**i-PRO WV-S85402-V2L1 DUAL-SENSOR 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 i-PRO 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-S85402-V2L1 DUAL-SENSOR NETWORK CAMERA**
   1. **GENERAL CHARACTERISTICS**
3. The Dual-Sensor combination camera will be a single factory assembled unit consisting of a 2 lens Dual-Sensor camera element.
4. The Dual-Sensor Camera shall have two 4MP image sensors and produce a resolution of 2688 x 1520 pixels at up to 30 fps with a 16:9 aspect ratio.
5. The Dual-Sensor Camera shall offer a built-in IR illumination to produce a clear monochrome image in zero lux conditions with 40m (131 feet) irradiation distance.
6. The Dual-Sensor Camera will use a single RJ-45 Ethernet LAN.
7. FIPS 140-2 level 3 certified\*Built-in EdgeLock® SE050F (NXP®Semiconductors) connection to access both camera elements.
8. The Dual-Sensor Camera shall built-in AI engine to enable analytical applications on network edge. Built-in AI engine supports the detecting suspicious changes in captured scenes, optimizing the image settings of the camera (based on captured scene analysis) for better image usability, and optimizing video compression through captured scenes to save bandwidth.
9. It will be possible to access, control and configure the Dual-Sensor elements separately using standard web browsers.
10. The Dual-Sensor camera will be NDAA complaint.
11. The Dual-Sensor will be FIPS 140-2 level 3 certified with built-in EdgeLock® SE050F (NXP®Semiconductors).
12. The Dual-Sensor camera will be ONVIF Profiles S, T, G and M complaint.
13. The Dual-Sensor camera shall be rated to IP67/IP66 and NEMA 4X standard against water and dust ingress.
14. **CAMERA**

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| 1. Minimum Image Sensor | 2x 1/2.7 type CMOS image sensor |  |
| 1. Minimum Illumination 2. Color/BW (ICR) | Color: 0.21 lx (30IRE, F2.0, 1/30 s) Color: 0.3 lx (50IRE, F2.0, 1/30 s) BW: 0.12 lx (50IRE, F2.0,1/30 s) BW: 0 lx (50IRE, F2.0, 1/30 s with IR LED)  Off/On (IR Light Off)/On (IR Light On)/Auto1(IR Light Off)/Auto2(IR Light On)/Auto3(SCC) |  |
| 1. White Balance | ATW1/ ATW2/ AWC |  |
| 1. Dynamic Range 2. Image Rotation | 108 dB max. (Super Dynamic: On, Level: 31)  0° (Off)/ 90°/ 180° (Upside-down)/ 270° |  |
| 1. IR LED Light | High/Middle/Low/Off Mov  Maximum irradiation distance: 40 m {Approx. 131 ft} (30IRE) \* 30 m {Approx. 99 ft} (50IRE) \* Converted value. |  |
| 1. AI Analytics | AI Video Motion Detection, AI Privacy Guard, 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) |  |

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| 1. **LENS** 2. Optical zoom 3. Focal Length | 2.5x (Motorized zoom / Motorized focus)  2.9 mm {1/8 inches} – 7.3 mm {1/4 inches) |  |
| 1. Extra zoom | max 10.5x (when resolution is 640x360) |  |
| 1. Angular Field of View 2. Maximum Aperture Ratio 3. Focus Range 4. Focus Adjustment | Horizontal：43 ° (TELE)-100°(WIDE) Vertical：24 ° (TELE) - 56°(WIDE)  1：2.0（WIDE） - 1：3.0（TELE  <Multi Part> 1 m {3.28 ft} to ∞  1 m {3.28 ft} – ∞  Auto Focus |  |
| 1. Adjusting Angle | Camera 1, 2: Horizontal: -50° to +230° (Adjust by horizontal (PAN) angle)　 Vertical: +10° to +105° (Adjust by vertical (TILT) angle) Yaw: ±90° (Adjust by azimuth (YAW) angle) |  |

