning Tree Protocol (STP)
	IEEE 802.1w Rapid Spanning			IEEE 802.1w Rapid Spanning
	Tree Protocol (RSTP) IEEE			Tree Protocol (RSTP) IEEE
	* *			, ,
	802.1s Multiple Spanning			802.1s Multiple Spanning
	Tree Protocol (MSTP) IEEE			Tree Protocol (MSTP) IEEE
	802.1Q VLAN Tagging IEEE			802.1Q VLAN Tagging IEEE
	802.1ab Link Layer Discovery			802.1ab Link Layer Discovery
	Protocol (LLDP) IEEE 802.1p			Protocol (LLDP) IEEE 802.1p
	Quality of Service IEEE 802.1X			Quality of Service IEEE 802.1X
	RADIUS Access Control IEEE			RADIUS Access Control IEEE
	802.3az Energy Efficient			802.3az Energy Efficient
	Ethernet			Ethernet
tem No. 10: 3 pcs. 34" FHD	LED Monitor		Item No. 10: 3 pcs. 34" FHD	LED Monitor
tem No. 11: 1 pc. Uninterru	ipted Power Supply (UPS)		Item No. 11: 1 pc. Uninterru	pted Power Supply (UPS)
Max Power (Watts)	4.5kWatts / 5kVA	Tİ	Max Power (Watts)	4.5kWatts / 5kVA
Output Voltage	Less than 2%	1	Output Voltage	Less than 2%
Distortion	Less than 270		Distortion	Less than 270
	50/60 Hz +/- 3 Sync to mains	+ +		E0/60 Hz 1/ 2 Symp to
Output Frequency	<u> </u>	4	Output Frequency	50/60 Hz +/- 3 Sync to mains
Other Output Voltages	220, 240	4	Other Output Voltages	220, 240
Input frequency	40-70 Hz Auto-sensing	11	Input frequency	40-70 Hz Auto-sensing
Input voltage range for	100-275 Adjustable		Input voltage range for	100-275 Adjustable
main operation			main operation	
Other Input Voltages	220, 240	1	Other Input Voltages	220, 240
Battery Type	Lead-acid Battery	1	Battery Type	Lead-acid Battery
Included Battery	2	1	Included Battery	2
Modules	-		Modules	-
	1.5hr	-		1.5hr
Typical recharge time		4	Typical recharge time	
Nominal Battery Voltage	192 V	4	Nominal Battery Voltage	192 V
Interface Port(s)	RJ-45 10/100 Base-T, RJ-45		Interface Port(s)	RJ-45 10/100 Base-T, RJ-45
	Serial, Smart-Slot, USB	11		Serial, Smart-Slot, USB
Control Panel	Multifunction LCD status and		Control Panel	Multifunction LCD status and
	control console			control console
Audible Alarm	Audible and visible alarms	1	Audible Alarm	Audible and visible alarms
	prioritized by severity			prioritized by severity
Emergency Power Off	Yes	1	Emergency Power Off	Yes
(EPO)	163		(EPO)	163
'	At least 490 leader	1	_ ' '	At least 490 leader
Surge energy rating	At least 480Joules	4	Surge energy rating	At least 480Joules
Max Height	44cm	4	Max Height	44cm
Max width	13cm	4	Max width	13cm
Max Depth	72cm	11	Max Depth	72cm
Features	Hot-swappable batteries		Features	Hot-swappable batteries
	Intelligent battery Management			Intelligent battery Management
	Automatic internal bypass			Automatic internal bypass
	Temperature-compensated			Temperature-compensated
	battery charging Automatic			battery charging Automatic
	restart of loads after UPS			restart of loads after UPS
	shutdown Plug-and-Play external			shutdown Plug-and-Play external
	batteries			batteries
Protection	Resettable circuit breaker Power	+	Protection	Resettable circuit breaker Power
FIOLECTION			FIOLECTION	
	Conditioning Generator			Conditioning Generator
	Compatible Frequency and			Compatible Frequency and
	Voltage Regulation Cold-start			Voltage Regulation Cold-start
	capable	Щ		capable
Warranty			Warranty	
		1	0 (4)	-
ne (1) year on workmanshi	ip		One (1) year on workmanshi	p
One (1) year on workmanshi year on CCTV equipment.	ip		1 year on CCTV equipment.	p

II. The following clarifications are provided for the guidance and reference of the shortlisted bidder:

- Server location will be located at the 5th floor mini data center of IT Division
- Complete set of Bidding Documents may be acquired by interested Bidders from November 27 to December 16, 2020 (8:00 a.m to 5:00 p.m.) and December 17, 2020 (until 9:00 a.m.) from the given address and website(s) below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of Twenty-Five Thousand Philippine Pesos (PhP25,000.00) OR deposited to:

Account Name	Department of Tourism-Regular Trust
Account Number	00-0-05002-407-4
Beneficiary's Bank	Development Bank of the Philippines (DBP)
Bank Branch	F. Zobel Branch
Address	809 J.P Rizal corner F. Zobel St., Makati City, Philippines

For the guidance and information of all the concerned.

OIC-USEC. ROBERTO P. ALABADO III

DOT-BAC Chairperson

10 December 2020