**i-PRO WV-U85402-V2L 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-U85402-V2L 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. It will be possible to access, control and configure the Dual-Sensor elements separately using standard web browsers.
9. The Dual-Sensor camera will be NDAA complaint.
10. The Dual-Sensor will be FIPS 140-2 level 3 certified with built-in EdgeLock® SE050F (NXP®Semiconductors).
11. The Dual-Sensor camera will be ONVIF Profiles S, T, G and M complaint.
12. The Dual-Sensor camera shall be rated to IP67/IP66 and NEMA 4X standard against water and dust ingress.
13. **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. |  |

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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）  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 Detection | On / Off |
| 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. 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 | iPad / iPhone (iOS 8.0 or later), AndroidTM terminals |  |
| 1. ONVIF® Profile | 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 White 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) | | |