

DC-S4561WRA

Architectural and Engineering Specifications

Version 1.0
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PART 1: PLEASE REFER TO ATTACHED DOCUMENTS - OVERVIEW & FORMAT SAMPLES**PART 2: PRODUCTS****Division 28 – Electric Safety and Security****Level 1 - 28.20.00 – Video Surveillance****Level 2 - 28.21.00 – Surveillance Cameras****Level 3 - 28.21.13 – IP Cameras****2.1.0 Manufacturer**

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2.2.0 General**2.2.1 Product Description**

The DC-S4561WRA is a 5MP Mini AI PTZ camera designed for professional surveillance. It supports H.264, H.265, and MJPEG compression formats for efficient bandwidth and storage usage. The camera features an AF zoom lens (5.33–111.93mm, F1.67–F3.69) with DC Iris (Hall Sensor) control. It is rated IP66 for weatherproofing. Long-range IR LED illumination covers up to 100 meters, and True WDR (120dB) enhances visibility under challenging lighting conditions. The camera includes Smart Failover for local recording on microSD/SDHC/SDXC cards up to 512GB during network outages. It supports ONVIF and IDIS DirectIP 2.0 integration. Additional features include 360° endless pan, tilt up to 90°, preset positions (256), EIS, BLC, motion detection, tampering alarm, object detection, intrusion, loitering, line crossing, and face detection. Alarm In/Out and audio I/O are also supported. Power is supplied via PoE (IEEE 802.3at Class 4).

2.2.2 General Specification

1. The IP camera shall be equipped with a 5 Megapixel 1/2.8" CMOS sensor (2592 x 1944).
2. The IP camera shall be equipped with a 5.33–111.93mm motorized AF zoom lens, F1.67–F3.69, with DC Iris (Hall Sensor) control.
3. The IP camera shall be a true day/night camera with a mechanical IR cut filter (ICR) for improved low-light performance, switchable automatically via light sensor or remotely.
4. The IP camera shall support True Wide Dynamic Range (WDR) for improved image clarity in high-contrast scenes (120 dB).
5. The IP camera shall be equipped with long-range IR LED illumination up to 100m (328.1 ft).
6. The IP camera shall support 2DNR and 3DNR (Dynamic Noise Reduction) to reduce image noise and optimize storage and bandwidth usage.
7. The camera shall be enclosed in a housing with IP66 weatherproof protection.
8. The camera shall have a 10/100Base-T RJ-45 Ethernet port with auto-sensing and full/half-duplex mode.

9. The camera shall support Power over Ethernet (PoE) IEEE 802.3at Class 4, 57V, 16.8W.
10. The IP camera shall be equipped with an on-board microSD/SDHC/SDXC card slot, supporting up to 512GB for edge recording.
11. The camera shall support Smart Failover to prevent data loss during short network interruptions or recorder overload.
12. The camera shall support a maximum resolution of 2592 x 1944 at up to 30 ips (images per second).
13. The IP camera shall provide network connection using H.265, H.264, and MJPEG compression.
14. The IP camera shall support quadruple streams in DirectIP 2.0 protocol mode.
15. The IP camera shall conform to the ONVIF Profile S/T.
16. The IP camera shall be equipped with an embedded web server (IDIS Web) which works independently using a web browser with ActiveX plug-in.
17. The IP camera shall include security features such as: Digest authentication, Password Protection, User access log, IP Filtering, IEEE802.1x(EAP-TLS), Chained Fingerprint, SSL Encryption, HTTPS Encryption.
18. The IP camera shall support bandwidth limitation and MAT for optimized network usage.
19. The IP camera shall have easy network access via UPnP (Universal Plug and Play) function and embedded mDNS (Multicast DNS) protocol.
20. The IP camera shall have Digital Image Stabilization (EIS) to reduce the effect of camera shake or vibration.
21. The IP camera shall have Intelligent Video Analytics, including:
 - IDLA: Object Detection, Intrusion, Loitering, Line Crossing, Face Detection
 - ETC: Video Motion Detection, Active Tampering Alarm, Trip Zone

