**i-PRO WV-S66300\_Z3L RAPID PTZ DOME NETWORK CAMERA**

**TECHNICAL SPECIFICATIONS**

**DIVISION 28 – ELECTRONIC SAFETY AND SECURITY**

**28 20 00 ELECTRONIC SURVEILLANCE**

**28 23 00 VIDEO SURVEILLANCE**

**28 23 29 VIDEO SURVEILLANCE REMOTE DEVICES AND SENSORS**

*This specification is intended for use by the design/construction professional and any user of Panasonic Security products to assist in developing project specifications for security and video surveillance systems.*

*Specifier Notes: This guide specification incorporates CSI MasterFormatTM 2014 Edition Numbers and Titles.*

*Notes in Italics, such as this one, are explanatory and intended to guide the design professional/specifier and user in the proper selection and use of materials. This specification should be modified where necessary to accommodate individual project conditions.*

**PART 1 GENERAL**

* 1. **SUMMARY**
  2. **WARRANTY**

1. Provide manufacturer's standard warranty.

**PART 2 PRODUCTS**

1. **MANUFACTURERS**
   1. i-PRO Co., Ltd.
   2. Provide Video Surveillance Camera from single source manufacturer
2. **i-PRO WV-S66300\_Z3L RAPID PTZ DOME NETWORK CAMERA**
   1. **GENERAL CHARACTERISTICS**
3. The Rapid PTZ Network Camera shall deliver H.265 stream and H.264 stream.
4. The Rapid PTZ Network Camera shall produce a resolution of 1920x1080 pixels at up to 60fps with a 16:9 aspect ratio.
5. The Rapid PTZ Network Camera shall produce a resolution of 1280x960 pixels at 30fps with a 4:3 aspect ratio.
6. The Indoor PTZ Network Camera shall utilize an approximate 1/2.8 res-inch type high sensitivity CMOS image sensor.
7. The Indoor PTZ Network Camera shall be equipped with 32 times optical zoom and 48 imes

HD extra optical zoom at HD resolution.

1. The Rapid PTZ Network Camera shall feature image stabilization to capture stable images even when installed on the plenty-vibration place.
2. The Rapid PTZ Network Camera shall feature a 132dB wide dynamic range based on Enhanced Super Dynamic and Adaptive Black Stretch technology (ABS).
3. The Rapid PTZ Network Camera shall produce a color image with a minimum illumination of 0.001 lux and a monochrome image with 0.0004 lux at F1.6, maximum shutter of 16/30s and maximum gain mode 11.
4. The Rapid PTZ Network Camera shall generate multiple simultaneous video streams of up to four (4) H.265 (Main profile) or H.264 (High profile) streams and JPEG streams.
5. The Rapid PTZ Network Camera shall be equipped with intelligent auto mode, the technology for shooting license plate and person’s face more clearly.
6. The Rapid PTZ Network Camera shall be equipped with GOP control and Smart Facial coding which controls the image quality of a stationary area, a moving area, and a face, as bitrate reducing technology.
7. The Rapid PTZ Network Camera shall produce encrypted stream.
8. The Rapid PTZ Network Camera shall realize SSL / TLS communication with CA certificate.
9. A user shall be able to view videos on a PC using a browser.
10. A user shall be able to view videos on a smartphone and tablet using viewer software for iPhone and Android.
11. The Rapid PTZ Network Camera shall offer Video Motion Detection (VMD) with four (4) programmable detection areas, 15 steps sensitivity level and 10 steps detection size.
12. The Rapid PTZ Network Camera shall offer an optional intelligent VMD (i-VMD) function which provides intruder detection, loitering detection, direction detection, scene change detection, object detection and cross line detection.
13. The Rapid PTZ Network Camera shall offer an optional face detection function.
14. The Rapid PTZ Network Camera shall have Fog compensation function.
15. The Rapid PTZ Network Camera shall have High light compensation (HLC) function.
16. The Rapid PTZ Network Camera shall have Super Chroma Compensation (SCC) which realizes a better color reproducibility in the low illumination.
17. The Rapid PTZ Network Camera shall provide up to thirty-two (32) areas of electronic privacy masking.
18. The Rapid PTZ Network Camera shall offer the prioritized stream control which transmits a video stream to a specified client PC or recorder preferentially.
19. The Rapid PTZ Network Camera shall have an SD memory card slot that supports SD, SDHC and SDXC memory cards for local storage.
20. The Rapid PTZ Network Camera shall offer full-duplex bi-directional audio communication capability between the camera and monitoring site.
21. The Rapid PTZ Network Camera shall have three (3) alarm sources of terminal input, VMD, command alarm, audio detection alarm and auto track alarm that activate the processes such as SDXC/ SDHC/SD memory recording, E-mail notification, HTTP alarm notification, Indication on browser, FTP image transfer and TCP alarm protocol output.
22. The Rapid PTZ Network Camera shall conform to the ONVIF profile S and profile G.
23. **CHARACTERISTICS**

