1.0 Manufacturer

Merit LILIN Ent. Co., Ltd.
No. 20, Wugong 6th Road,
Wugu District, New Taipei City 248

Manufacturer shall warrant the camera to be free from defects in material and workmanship for two years from the purchase date.

2.0 Description

- High speed, programmable dome with high resolution color camera
- 30X optical zoom lens (4.4 mm (WIDE) to 132.0 mm(TELE))
- Dome to conform to RoHS initiative standards

IPS4304E / IPS4308E is a professional IP network outdoor speed-dome camera capable of making 360 degree continuous rotation at up to 255 degrees per second, ensuring direct and accurate target positioning. IPS4304E / IPS4308E uses Internet Protocol (IP) to transmit video streams and control signals over networks, and is capable of operating over both LANs and WANs. IPS4304E / IPS4308E provides a complete budget-conscious remote surveillance solution that is ultra clear and highly integrated. IPS4304E / IPS4308E combines a user-friendly interface and simplified installation with a powerful feature set, including Alarm and Motion Detection to provide users an easy upgrade path to new digital surveillance system in a virtual environment. These highlights make IPS4304E / IPS4308E an ideal choice for environments that require remote surveillance or video transmission.

3.0 Performance Specifications

The dome assembly must be comprised of a high-speed pan/tilt assembly, high-resolution color camera with 30X optical zoom lens (4.4 ～ 132mm). The camera/lens assembly must provide for continuous, full-time, autofocus capabilities.

The pan mechanism must incorporate a sealed precision slip ring to provide 360° of continuous pan rotation. The tilt mechanism must provide for 96° of travel. Precise manual panning and tilting must be achievable through a combination of variable-speed operator control (speed ranges) and automatic adjustment of these speed ranges dependent upon zoom factor. Manual pan and tilt speeds must range from 0.15° to 120° per second. Preset pan speeds must range from 1° to 255° per second, and preset tilt operating speeds must be from 1° to 255° per second. Pan and tilt speeds will be automatically adjusted by the zoom factor to allow the user the same ease of control, regardless of the field of view. High-speed, DC direct-drive motors must be used to maintain high torque through the entire operating range. These motors must use pulse-width modulation and encoder feedback to control the acceleration, speed, and

deceleration of the motors to ensure smooth, precise, accurate, and fluid movement. The design shall use DC direct-drive motors and no belt to ensure long-term, reliable operation.

4.0 Bid Specification

4.1 The camera shall have 4.4 mm (WIDE) to 132.0 mm(TELE) lens, with maximum aperture of 1 : 1.4 (Wide) to 4.6 (Tele).

4.2 The camera shall support 360 degree continuous panning at speeds up to 255 degrees per second.

4.3 The camera shall support tilt functions from -6 to 96 degrees at speeds up to 255 degrees per second.

4.4 The camera shall be H.264, Motion JPEG compliant.

4.5 The camera shall have triple standard compression support with simultaneous streaming of H.264 and Motion JPEG formats.

4.6 The camera shall have multi-streaming support of up to 2 non-identical concurrent streams (different frame rate, bit rate, resolution, quality, and compression format).

4.7 The camera shall have bit rate control for full view, multi view, and archiving.

4.8 The camera shall have Real Time Streaming Protocol (RTSP) support allowing for compatibility with media players such as RealPlayer, Apple QuickTime, VLC Player and others.

4.9 The camera's H.264 implementation shall maintain full real time video frame rates.

4.10 The camera shall output at a maximum resolution of 1080P 1920(H) x 1080(V) pixels at a maximum frame rate of 30 frames per second (FPS).

4.11 It shall be possible to program the camera to output a variety of lower resolution images. For example, 1080P (1920 x 1080), 720P (1280 x 720), D1 (720 x 480), CIF (352 x 240).

4.12 The camera shall support a minimum HTTP, and RTSP/RTCP network protocols.

4.13 The camera shall feature automatic exposure, automatic white balance, shutter speed control, programmable brightness, saturation, contrast, instantaneous digital zoom, and electronic image mirror and flip.

4.14 The camera shall incorporate necessary algorithms and circuits to detect motion in low light with clarity.

4.15 The camera shall support a minimum illumination of 0.1 lux (F1.4, 50 IRE).

4.16 The camera's primary power source shall be AC24V, AC100～240V, or PoE+ (IEEE 802.3at compliant) power supply.

4.17 The camera's operating ambient temperature shall be -10°C～+50°C (-14°F ～122°F) / -40℃～50℃ (-40℉～122℉) for warm start conditions.

