



Hanwha Techwin is a global leading supplier of solutions for IP and analog video surveillance. Building on the company's history of innovation, Hanwha Techwin is dedicated to providing systems solutions with the highest levels of performance, reliability and cost-effectiveness. Hanwha Techwin is committed to the continued development of innovative systems products for professional security applications.

For additional information, visit <http://www.hanwha-security.com/>

1080p ANALOG HD 23x PTZ CAMERA

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

Notes to Specifier:

1. Where several alternative parameters or specifications exist, or where, the specifier has the option of inserting text, such choices are presented in **<bold text>**.
2. Explanatory notes and comments are presented in **colored** text.

Important: See further notes on the following page.

Important Note to Security Systems Specifiers

CSI MasterFormat 2016 incorporates numerous significant changes affecting electronic safety and security. This document is written to provide flexibility in using either format, although adoption of MasterFormat 2016 is encouraged. The following is a guide to the MasterFormat numbers relevant to the product referenced in this specification.

Primary Specification Area:**MasterFormat 2014:**

28 20 00	Electronic Surveillance
28 23 00	Video Surveillance
28 23 29	Video Surveillance Remote Devices and Sensors

MasterFormat 2016:

28 20 00	Video Surveillance
28 2x xx	Surveillance Cameras
28 2x xx	IP Cameras

Related Requirements:**MasterFormat 2014:**

27 20 00	Data Communications
28 23 13	Video Surveillance Control and Management Systems
28 23 16	Video Surveillance Monitoring and Supervisory Interfaces
28 23 19	Digital Video Recorders and Analog Recording Devices
28 23 23	Video Surveillance Systems Infrastructure

MasterFormat 2016

27 15 01.xx	Video Surveillance Communications Conductors and Cables
27 20 00	Data Communications
28 05 xx.xx	PoE Power Sources for Electronic Safety and Security
28 05 xx	Storage Appliances for Electronic Safety and Security
28 05 xx.xx	Network Video Recorders
28 05 xx	Cyber Requirements for Electronic Safety and Security
28 05 xx	Safety and Security Network Communications Equipment
28 2x 00	Video Management System

1080p ANALOG HD 23x PTZ CAMERA**PART 1 GENERAL****1.01 SUMMARY**

- A. Section includes a 1080p analog PTZ camera in an IK10 and IP66 rated housing.
- B. Product – A 1080p analog PTZ camera with 23x zoom ratio.
- C. Related Requirements

Refer to MasterFormat notes at the beginning of this document to select requirements specific to the MasterFormat version being used in the specification.

1.02 REFERENCES

- A. Abbreviations

Some abbreviations may not be relevant to this product.

- 1. AGC - Automatic Gain Control
- 2. ARP – Address Resolution Protocol
- 3. AWB - Automatic White Balance
- 4. BLC – Back light compression
- 5. CBR – Constant Bit Rate
- 6. CVBS – Color, Video, Blanking, Sync
- 7. DHCP - Dynamic Host Configuration Protocol
- 8. DNR – Digital Noise Reduction
- 9. DNS - Domain Name Server
- 10. DDNS – Dynamic Domain Name Server
- 11. DSCP – Differentiated Services Code Point
- 12. fps - frames per second
- 13. FTP - File Transfer Protocol
- 14. GOV – Group of Video
- 15. GUI – Graphical User Interface
- 16. HD – High Definition
- 17. HTTP - HyperText Transfer Protocol
- 18. ICMP – Internet Control Message Protocol
- 19. IGMP - Internet Group Management Protocol
- 20. IP - Internet Protocol
- 21. JPEG - Joint Photographic Experts Group
- 22. MJPEG - Motion JPEG
- 23. MP - MegaPixel
- 24. MPEG - Moving Pictures Experts Group

25. NAS – Network Attached Storage
26. NTP - Network Time Protocol
27. PIM-SM - Protocol Independent Multicast-Sparse Mode
28. PoE - Power over Ethernet
29. PPPoE – Point to Point Protocol over Ethernet
30. RTP - Real-time Transport Protocol
31. RTCP – Real-Time Control Protocol
32. RTSP - Real-Time Streaming Protocol
33. SDK – Software Development Kit
34. SMTP - Simple Mail Transfer Protocol
35. SNMP – Simple Network Management Protocol
36. SSL – Secure Sockets Layer
37. TCP - Transmission Control Protocol
38. UDP - User Datagram Protocol
39. UPnP – Universal Plug and Play
40. VBR – Variable Bit Rate
41. VMS - Video Management System
42. WDR – Wide Dynamic Range
43. LDC – Lens Distortion Correction