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| CAMERA | |
| Image Sensor | Approx. 1/2.8 type CMOS image sensor |
| Minimum Illumination | Color:0.011 lx (30IRE, F1.6, 1/30s)  Color:0.015 lx (50IRE, F1.6, 1/30s)  BW:0.006 lx (50IRE, F1.6, 1/30s)  BW:0 lx (50IRE, F1.6, 1/30s with IR LED) |
| White Balance | ATW1 / ATW2 / AWC |
| Color/BW (ICR) | Off / On (IR Light Off) / On (IR Light On) / Auto1 (IR Light Off) / Auto2 (IR Light On) / Auto3 (SCC) |
| Super Dynamic | On / Off,  The level can be set in the range of 0 to 31. |
| Dynamic Range | Max.144 dB  (Super Dynamic:On, Level 31) |
| IR LED Light | High/ Middle/ Low/ Off  Maximum irradiation distance:  350 m {Approx. 1150 ft} (30IRE)\*  250 m {Approx. 820 ft} (50IRE)  \*Converted value |
| AI Sound Classification | Gunshot, Yell, Vehicle horn, Glass break |
| AI Analytics | AI Video Motion Detection, AI Face Detection,  AI People Detection, AI Vehicle Detection,  AI Non mask Detection, AI Occupancy Detection, AI Scene Change Detection  For details [AI Surveillance](https://i-pro.com/global/en/surveillance/products/i-pro-ai-application) 3rd party applications are also available. [AI Surveillance List](https://i-pro.com/global/en/surveillance/i-pro-application-platform/application-list) |
| Image Stabilizer | On / Off  (Built-in gyro sensor) |
| Image Rotation |  |

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| LENS | |
| Focus Adjustment | Auto focus |
| Optical zoom | 32x (Motorized zoom / Motorized Focus) |
| Extra Zoom | Max.48x(32x-48x when resolution is 1280x720) |
| Focal Length | 4.25 - 136 mm {5/32 inches - 5-11/32 inches} |
| Angular Field of View | [16:9 mode] Horizontal:2.4° (TELE) 65° (WIDE), Vertical:1.4° (TELE) 39° (WIDE)(TBD)  [ 4:3 mode] Horizontal:1.9° (TELE) 51° (WIDE), Vertical:1.4° (TELE) 39° (WIDE)(TBD) |
| Maximum Aperture Ratio | 1:1.6 (WIDE) 1:4.4 (TELE) |
| Focus Range | 3.0 m {118-1/8 inches} |
| Aperture Range | F1.6 - close |
| Adjusting Angle | Horizontal:360° Endless Panning,  TILT:-20° to +90°, Yaw:0° |

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| VIDEO | |
| Image Resolution H.265/ H.264/JPEG(MJPEG) | [16:9 mode (60fps mode)],[16:9 mode (30fps mode)],  [16:9 mode (50fps mode)],[16:9 mode (25fps mode)]  1920x1080, 1280x720, 640x360, 320x180  [4:3 mode (30 fps mode)], [4:3 mode (25 fps mode)]  1280x960, VGA, QVGA  [4:3 mode (15 fps mode)], [4:3 mode (12.5 fps mode)]  2048x1536\*, 1280x960, VGA, QVGA  \*Used bu super resolution techniques |
| JPEG  Image Quality | 10 steps |
| Smart Coding   * + - 1. Smart VIQS       2. Smart P-picture control | On / Off,  Up to 8 zones availableOn / Off,  Up to 8 zones available  GOP (Group of pictures) control:  Off/ Low (Variable GOP 1s-8s)/ Mid (Variable GOP 4s-16s)/  Advanced(Fixed GOP 60s w/1s key-frame)/  Frame rate control (Variable GOP 4s-16s with frame rate control)  \*Advanced and Frame rate control are only available with H.265.  Smart VIQS: On(High)/On(Low)/Off, Smart P-picture control: On/Off |

