



Hanwha Techwin is a leading supplier of advanced video surveillance solutions for IP-video, analog and hybrid systems. 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-efficiency. Hanwha Techwin is committed to the continued development of innovative systems products for professional security applications.

For additional information, visit <http://security.hanwhatechwin.com/>

1080p ANALOG HD IR BULLET 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 IR BULLET CAMERA

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes 1080p analog camera in IP66 rated bullet type body.
- B. Product - A 1080p analog camera with integral IR illuminator.
- 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
 - 1. AGC - Automatic Gain Control
 - 2. ARP – Address Resolution Protocol
 - 3. AWB - Automatic White Balance
 - 4. BLC – Back light compensation.
 - 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. DWDR – Digital Wide Dynamic Range

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

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 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.

1.06 WARRANTY, LICENSING AND SUPPORT

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

END OF SECTION

PART 2 PRODUCTS**2.01 EQUIPMENT**

- A. Manufacturer: Hanwha Techwin
<http://security.hanwhatechwin.com/>
- B. Model SCO-6023R
- C. Alternates: None

2.02 GENERAL DESCRIPTION

- A. Video – Full HD (1080p) resolution at 30 fps
- B. Camera – The 1080p analog camera device shall have the following physical and performance properties:
 - 1. Auto day/night operation with removable IR cut filter
 - a. Low light level operation to 0.25 lux (color) and 0 lux (black and white)
 - 2. Digital Wide Dynamic Range, providing a wide range between dark and light areas visible at the same time
 - 3. Digital noise reduction
 - 4. Integral IR illumination, providing effective visibility of 20m at 0 Lux when activated in Black & White mode.
 - 5. Digital zoom
 - 6. 4 privacy masking regions utilizing a 4 point polygon
- C. Intelligence and Analytics – The camera shall have a suite of integral intelligent operations and analytic functions to include:
 - 1. Motion detection with four definable detection areas, minimum / maximum object size definition and a learning algorithm that ignores false alarms such as trees and waves on water.

2.03 DETAILED SPECIFICATIONS

- A. Video
 - 1. Imager
 - a. Sensor: 1/2.9" 2 MP CMOS
 - 1.) pixels per sensor: 2000 (H) x 1121 (V) total; 1984 (H) x 1105 (V) effective
 - 2.) scanning : progressive
 - b. Minimum illumination
 - 1.) Color mode: 0.25Lux (F2.1)
 - 2.) Black & white mode: 0Lux (IR LED on)
 - c. Signal: Noise ratio: 52 dB
 - d. Video Output: BNC(AHD, CVBS selectable)
 - e. Resolution 1920 x 1080, 1280 x 720
 - f. Maximum Frame rate 30fps at 1080p, 30fps at 720p
 - g. The following features with control settings shall be available:
 - 1.) On Screen Display English, Japanese, Spanish, French,

Portuguese, Korean, German, Italian, Russian,
Polish, Czech, Romanian, Serbian, Swedish,
Danish, Turkish

- 2.) Camera Title: On / Off (up to 15 characters)
- 3.) Day / Night Auto (ICR) / Color / BW
- 4.) Backlight compensation (BLC): Off / User BLC / HLC
- 5.) Wide Dynamic Range DWDR
- 6.) Digital Noise Reduction (DNR): On / Off (Samsung Super Noise Reduction IV)
- 7.) Defog: Off / Manual / Auto

- 8.) Motion detection
 - a.) 4 zones with 4 sided polygon
 - b.) selectable for On/Off
- 9.) Privacy masking
 - a.) 4 zones with 4 sided polygon
 - b.) selectable for On/Off

- 10.) Gain control 3 levels or Off
- 11.) White Balance ATW / Outdoor / Indoor / Manual / AWC
(1,800K° ~ 10,500K°)
- 12.) Electronic shutter speed: 1 - 1/12,000 sec.
- 13.) Reverse: Off / H-Rev / V-Rev / HV-Rev
- 14.) Profile Basic, Day & Night, Backlight, Indoor, User

- h. Lens: 4 mm, fixed
 - 1.) Maximum aperture ratio: F2.1
 - 2.) Angle of view: H : 72.2° / V : 52.9° / D : 94.3°
 - 3.) Minimum Object Distance: 0.5 m (1.64ft.)
 - 4.) Focus control: Manual
 - 5.) Lens Type fixed
 - 6.) Mount Type Board-in

- 2. Illumination: IR LED (20 m IR distance)
- 3. Video Transmission Distance: 500m (1640.42 ft.) (75-5 coaxial cable)

B. Protocol

- 1. Remote Control Interface: Coaxial control
- 2. Protocols: Coax : NTSC/PAL - Samsung CCVC, Pelco-C (Coaxitron),
AHD - ACP (AHD coax protocol)

C. Electrical

- a. Input Voltage and Current 12V DC +-10%
- b. Power Consumption Maximum 4.2W

D. Mechanical And Environmental

- 1. Material: plastic
- 2. Dimensions (W x H): 58.6 x 165.2 mm (2.31 x 6.5 in.)

- 3. Weight: 208g (1.46 lb.)
- 4. Operating Temperature: -30° C to 55° C (-22° F to 131° F)
- 5. Humidity: 0 - 90%, non-condensing
- 6. Environmental Rating:
 - a. Ingress Protection IP66

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 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) or Digital Video Recorder (DVR).

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

END OF SECTION