|  |  |  |
| --- | --- | --- |
|  |  |  |

**Product Guide Specification**

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, based on *MasterFormat 2016* and *The Project Resource Manual—CSI Manual of Practice. The Manufacturer is responsible for technical accuracy.*

The section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. Words and sentences within brackets [ ] are choices to include or exclude a particular item or statement. Coordinate this section with other specification sections and the Drawings. Delete all “Specifier Notes” after editing this section.

**Electronic Safety and Security**

**Common Work Results for Electronic Safety and Security**

**Network Video Recorders**

1. **– GENERAL**
	1. SUMMARY
		1. Section Includes
			1. Storage Area Network Electronic Safety and Security
			2. Cloud Based Storage for Electronic Safety and Security
			3. Storage Management Software for Electronic Safety and Security
			4. Communications Equipment for Electronic Safety and Security
		2. Related Sections
			1. [Security Detection, Alarm and Monitoring – Security Monitoring and Control – Security Monitoring and Control Software].

\*\*\*\*\*\*\*\*\*\*Specifier’s note: Include those standards referenced elsewhere in this SECTION.

* 1. REFERENCES

|  |  |
| --- | --- |
| STANDARD | NA |

* 1. SYSTEM DESCRIPTION
		1. Section Includes
	2. SUBMITTALS

* + 1. Product Data:
			1. Manufacturer’s data, user and installation manuals for all equipment and software programs including computer equipment and other equipment required for complete video management system.
		2. Dimensional Drawings; include
			1. Overall device dimensions.
			2. Dimensions specific for installation.
		3. Closeout Submittals
			1. User manual.
			2. Parts list.
			3. Maintenance requirements.
	1. QUALITY ASSURANCE
		1. Manufacturer:
			1. Minimum of [10] years of experience in manufacture and design Video Surveillance Devices.
		2. Video Surveillance System:
			1. List certifying bodies (FCC,CE, etc.)
			2. Provide evidence of compliance upon request.
		3. Installer:
			1. Minimum of [5] years of experience installing Video Surveillance System.
	2. DELIVERY, STORAGE AND HANDLING
		1. Comply with requirements.
		2. Deliver materials in manufacture’s original, unopened, undamaged containers; and unharmed original identification labels.
		3. Protect store materials from environmental and temperature conditions following manufacturer’s instructions.
		4. Handle and operate products and systems according to manufacturer’s instructions.
	3. WARRANTY
		1. Provide manufacturer’s warranty covering [3] years for replacement and repair of defective equipment. Warranty varies country to country.
	4. MAINTENANCE
		1. Make ordering of new equipment for expansions, replacements, and spare parts available to dealers and end users.
		2. Provide factory direct technical support via phone and e-mail.
1. **– PRODUCTS**
	1. MANUFACTURERS
		1. Acceptable Manufacturer:

Zhejiang Dahua Vision Technology Co., Ltd.

Address: No.1199 Bin’an Road, Binjiang District, Hangzhou, China

Tel: +86-571-87688883

Fax: +86-571-87688815

Email:overseas@dahuasecurity.com

* + 1. Substitutions:
			1. [All proposed substitutions must be approved by the Architect or Engineer professional.]
			2. [Proposed substitutions must provide a line-by-line compliance documentation.]
	1. Ethernet Switch | DH-AS4300-24GT4GF