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| AUDIO | |
| Audio Compression | G.726 (ADPCM):16 kbps / 32 kbps  G.711:64 kbps  AAC-LC\*5:64 kbps / 96 kbps / 128 kbps |
| Audio Transmission Mode | Off / Mic (Line) input / Audio output / Interactive (Half duplex) / Interactive (Full duplex) |
| Audio Detection | On / Off |

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| OPERATION | |
| Shutter Speed | [60fps mode]  1/60 Fix to 1/10000 Fix,  [50fps mode]  1/50 Fix to 1/10000 Fix |
| Maximum Shutter | 60 fps/30 fps/15 fps mode: Max.1/4000s to Max.16/30s  50 fps/25 fps/12.5 fps mode: Max.1/4000s to Max.16/25s |
| Intelligent Auto | On / Off |
| Privacy Adaptive Black Stretch | The level can be set in the range of 0 to 255. |
| Back light compensation / High light compensation | BLC (Back light compensation) / HLC (High light compensation) / Off  The level can be set in the range of 0 to 31 (only when Super dynamic / Intelligent Auto :Off) |
| Fog compensation | On / Off, The level can be set in the range of 0 to 8 (only when Intelligent auto / auto contrast adjust:Off) |
| Maximum Gain (AGC) | The level can be set in the range of 0 to 11. |
| Digital Noise Reduction | The level can be set in the range of 0 to 255. |
| Panorama |  |
| Video Motion Detection (VMD) | On / Off,  4 areas available |
| Scene Change Detection (SCD) | On / Off,  1 areas available |
| Privacy Zone | On / Off,  Up to 32 zones available |
| Camera Title (OSD) | On / Off,  Up to 40 characters (alphanumeric characters, marks) |

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| DORI | |
| Detect (25ppm / 8ppf) | Wide: 60.3 m / 197.8 ft,  Tele: 1833.2 m / 6014.4 ft |
| Observe (62.5ppm / 19ppf) | Wide: 24.1 m / 79.1 ft ,  Tele: 733.3 m / 2405.8 ft |
| Recognize (125ppm / 38ppf) |  |
| Identify (250ppm / 76ppf) |  |

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| SYSTEM ON CHIP (SoC) | |
| System on CHIP (SoC) | Ambarella CV25m |

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| PAN/TILT | |
| Panning Range | 360° Endless Panning |
| Panning Speed | Manual: Approx. 0.065°/s 150°/s,  Preset: Up to approx. 700°/s |
| Tilting Range | Operational -20° +90° |
| Tilting Speed | Manual: Approx. 0.065°/s 150°/s,  Preset: Up to approx. 500°/s |
| Preset Positions | 256 positions |
| Auto Mode | Auto track/ Auto pan/ Preset sequence/ Patrol |
| Self-Return | 10 s/ 20 s/ 30 s/ 1 min/ 2 min/ 3 min/ 5 min/ 10 min/ 20 min/ 30 min/ 60 min |

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| BROWSER GUI | |
| GUI/ Setup Menu Language | English, Italian, French, German, Spanish, Portuguese, Russian, Chinese, Japanese |
| Browser | Microsoft Edge, Firefox, Google Chrome |