B. Reference Standards

1. Emissions
 - a. FCC-47 CFR Part 15 Subpart B Class B
 - b. CE EN 55022:2010
2. Immunity - CE
 - a. EN 50130-4:2011
 - b. EN 61000-3-3:2014
 - c. EN 61000-4-2:2009
 - d. EN 61000-4-3:2006+A2:2010
 - e. EN 61000-4-4:2012
 - f. EN 61000-4-5:2014
 - g. EN 61000-4-6:2009
3. Safety
 - a. UL listed
 - b. CE EN 50581:2012 (hazardous substances)
4. Ingress Protection and Vandal Resistance
 - a. ANSI / IEC60529 – Degrees of Protection Provided by Enclosures – IP66
 - b. IEC EN 62262 - Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts : IK10
 - c. IEC 60068-2-75 : IK10

1.03 SUBMITTALS

A. Product Data

1. Manufacturer's printed or electronic data sheets
2. Manufacturer's installation and operation manuals
3. Warranty documentation

1.04 QUALIFICATIONS

- A. Manufacturer shall have a minimum of five years' experience in producing video surveillance equipment.
- B. Installers shall be trained and authorized by the Manufacturer to install, integrate, test, and commission the system.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver the camera in the manufacturer's original, unopened, undamaged container with identification labels intact.
- B. Store the camera in a temperature environment specified in section 2.04 Detailed Specification, protected from mechanical and environmental conditions as designated by the manufacturer.

1.06 WARRANTY, LICENSING AND SUPPORT

- A. Manufacturer shall provide at least a limited 3 year warranty for the product to be free of defects in material and workmanship.
- B. Manufacturer shall provide embedded camera video analytics free of license charges.

END OF SECTION

PART 2 PRODUCTS**2.01 EQUIPMENT**

- A. Manufacturer: Hanwha Techwin
<http://www.hanwha-security.com/>
- B. Model HCP-6230H
- C. Alternates: None

2.02 GENERAL DESCRIPTION

- A. The camera shall provide 1080p resolution with 23x optical zoom and 16x digital zoom.
- B. The camera device shall have the following physical and performance properties:
1. The camera shall be able to produce clear images in highly contrast scenes with wide dynamic range up to 120dB.
 2. Dustproof, waterproof, and IP66 rated.
 3. IK10 rated for protection against impacts.
 4. True day/night operation with scheduling and options for external devices.
 - a. Low light level operation to 0.2 lux (F1.6, 1/30 sec) in color mode and 0.01 (F1.6, 1/30 sec) in black and white mode.
 5. The camera shall provide 23x optical zoom with focal length ranges from 4.44 to 101.2mm. In addition focus control shall be available via remote control with the following options.
 - a. Auto
 - b. Manual
 - c. One Push
 6. The camera shall support digital noise reduction using both 2D and 3D noise reduction technology.
 7. Configurable 32 privacy masking regions utilizing rectangles.
 8. Defog feature to remove fogginess of scene using advanced image processing algorithms.
 9. The camera shall provide maximum pan speed of 700 degrees per second.
 10. The camera shall provide on screen display indicating directions.
- C. Intelligence and Analytics – The camera shall have a suite of integral intelligent operations and analytic functions to include:
1. Motion detection with eight definable detection areas with rectangular zones and minimum/maximum object size. Moreover, the camera shall provide control for sensitivity to adjust false alarm and misdetection rate according to the scene.
 2. Detection of logical events of specified conditions from the camera's video
 - a. Tampering
 - b. Virtual Line
 - c. Enter/Exit
 - d. Appear/Disappear
- D. Interoperability – The camera shall have the following remote control interface.
1. RS-485: Samsung-T/E, Pelco-D/P, Sungjin, Panasonic, Bosch, AD, GE, Vicon, Honeywell
 2. Coaxial: ACP (AHD Coax Protocol)