2.2.3 Protocol Specification: DirectIP 2.0

1. The IP camera shall have DirectIP 2.0 mode.
2. DirectIP 2.0 protocol shall provide easy connection to DirectIP NVR for automatic discovery and video streaming configuration.
3. DirectIP 2.0 shall provide the compatibility with IDIS Solution Suite VMS or ONVIF for third-party software solutions.
4. DirectIP 2.0 shall support camera can be linked to IDIS software solution such as IDIS Center and IDIS Solution Suite, or 3rd party solution while it is being connected to a DirectIP NVR.
5. DirectIP 2.0 camera shall be compatible with DirectIP 1.0 NVR as well as DirectIP 2.0 NVR.
6. DirectIP 2.0 camera shall be unavailable for No-password login when connecting to DirectIP 2.0 NVR and IDIS Software Solutions.
7. DirectIP 2.0 protocol shall provide Quadruple streams.
8. DirectIP 2.0 protocol shall support H.264 and H.265 and MJPEG compression.

2.3.0 Technical Specification

2.3.1 Video Specification

1. Image Sensor: 1/2.8" CMOS
2. Maximum Resolution: 2592x1944
3. Scanning Mode: Progressive Scan
4. Lens Type: AF(Auto Focus) Optical Zoom Lens, IR Corrected Lens
 - A. $f = 5.33 \sim 111.93\text{mm}$
 - B. F1.67 ~ F3.69
5. Iris Control: P-Iris
6. Angular Field of View (H: Horizontal, V: Vertical, D:Diagonal):
 - A. Wide : $54.8^\circ(\text{H})$, $41.7^\circ(\text{V})$, $67.2^\circ(\text{D})$
 - B. Tele : $3.3^\circ(\text{H})$, $2.5^\circ(\text{V})$, $4.1^\circ(\text{D})$
 - C. Pan Range, Speed: 360° (Endless), $0.02 \sim 240^\circ/\text{sec}$ (preset $240^\circ/\text{sec}$)
 - D. Tilt Range, Speed: 90° ($0^\circ \sim 90^\circ$), $0.02 \sim 240^\circ/\text{sec}$ (preset $240^\circ/\text{sec}$)
 - E. Zoom Range: x21
7. Minimum Illumination:
 - A. COLOR : 0.13 lux @ F1.67
 - B. B/W : 0 lux @ F1.67
8. S/N Ratio: more than 45dB
9. Maximum Frame Rate:
 - A. 4:3 mode : 30ips : 2592 x 1944(WDR)
 - B. 16:9 mode : 30ips : 2592 x 1456(WDR)
10. Video Resolution:
 - A. 4:3 : 2592x1944, 1920x1440, 1280x960x 640x480
 - B. 16:9 : 2592x1456, 1920x1080, 1280x720, 640x360
11. Video Compression : H.265, H.264 (MP), M-JPEG
12. Video Compression Level: 4 levels: Basic, Standard, High, Very High
13. Video Bitrate Control: H.264 - CBR / VBR, H.265 - CBR / VBR
14. Intelligent Codec: Off (Default) / On
15. Motion Adaptive Transmission (MAT): Off (Default) / On
16. Multi-Video Streaming: Quadruple streams
17. Dynamic Range: 120dB (True WDR)
18. Electronic Shutter Speed: Auto / Manual ($1/30 \sim 1/10,000$), Anti-Flicker, Slow Shutter ($1/7.5$, $1/15$)
19. True Day & Night: Yes (ICR)
20. IR Distance (number of LEDs): 100 m / 328.1ft (6ea)

