**i-PRO WV-X35302-F2LM COMPACT 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 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-X35302-F2LM COMPACT DOME NETWORK CAMERA**
	1. **GENERAL CHARACTERISTICS**
		1. The Compact Dome Camera shall deliver H.265 stream and H.264 stream.
		2. The Compact Dome Camera shall produce a resolution of 1920x1080 pixels at up to 60fps with a 16:9 aspect ratio.
		3. The Compact Dome Camera shall produce a resolution of 2048x1536 @15ips or 1280x960@30ips with a 4:3 aspect ratio.
		4. The Compact Dome Camera shall utilize an approximate 1/2.8 type high sensitivity CMOS image sensor.
		5. The Compact Dome Camera shall feature a 144dB wide dynamic range based on Enhanced Super Dynamic and Adaptive Black Stretch technology (ABS).
		6. The Compact Dome Camera shall produce a color image with a minimum illumination of 0.03 lux and a monochrome image with 0.02 lux at F2.1, shutter speed of 1/30s.
		7. The Compact Dome Camera shall offer a built-in IR illumination to produce a clear monochrome image in zero lux conditions with 21m (96 feet) irradiation distance.
		8. The Compact Dome 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.
		9. The Compact Dome Cameras should be equipped with the improved intelligent auto mode to monitor the dynamics and movement of important subject scenes and to capture license plates and human faces more clearly.
		10. The Compact Dome Camera should be equipped with improved smart coding with GOP control (including frame control), and it monitors the movement of important subject’s scenes to reduce bit rate for longer recording and reduce network load.
		11. The Compact Dome Camera shall allow image rotation to 90 degrees to permit image capture in corridor mode.

* + 1. The Compact Dome Camera shall produce encrypted stream and be FIPS 140-2 Level 3 certified.
		2. The Compact Dome Camera shall realize SSL / TLS communication with preinstalled CA certificates and support the installation of additional certificates.
		3. A user shall be able to view videos on a PC using a browser.
		4. A user shall be able to view videos on a smartphone and tablet using viewer software for iPhone and Android
		5. The Compact Dome Camera shall offer Video Motion Detection (VMD) with four (4) programmable detection areas, 15 steps sensitivity level and 10 steps detection size.
		6. The Compact Dome Camera shall offer intelligent Video Motion Detection (i-VMD) with four (4) detection modes as intruder detection, loitering detection, direction detection,

and cross line detection.

* + 1. The Compact Dome Camera shall have Fog compensation function.
		2. The Compact Dome Camera shall have High light compensation (HLC) function.
		3. The Compact Dome Camera shall provide up to eight (8) areas of electronic privacy masking.
		4. The Compact Dome Camera shall offer the prioritized stream control which transmits a video stream to a specified client PC or recorder preferentially.
		5. The Compact Dome Camera shall have a micoSD memory card slot that supports micro-SD, SDHC and SDXC up to 512Gbytes memory cards for local storage.
		6. The Compact Dome Camera shall offer a built-in microphone and support G.726 (ADPCM): 32 kbps/16 kbps, G.711: 64 kbps, AAC-LC: 64kbps/96kbps/128kbps audio compression.
		7. The Compact Dome Camera shall conform to the ONVIF G/ M/ S/ T standard.

**B. Camera**

 1. Image Sensor Approx.1/2.8 type CMOS image sensor

 2. Scanning Area 5.57 mm (H) × 3.13 mm (V)

{7/32 inches (H) × 1/8 inches (V)}

 3. Minimum Illumination Color : 0.02 lx (30IRE, F2.1, 1/30 s) , Color : 0.03 lx (50IRE, F2.1, 1/30 s)

BW : 0.02 lx (50IRE, F2.1, 1/30 s) , BW : 0 lx (50IRE, F2.1, 1/30 s with IR LED)

 4. White Balance ATW1/ ATW2/ AWC

 5. Maximum shutter 60 fps/30 fps/15 fps mode: Max.1/10000s to Max.16/30s

50 fps/25 fps/12.5 fps mode: Max.1/10000s to Max.16/25s

 6. Intelligent Auto On / Off

 7. Super Dynamic On / Off, The level can be set in the range of 0 to 31. \*1

 8. Dynamic Range 144 dB max. (Super Dynamic: On, Level: 31)

 9. Adaptive Black Stretch The level can be set in the range of 0 to 255.

 10. 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)

 11. Fog Compensation On/ Off, The level can be set in the range of 0 to 8.

(only when Intelligent Auto/ Auto contrast adjust: Off)

 12. Maximum Gain (AGC) The level can be set in the range of 0 to 11.

 13. Color/BW (ICR) Off/ On(IR Light Off)/ On(IR Light On)/ Auto1(IR Light Off)/ Auto2(IR Light On)/ Auto3(SCC)

 14. IR LED Light High/ Middle/ Low/ Off

Maximum irradiation distance : 21 m {Approx. 69 ft} (30IRE)\* , 15 m {Approx. 49 ft} (50IRE)

\* Converted value

 15. Digital Noise Reduction The level can be set in the range of 0 to 255.

 16. Video Motion

Detection (VMD) On/ Off, 4 areas available

 17. Scene Change Detection (SCD) On/ Off, 1 area available

 18. Audio Detection On/Off

 19. AI Sound Classification Selectable from Gunshot, Yell, Vehicle horn, Glass break

 20. 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 :

https://i-pro.com/products\_and\_solutions/en/surveillance/products/analytics-software