2.03 DETAILED SPECIFICATIONS**A. Video****1. Imager**

- a. Sensor: 1/2.8" 2.38MP CMOS
 - 1.) pixels per sensor: 1952 (H) x 1116 (V) total; 1944 (H) x 1104 (V) effective
 - 2.) scanning : progressive
- b. Minimum illumination
 - 1.) Color mode: 0.2Lux (F1.6, 1/30 sec)
 - 2.) Black & white mode: 0.01Lux (F1.6, 1/30 sec)
- c. S/N Ratio 50dB
- d. Video Out (Installation) BNC (CVBS / AHD)
- e. The following features with control settings shall be available:
 - 1.) Camera Title Off / On (Displayed up to 15 characters)
 - 2.) Day/night setting: Auto (ICR) / Color / B/W
 - 3.) Backlight compensation (BLC): Off / BLC / HLC
 - 4.) WDR 120dB
 - 5.) Contrast Enhancement Off / On (Samsung Super Dynamic Range)
 - 6.) Digital Noise Reduction (DNR): Off / On (Samsung Super Noise Reduction V)
2D + 3D Noise Filter
 - 7.) Digital Image Stabilization Off / On
 - 8.) Defog Off / Auto / Manual
 - 9.) Motion Detection Off / On (4ea, rectangular zones)
Handover
 - 10.) Privacy Masking Off / On (32ea, rectangular zones)
 - 11.) Gain Control Off / Low / Middle / High
 - 12.) White Balance ATW / AWC / Manual / Indoor / Outdoor
Including Mercury and Sodium
 - 13.) Electronic shutter speed:
 - a.) settings: min, max, anti-flicker (2 ~ 1/12,000sec)
 - 14.) Digital zoom 16X
 - 15.) Image flip: Off / On
 - 16.) Image mirror: Off / On
 - 17.) Intelligent Video Analytics Tampering, Virtual Line, Enter / Exit,
Appear / Disappear
 - 18.) Alarm I/O Input 4ea / Output 2ea (Relay)
 - 19.) Remote Control Interface RS-485, Coaxial
 - 20.) Protocol
 - a.) RS-485 Samsung-T/E, Pelco-D/P, Sungjin, Panasonic,
Bosch, AD, GE, Vicon, Honeywell
 - b.) Coaxial ACP (AHD Coax Protocol)

- f. Lens: 4.44 ~ 101.2mm (Optical 23X)
 - 1.) Max. Aperture Ratio F1.6 (Wide) / F3.6 (Tele)
 - 2.) Angle of view: H: 62.8°(Wide)~3.14°(Tele) / V: 36.8° (Wide) ~ 1.76° (Tele)
 - 3.) Min. Object Distance 1.4m (4.59ft) (Wide), 1.9m (6.23ft) (Tele)
 - 4.) Focus Control Auto / Manual / One Push
 - 5.) Lens Type DC Auto Iris
 - 6.) Mount Type Board-in Type
- g. Pan / Tilt / Rotate
 - 1.) Pan Range 360° (Endless)
 - 2.) Pan Speed Preset: 700°/sec, Manual: 0.024°/sec ~ 200°/sec
 - 3.) Tilt Range 210° (-15° ~ 195°)
 - 4.) Tilt Speed Preset: 700°/sec, Manual: 0.024°/sec ~ 200°/sec
 - 5.) Preset 255
 - 6.) Preset Accuracy $\pm 0.2^\circ$
 - 7.) Azimuth Yes (E / W / S / N / NE / SE / NW / SW)
- B. Electrical
 - 1. Power
 - a. Input Voltage / Current 24V AC $\pm 10\%$
 - b. Power Consumption: Max. 24W (Heater Off), Max. 65W (Heater On)
- C. Mechanical And Environmental
 - 1. Material: Plastic + Metal
 - 2. Dimensions (W x H): Ø220.0 x 293.6mm (Ø8.66" x 11.56")
 - 3. Weight 3.3Kg (7.28 lb)
 - 4. Temperature:
 - a. Operating: -50° C to 55° C (-59° F to 131° F)
 - b. Storage: -50° C to 60° C (-58° F to 140° F)
 - 5. Humidity: 0 ~ 90%, non-condensing
 - 6. Ingress Protection / Vandal Resistance
 - a. IP66
 - b. IK10

END OF SECTION

PART 3 EXECUTION

3.01 INSTALLERS

- A. Contractor personnel shall comply with all applicable state and local licensing requirements.

3.02 PREPARATION

- A. The system design and configuration shall be verified for compatibility and performance with the camera(s).
- B. Configuration shall be tested and qualified by the Contractor prior to camera installation.
- C. All firmware found in products shall be the latest and most up-to-date provided by the manufacturer, or of a version as specified by the provider of the Video Management Application (VMA), Digital Video Recorder (DVR) or Network Video Recorder (NVR).
- D. All equipment requiring users to log on using a password shall be configured with user/site-specific password/passwords. No system/product default passwords shall be allowed.

3.03 INSTALLATION

- A. The Contractor shall carefully follow instructions in documentation provided by the manufacturer to insure all steps have been taken to provide a reliable, easy-to-operate system.
- B. All equipment shall be tested and configured in accordance with instructions provided by the manufacturer prior to installation.
- C. Before permanent installation of the system, the Contractor shall test the system in conditions simulating the final installed environment.

3.04 STORAGE

- A. The hardware shall be stored in an environment where temperature and humidity are in the range specified by the Manufacturer.

END OF SECTION