**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) / Multicast10 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 / OffVolume adjustment: Low / Middle / HighAudio Output: On / OffVolume 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/ OffThe 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/ OffThe 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.16/30s25 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 ftWide: 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, JapaneseMicrosoft Edge, Firefox, Google Chrome |
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| 1. **NETWORK**
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| 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 GBmicroSDHC memory card:4 GB, 8 GB, 16 GB, 32 GBmicroSD 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**
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| 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 jackFor 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 VFor 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 dBVALARM 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**
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| 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, IEC62368-1FCC (Part15 ClassA), ICES-003 ClassA, EN55032 ClassA, EN55024 |  |
| 1. **MECHANICAL**
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| 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 kgAluminum die castStainless steel (Corrosion-resistant treatment)PC resin |  |
| 1. Finish
2. Main body
3. Dome cover
 | i-PRO WhiteClear |  |
| 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) |