3rd party applications are also available.

https://i-pro.com/products\_and\_solutions/en/surveillance/solutions/edge-ai-platform/application-list

 21. Privacy Zone On/ Off, up to 8 zones available

 22. VIQS On/ Off, up to 8 zones available

 23. Image Rotation 0° (Off)/ 90°/ 180° (Upside-down)/ 270°

 24. Camera Title (OSD) On/ Off, Up to 40 characters, Up to 2 Lines (alphanumeric characters, marks)

**C. Lens**

 1. Optical zoom 1x

 2. Extra zoom max 3.0 x

(when resolution is 640x360)

 3. Focal length 2.4mm {3/32inches}

 4. Angular Field of View [16:9 mode]

Horizontal: 132° , Vertical: 74°

[4:3 mode]

Horizontal： 99°, Vertical： 74°

 5. Maximum Aperture Ratio 1 : 2.1

 6. Focus range 0.5 m {19-11/16 inches} –∞

 7. Aperture range F2.1

**D. DORI**

 1. Detect (25ppm / 8ppf) 17.1m / 56.1ft

 2. Observe (62.5ppm / 19ppf) 6.8m / 22.4ft

 3. Recognize (125ppm / 38ppf) 3.4m / 11.2ft

 4. Identify (250ppm / 76ppf) 1.7m / 5.6ft

**E. System on Chip**

 **(SoC)**

 1. System on Chip

 (SoC) Ambarella CV25M

**F. Adjusting Angle**

 1. Adjusting Angle Horizontal (PAN) angle: -45°to +45° , Vertical (TILT) angle: 0°to +90°

Azimuth (YAW) angle: -90°to +90°

**G. Browser GUI**

 1. GUI / Setup Menu Language English, Italian, French, German, Spanish, Portuguese, Russian, Chinese, Japanese

 2. Browser \*2 Microsoft Edge, Firefox, Google Chrome

**H. Network**

 1. Network IF 10BASE-T/100BASE-TX, M12 connector

 2. Resolution [16:9 mode(60 fps mode/ 30 fps mode/ 50 fps mode/ 25 fps mode)]

1920x1080 /1280x720 / 640x360 / 320x180

[4:3 mode(30 fps mode/ 25 fps mode)] 1280x960 / VGA/ QVGA

[4:3 mode(15 fps mode/ 12.5 fps mode)] 2048x1536\* / 1280x960 / VGA/ QVGA

\*Used by super resolution techniques

 3. H.265/H.264

Transmission Mode / Type \*3 [Transmission Mode] Constant bit rate / VBR / Frame rate / Best effort

[Transmission Type] Unicast port (AUTO) / Unicast port (MANUAL) / Multicast

 4. JPEG [Image Quality] 10 steps

 5. 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 control are only available with H.265.

[Smart VIQS] On(High)/On(Low)/Off

[Smart P-picture control] On/Off

 6. Audio Compression G.726 (ADPCM): 32 kbps/16 kbps , G.711: 64 kbps , AAC-LC: 64kbps/96kbps/128kbps \*4

 7. 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, FTP, SFTP, MQTT

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, LLDP, FTP, SFTP, MQTT

 8. No. of Simultaneous Users Up to 14 users (Depends on network conditions)

 9. Secure FIPS 140-2 level 3 (NXPR 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

 10. SDXC/SDHC/SD Memory Card (Option) 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

 11. Mobile Terminal Compatibility iPad / iPhone (iOS 8.0 or later),

AndroidTM mobile terminals

 12. ONVIF®Profile G / M / S / T

**I. Alarm**

 1. Alarm Actions SDXC/SDHC/SD memory recording, E-mail notification, HTTP alarm notification Indication on browser, TCP alarm notification output

**J. General**

 1. Safety UL (UL62368-1), c-UL (CSA C22.2 No.62368-1), CE, IEC62368-1

 2. EMC FCC (Part15 ClassA), ICES-003 ClassA, EN55032 ClassA, EN55035

 3. Power Source PoE

(IEEE802.3af Compliant, alternative A)

 4. Power Consumption PoE DC 48V: 180mA / approx. 8.6W (Class 0 device)

 5. 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})

 6. Ambient Operating Humidity 10 % to 100 %

(no condensation)

 7. Water and Dust Resistance IP66 (IEC 60529), Type 4X (UL50E), NEMA 4X compliant

 8. Shock Resistance IK10 (IEC 62262)

 9. Wind Resistance Up to 40 m/s {approx. 89 mph}

 10. Railway/Vehicle Application EN50155, JIS E 5006, IEC62236-3-2, EN50121-3-2,

IEC62236-4, EN50121-4, IEC/EN61373, JIS E 4031, EN45545, EN50498

 11. Dimensions 109 mm (W) x 53 mm (H) x119 mm (D)

{4-19/64inches (W) x 2-3/32 inches (H) x 4-11/16 inches (D)}

 12. Mass (approx.) approx. 475g {1.05 lbs}

 13. Finish Main body: Aluminum die cast, i-PRO white

Front panel: PC resin, Clear

 14. Other Tamper-resistant enclosure \*5