1. **VIDEO**

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| 1. Compression Format | H.265, H.264, JPEG |

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| 1. Image Resolution H.265/ H.264/JPEG(MJPEG) 2. H.265/ H.264 3. JPEG   Image Quality | [16:9 mode] 2688 x 1520 / 2560x1440 / 1920 x 1080 / 1280 x 720 / 640×360/320×180  [Transmission Mode] Constant bit rate / VBR / Frame rate / Best effort [Transmission Type] Unicast port (AUTO) / Unicast port (MANUAL) / Multicast    10 steps |
| 1. Smart Coding | GOP (Group of pictures) control: Off/ Low (Variable GOP 1s-8s)/ Mid (Variable GOP 4s-16s)/Advanced (Fixed GOP 60 seconds with 1 second Key frame)/Frame rate control (Variable GOP 4s-16s with frame rate control)  \*Advanced and Frame rate controls are only available with H.265. |
| 1. Smart VIQS | On (High)/On (Low)/Off |
| 1. Smart P-picture control | On/Off |

1. **AUDIO**

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| 1. Audio Compression | G.726（ADPCM）32 kbps/16 kbps,  G.711　64 kbps, AAC-LC 64kbps/96kbps/128kbps \*2 |
| 1. Audio Mode | Off / Mic (Line) input / Audio output / Interactive (Half duplex) / Interactive (Full duplex) |
| 1. Audio Input/Output | Mic (Line) Input: On / Off Volume adjustment: Low / Middle / High Audio Output: On / Off Volume adjustment: Low / Middle / High |

1. **OPERATION**

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| 1. Super Dynamic | On / Off,  The level can be set in the range of 0 to 31. |
| 1. Intelligent Auto | On / Off |
| 1. Adaptive Black Stretch | The level can be set in the range of 0 to 255. |
| 1. Fog compensation | On/ Off The level can be set in the range of 0 to 8.  (only when Intelligent Auto/ Auto contrast adjust: Off) |
| 1. Back light compensation / High light compensation | BLC/ HLC/ Off The level can be set in the range of 0 to 31. (only when Super Dynamic/ Intelligent Auto: Off) |
| 1. Maximum gain (AGC) 2. Shutter Speed | The level can be set in the range of 0 to 11.  30 fps mode: Max.1/10000s to Max.16/30s 25 fps mode: Max.1/10000s to Max.16/25s |
| 1. Digital Noise Reduction | The level can be set in the range of 0 to 255. |
| 1. Video Motion Detection (VMD) | On / Off, 4 areas available |
| 1. Scene Change Detection (SCD) | On / Off, 1 area available |
| 1. Audio Detection | On / Off |
| 1. AI Sound Classification | Selectable from Gunshot, Yell, Vehicle horn, Glass break |
| 1. Privacy Zone | On/ Off (up to 8 zones available) |
| 1. Camera Title (OSD) | On/ Off, Up to 40 characters, Up to 2 Lines (alphanumeric characters, marks) |

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| 1. **DORI** 2. Detect (25ppm / 8ppf) | Wide: 45.1 m / 148 ft, Tele: 136.5 m / 447.8 ft |  |
| 1. Observe (62.5ppm / 19ppf) | Wide: 18.0 m / 59.2 ft, Tele: 54.6 m / 179.1 ft |  |
| 1. Recognize (125ppm / 38ppf) 2. Identify (250ppm / 76ppf) | Wide: 9.0 m / 29.6 ft, Tele: 27.3 m / 89.6 ft  Wide: 4.5 m / 14.8 ft, Tele: 13.6 m / 44.8 ft |  |
| 1. **SYSTEM ON CHIP (SoC)**   1. System on CHIP (SoC) | Ambarella CV2 |
| 1. **BROWSER GUI** 2. Camera Control | Brightness, AUX On / Off |  |
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| 1. GUI/ Setup Menu Language 2. Browser | English, Italian, French, German, Spanish, Portuguese, Russian, Chinese, Japanese  Microsoft Edge, Firefox, Google Chrome |
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| 1. **NETWORK** |  |  |
| 1. Network IF | 10 BASE-T/100 BASE-T/1000 BASE-T, RJ45 connector |  |
| 1. 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, LLDP, MQTT |  |
| 1. No. of Simultaneous Users | 24 (Number of sessions that can connect to cameras at the same time) |  |
| 1. 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 |  |
| 1. 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 |  |
| 1. Mobile Terminal Compatibility 2. ONVIF® Profile | iPad / iPhone (iOS 8.0 or later), AndroidTM terminals  G/ M/ S/ T |  |