21. Image Setting: Configurable Exposure, White Balance, Self-Adjusting Video Mode(Sharpness, Contrast, Colors, Brightness Control)
22. Mirroring/Pivot: Horizontal / Vertical / Pivot
23. Image Stabilizer: Yes (EIS)
24. Privacy Masking: 8 Zones
25. Intelligent Video: Video Motion Detection, Active Tampering Alarm, Trip Zone
26. Analog Video Output: -
27. Advanced PTZ options: 256 presets
28. De-fog : Yes

2.3.2 Audio Specification

1. Audio Compression Algorithm: Opus, ADPCM 16K, G.726, G.711 u-Law, G.711 a-Law
2. Audio Input / Output: Line-in 1ea / Line-out 1ea
3. Audio Impedance:
 - A. Max output level : 1Vrms
 - B. Input impedance (1Vpp 1KHz) : 7.1K Ohm
 - C. Output Impedance (1KHz) : 89.28 Ohm
4. Two-way Audio Communication: Yes

2.3.3 Network Specification

1. Port: RJ-45, 10/100Base-T, 1 port
2. Network Protocols: DirectIP 2.0 Protocol, IPv4, IPv6, RTP/RTSP/TCP, RTP/RTSP/HTTP/TCP, RTP/UDP RTSP/TCP, HTTP, HTTPS, FTP, SNTP, SMTP, FEN, mDNS, uPNP, SNMPv2
3. Security: Digest authentication, Password Protection, User access log, IP Filtering, IEEE802.1x(EAP-TLS), Chained Fingerprint, SSL Encryption, HTTPS Encryption
4. Remote Access Client: DirectIP NVR Connection, IDIS Web, IDIS Mobile, IDIS Solution Suite
5. Recording Session Buffer (NLTsrec): Up to 60MB
6. Edge Storage: micro SD/SDHC/SDXC, Smart Failover (Up to 512GB)

2.3.4 Security Specification

1. Digest authentication, Password Protection, User access log, IP Filtering, IEEE802.1x(EAP-TLS), Chained Fingerprint, SSL Encryption, HTTPS Encryption
2. Maximum User Access: 10 (Live), 1 (Recording), 1 (Search), 2 (Admin)

2.3.5 Alarm and Event Specification

1. Alarm Input / Output: 1 / 1
 - A. Alarm Input: 1 TTL, NC/NO Programmable, 4.3V(NC) or 0.3V(NO) threshold, 5V DC

- B. Mechanical or electrical switches can be wired to the Alarm-In and GND connectors. The maximum voltage should not exceed 5V.
- C. Alarm Output: 1 TTL open collector, 30mA @ 5 VDC
- 2. Trigger Events: Motion Detection, Alarm in, Audio detection, Tampering, Object Detection, Intrusion, Loitering, Line Crossing, Face Detection
- 3. Event Notification: Remote S/W, Email (with Image)

2.3.6 Environmental Specification

- 1. Operating Temperature: -30°C ~ +55°C (-22°F ~ +131°F)
*Starting up at above 0°C (32°F)
- 2. Operating Humidity: 0% to 90%
- 3. Vandal-proof Enclosure: -
- 4. Outdoor Ready: IP66

2.3.7 Electrical Specification

- 1. Power Source: PoE IEEE 802.3at (Class 4)
- 2. Power Consumption: PoE IEEE 802.3at (Class 4), 57V=, 16.8W
- 3. Regulatory Approvals: FCC, CE(50130-4), KC, UL[TBD]

2.3.8 Mechanical Specification

- 1. Dimensions (Ø x H): Ø173.65mm x 173.5mm (Ø6.83" x 6.83")
- 2. Unit Weight: 2.37 kg (5.22lb)

2.3.9 Software Specification

- 1. Supported Language: English, French, German, Italian, Spanish, Dutch, Polish, Portuguese, Hungarian, Czech, Russian, Danish, Swedish, Finnish, Turkish, Croatian, Korean, Japanese, Chinese-PRC, Chinese-Taiwan

Version History

Version	Writer	Revision Date	Remarks
1.0.0	GT Team	Aug, 25, 2025	Initial Release