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| NETWORK | |
| Network IF | 10Base-T / 100Base-TX,  RJ45 connector |
| Supported Protocol | IPv6:TCP/IP, UDP/IP, HTTP, HTTPS, SSL/TLS, SMTP, DNS, NTP, SNMPv1/v2/v3,  DHCPv6, RTP, MLD, ICMP, ARP, IEEE 802.1X, DiffServ  IPv4:TCP/IP, UDP/IP, HTTP, HTTPS, SSL/TLS, RTSP, RTP, RTP/RTCP, SMTP,  DHCP, DNS, DDNS, NTP, SNMPv1/v2/v3, UPnP, IGMP, ICMP, ARP,  IEEE 802.1X, DiffServ, SRTP, MQTT, NTCIP |
| No. of Simultaneous Users | Up to 14 users (Depends on network conditions) |
| Secure | FIPS 140-2 level 3 (NXP® EdgeLock® SE050F), Device Certificate  GlobalSign® pre-installed,  HTTPS, User authentication, Digest authentication, Host authentication,  IEEE802.1X, System log, Image transmission log, Brute-force protection,  Alteration detection |
| SDXC/SDHC/SD Memory Card | H.265 / H.264 recording:  Manual REC / Alarm REC (Pre/Post) / Schedule REC / Backup upon network failure  JPEG recording:  Manual REC / Alarm REC (Pre/Post) / Backup upon network failure  Compatible SDXC/SDHC/SD Memory Card:  microSDXC memory card:64 GB, 128 GB, 256 GB, 512 GB  microSDHC memory card:4 GB, 8 GB, 16 GB, 32 GB  microSD memory card:2 GB |
| Mobile Terminal Compatibility | iPad, iPhone (iOS 8.0 or later), Android terminals |
| ONVIF® Profile | G / M / S / T |

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| ALARM | |
| Alarm Source | 3 terminals input, VMD alarm, Command alarm, Audio detection alarm |
| Alarm Actions | SDXC/SDHC/SD memory recording, E-mail notification,  HTTP alarm notification Indication on browser, TCP alarm notification output |

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| INTERFACE | |
| Monitor Output (for Adjustment) |  |
| Audio Input  Recommended applicable microphone:  Input Impedance:  Supply Voltage:  For Line Input: | 3.5 mm stereo mini jack  Recommended applicable microphone:Plug-in power type  (Sensitivity of microphone:51 dB to 38 dB (0 dB=1 V/Pa, 1 kHz))  Input impedance:Approx. 2 k(unbalanced)  Supply voltage:2.5 V ±0.5 V  Input level:Approx. 10 dBV |
| Audio Output  Output Impedance:  Output Level: | 3.5 mm stereo mini jack (monaural output)  Output impedance:Approx. 600 (unbalanced)  Output level:20 dBV |
| External I/O Terminals | ALARM IN 1 (Alarm input 1/ Black & white input/ Auto time adjustment input) (x1)  ALARM IN 2 (Alarm input 2/ ALARM OUT) (x1), ALARM IN 3 (Alarm input 3/ AUX OUT) (x1) |

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| ELECTRICAL | |
| Power Source and Power Consumption | PoE++ (IEEE802.3bt),  PoE++ DC54V: 850mA/Approx.45.9W (Class 6 device) |

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| SAFETY/EMC | |
| Safety | UL (UL62368-1), c-UL (CSA C22.2 No.62368-1), CE, IEC62368-1 |
| EMC | FCC (Part15 ClassA), ICES-003 Issue 7 ClassA, EN55032 ClassA, EN55035 |

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| MECHANICAL | |
| Dimensions | Maximum diameter:167mm -205 mm (H){6-9/16 inches -8-1/16 inches (H)}  Dome radius SR 77.5 mm {SR 3-1/16 inches}  (excluding an attachment for the conduit portion and protruding parts) |
| Weight | Approx. 3 kg (TBD) (without attachment) |
| Constructional material  Main body  Outer fixing screws  Dome cover | Aluminum die cast  Stainless steel (Corrosion-resistant treatment)  Polycarbonate resin |
| Finish  Main body  Dome cover | i-PRO white  Clear |

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| ENVIRONMENTAL | |
| Ambient Operating Temperature | -50 °C to +60 °C \* (-58 °F to +140 °F)(PoE++)  (Power On range:30 °C to +60 °C {22 °F to +140 °F})(TBD)  \* When using with the IR LED light constantly lit, the upper limit of the operating temperature range is +50°C {+122 °F}. |
| Ambient Operating Humidity | 10 to 100 % (no condensation) |
| Anti-Condensation System | Temish element + Heater |
| Water and Dust Resistance | IP66, IEC60529 measuring standard compatible, Type 4X(UL50E), NEMA 4X compliant |

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| GENERAL | |
| Shock Resistance | IK10 (IEC 62262) |
| Other standard support | NEMA-TS2(TBD) |