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| 1. **ALARM** | | |  | | |  | |
| 1. Alarm Source | | | 3 terminals input, VMD alarm, SCD alarm, Command alarm, Audio detection alarm | | |  | |
| 1. Alarm Actions 2. **INTERFACE** | | | SDXC/SDHC/SD memory recording, E-mail notification,  HTTP alarm notification Indication on browser, TCP alarm notification output | | |  | |
| 1. Audio Input | | | ø3.5 mm stereo mini jack For microphone input:  Recommended applicable microphone: Plug-in power type  (Sensitivity of microphone: -48 dB±3 dB (0 dB=1 V/Pa, 1 kHz))  Input impedance: Approx. 2 kΩ (unbalanced) Supply voltage: 2.4 V ±0.5 V For line input:  Input level: Approx. –10 dBV | | |  | |
| 1. Audio Output 2. External I/O Terminals | | | ø3.5 mm stereo mini jack (Audio output is monaural.) Output impedance: Approx. 600 Ω (unbalanced) Output level: –20 dBV  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/ ALARM OUT /AUX OUT) (x1) | | |  | |
| 1. **ELECTRICAL** | | |  | | |
| 1. Power Source and Power Consumption | | | PoE+ (IEEE802.3at compliant) | | |  | |
| 1. **SAFETY/EMC** 2. Safety 3. EMC | | | UL (UL62368-1), c-UL (CSA C22.2 No.62368-1), CE, IEC62368-1  FCC (Part15 ClassA), ICES-003 ClassA, EN55032 ClassA, EN55024 | | |  | |
| 1. **MECHANICAL** | |  | | |  |
| 1. Dimensions | | 250 mm(D)× 150 mm (W) × 105 mm (H) {9-27/32" inches (D) ×5-29/32 inches (W) ×4-1/8 inches (H)  \*When using the attachment plate only | | |  |
| 1. Weight 2. Constructional material 3. Main body 4. Outer fixing screws 5. Dome cover | | Approx. 1.8 kg  Aluminum die cast  Stainless steel (Corrosion-resistant treatment)  PC resin | | |  |
| 1. Finish 2. Main body 3. Dome cover | | i-PRO Black  Clear | | |  |
| 1. **ENVIRONMENTAL** | |  | | |
| 1. Ambient Operating Temperature | | –40 °C to +60 °C\* {–40 °F to 140 °F}(Power On range: –20 °C to +60 °C {–4 °F to 140 °F}) Maximum temperature according to NEMA TS 2 (2.2.7): 74℃(165℉) \*When using with the IR LED light constantly lit, the upper limit of the operating temperature range is +50 °C {+122 °F}. | | |
| 1. Ambient Operating Humidity | | 10 to 100 % (no condensation) | | |
| 1. Anti-Condensation System | | Temish element | | |
| 1. Water and Dust Resistance | | IP67/IP66 (IEC 60529), Type 4X (UL50E), NEMA 4X compliant | | |
| 1. **GENERAL** | |  | | |
| 1. Shock Resistance | | IK10 (IEC 62262) | | |
| 1. Other standard support | | NEMA TS 2 (2.2.7-2.2.9) | | |