|  |  |  |
| --- | --- | --- |
| Hardware | Modular Switch/Fixed Switch | Fixed |
| Hardware | Included Power Adapter  | Yes |
| Hardware | PoE | No |
| Hardware | Ethernet Port | 24 |
| Hardware | Optical Port | 4 × SFP 100 Mbps/1 Gbps  |
| Hardware | Ethernet Port Speed | 10/100/1000 Mbps |
| Hardware | Optical Port Uplink Speed | 100/1000 Mbps |
| Hardware | Description of Function Slots | Port 1-24:24 × RJ-45 10/100/1000 Mbps;Port 25-28:4 × SFP 100 Mbps/1 Gbps |
| Hardware | Debugging | 1 × Console port |
| Hardware | Power Supply | 100–240 VAC, 50/60 Hz, 1.0 A |
| Hardware | Operating Temperature | –5 °C to +45 °C (+23 °F to +113 °F) |
| Hardware | Operating Humidity | 5%–95% (RH) |
| Hardware | Storage Temperature | –40 °C to +70 °C (–40 °F to +158 °F) |
| Hardware | Storage Humidity | 5%–95% (RH) |
| Hardware | Power Consumption | Idle: 9 W
Full load: 23 W |
| Performance | Layer | Layer 2 |
| Performance | Management Type | Yes |
| Performance | MTBF | 150.86 years |
| Performance | Switching Capacity | 56 Gbps |
| Performance | Packet Forwarding Rate | 41.7 Mpps |
| Performance | Packet Buffer Size | 12 Mbit |
| Performance | Jumbo Frame | 10,000 Byte |
| Performance | MAC Table Size | 8K |
| Performance | VLAN Number | 4K |
| Performance | Dynamic ARP | 128 |
| Performance | Communication Standard | 802.3x; 802.3ad; 802.1p; 802.1q; 802.1x; 802.1d; 802.1w; 802.1s |
| Ethernet Ring Protection Protocol | Spanning Tree Protocol | STP/RSTP/MSTP
PVST |
| VLAN | VLAN Function | Port-based VLAN
MAC-based VLAN |
| Link Aggregation | Link Aggregation | Static link aggregation;
Dynamic link aggregation |
| Port | IEEE 802.3x Flow Control | Yes |
| Multicast | Multicast | IGMP Snooping
PIM Snooping |
| Reliability | Reliability | LLDP |
| ARP | ARP | ARP, Gratuitous ARP;
Dynamic ARP Inspection;
ARP anti-attack;
ARP source suppression;
ARP Detection |
| DHCP | DHCP Function | DHCP Client
DHCP Relay |
| Security | Security | 802.1X, centralized MAC address authentication
Port isolation
Dynamic ARP detection, preventing man-in-the-middle attack and ARP denial-of-service
IP/Port/MAC binding |
| QoS/ACL | QoS/ACL | Packet filtering (Layer 2 to Layer 4)
Source MAC-, destination MAC-, Source IP (IPv4/IPv6)-, destination IP (IPv4/IPv6)-, TCP/UDP port number-, VLAN-based traffic classification
Time-based ACL
Two-way ACL policy (ingress and egress) |
| IPv6 | IPv6 | ND
IPv6-Ping
IPv6-Tracert
IPv6-Telnet |
| Management & Maintenance | Equipment Management | Load update files and update using FTP
Configure through CLI, Telnet, and Console port
SNMPv1/v2/v3
NTP
Ping and Tracert
LLDP
Port loopback detection |
| General | Statics Protection | Air discharge: 8 kV
Contact discharge: 6 kV |
| General | Lighting Protection | Common mode: 1 kV
Differential mode: 0.5 kV |
| General | Net Weight | 2.5 kg (5.51 lb) |
| General | Gross Weight | 2.87 kg (6.33 lb) |
| General | Product Dimensions | 440 mm × 160 mm × 44 mm
(17.32" × 6.30" × 1.73") (L × W × H) |
| General | Packaging Dimensions | 540mm × 280mm × 86mm
(21.26" × 11.02" × 3.39") (L × W × H) |
| General | Casing Material | Sheet metal |
| General | Installation | Desktop mount; rack mount |

1. **– EXECUTION**
	1. EXAMINATION
		1. Examine areas to receive devices and notify adverse conditions affecting installation or subsequent operation.
		2. Do not begin installation until unacceptable conditions are corrected.
	2. PREPARATION
		1. Protect devices from damage during construction.
	3. INSTALLATION
		1. Install devices in accordance with manufacturer’s instruction at locations indicated on the floor drawings plans.
		2. Perform installation with qualified service personnel.
		3. Install devices in accordance with the National Electrical Code or applicable local codes.
		4. Ensure selected location is secure and offers protection from accidental damage.
		5. Location must provide reasonable temperature and humidity conditions, free from sources of electrical and electromagnetic interference.
	4. FIELD QUALITY CONTROL
		1. Test snugness of mounting screws of all installed equipment.
		2. Test proper operation of all video system devices.
		3. Determine and report all problems to the manufacturer’s customer service department.
	5. ADJUSTING
		1. Make proper adjustment to video system devices for correct operation in accordance with manufacturer’s instructions.
		2. Make any adjustment of camera settings to comply with specific customer’s need.
	6. DEMOSTRATION
		1. Demonstrate at final inspection that video management system and devices functions properly.

END OF SECTION