4.18 The camera shall be CE compliant.

4.19 The camera shall have total unit dimensions of ø 210 mm x 332 mm.

4.20 The camera shall have a total unit weight of 3,200g.

5.0 Quick-Spec

30X Day & Night 1080P HD PTZ Dome IP Camera (Outdoor)		
Model	IPS4304E	IPS4308E
Power supply	AC24V / PoE+ (IEEE 802.3at compliant)	AC100～240V / PoE+ (IEEE 802.3at compliant)
Power consumption	37W (with Heater) / PoE+ 14W	48W (with Heater) / PoE+ 14W
Image pick-up device	1/3 Type CMOS Sensor	
Effective pixels	1944 (H) x 1092 (V) = 2,122,848 (pixels)	
Total number of pixel	1956 (H) x 1266 (V) = 2,476,296 (pixels)	
Scanning system	Progressive scan	
Video output	CVBS 1.0 Vp-p / 75 Ω BNC	
Minimum illumination	0.4 lux (1/30 sec, F1.4(Wide), 50 IRE, AGC-Gain:45dB ICR-OFF)	
	0.1 lux (1/8 sec, F1.4(Wide), 50 IRE, AGC-Gain:45dB ICR-OFF)	
	0.01 lux (1/8 sec, F1.4(Wide), 50 IRE, AGC-Gain:45dB ICR-ON)	
IP rating	IP66	
Ambient operation temperature	-10°C ～ + 50°C (14°F ～ 122°F) / PoE+	
	- 40°C ～ + 50°C (-40°F～ 122°F) / AC	
Operating humidity	0%～90%	
Dimensions	332mm (H) x 210 mm (V)	
Weight	3,200g	
Heater activation	On: 15℃, Off: 25℃	
	On: 35℃, Off: 25℃	
Pan & Tilt		
Panning range	360° Endless	
Panning mode	Manual, auto, manual position, sequential position	
Panning speed	Manual approx. 0.15°/s – 120°/s 8 Steps, 16 Steps / Preset approx. 1°/s – 255°/s, Alarm Trigger Speed 360°/s	
Tilting range	-6° ～ +96°	
Tilting mode	Manual , auto , manual position , sequential position	
Tilting speed	Manual approx. 0.15°/s – 120°/s 8 Steps, 16 Steps / Preset approx. 1°/s – 255°/s, Alarm Trigger Speed 360°/s	
Lens		
Zoom ratio	30X optical zoom	
Focal length	4.4mm (WIDE) to 132.0mm (TELE)	
Minimum aperture ratio	1 : 1.4 (Wide) ～ 4.6 (Tele)	
Minimum object distance	10 mm (WIDE end), 1.5m (TELE end)	

Iris range		F1.4～32, Close
Angle field of view		Approx. 63.4°(H) 38.51°(V) (WIDE end), approx. 2.3°(H) 1.33°(V) (TELE end), (1080p mode)
Main functions		
Control function		Pan and Tilt / Zoom and Focus / Iris and ICR / 128 Preset Position / Home Position
Digital zoom ratio		12X
Zoom speed		Slow / MID. / Fast Selectable [Fast : Approx. 5.0 Second (Tele to Wide) in Manual Mode]
Focus speed		Slow / MID. / Fast Selectable [Fast : Approx. 5.0 Second (Far to Near) in Manual Mode]
Focus		Auto / Manual
Iris		Auto / Manual
Day & Night		Day / Night / Auto
Sense Up (slow shutter)		Off / Auto
Electric shutter speed		Auto / manual (1/1 to 1/30,000)
Exposure mode		Auto / Manual
Back light compensation		Off / BLC / WDR
Sharpness		Adjustable
White balance		ATW / Manual (1800K～10500K)
Auto gain control		0～45dB
Digital noise reduction		Off / On (2D, 3D)
Enhanced Intensity		Off / On / HLC
Defog		OFF / ON (Defog-1 , Defog-2 , Defog-3 , AUTO)
Electronic Image Stabilization		OFF / ON (Digotal Zoom max 2.0x)
Auto mode		Off / Auto / SEQ / Tour / Patrol
Dynamic privacy zone mask		Off / On (up to 16 areas)
Digital effect		Off / Mirror / Flip
Alarm input / output		6 Input (TTL 5Vdc) , 2 Output (0.5A 120Vac,1A 24Vac)
Schedule setting		Off / Auto / SEQ / Tour / Patrol / Preset position
Network		
Video compression		H.264, Motion JPEG
Resolution		1080P(1920 x 1080), 720P(1280 x 720), D1(720 x 480), CIF(352 x 240)
Multiple profile	Profile 1	H.264 : up to 30 FPS @ 1920 x 1080 , MJPEG : up to 30 FPS @ 720 x 480
	Profile 2	H.264 : up to 30 FPS @ 1280 x 720 , MJPEG : up to 30 FPS @ 352 x 240
	Profile 3	H.264 : up to 30 FPS @ 1920 x 1080 , MJPEG : up to 30 FPS @ 1280 x 720
	Profile 4	H.264 : up to 30 FPS @ 720 x 480 , MJPEG : up to 15 FPS @ 1920 x 1080
Frame rate		H.264 : up to 30 FPS at SXGA(1280 x 1024)
		Motion JPEG : up to 30 FPS at D1(720 x 480)

Video streaming	RTP/HTTP, RTP/TCP, RTP/UDP, Multicast
Video bitrate	128 Kbps to 5 Mbps
	Frame rate and bitrate controllable on-the-fly
	VBR / CBR / GOP supported
Users	8 simultaneous users
OSD	Text overlay for date, time, and camera name
Alarm function	Image upload over FTP and E-mail by alarm / motion detection
CPU, memory	Embedded SoC ARM11, 528MHz, 256MB DDR2, 256MB flash memory
Web PTZ control	Pan , tilt , zoom in / out , absolute position, and video-click-n-move
PTZ preset scheduling	Yes, via web interface
Maintenance	Firmware update via HTTP
	Firmware available at web site
Network interface	10Mbps / 100Mbps , RJ-45
Client PC requirement	OS : Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 8
	Browser : Windows Internet Explorer 6.0 or above
	CPU : intel pentium 4 1.8GHz or above
	RAM : 1GB or above ,Independent Display Card
Network protocols	IP, TCP, UDP, HTTP, SMTP, NTP, DDNS, UPnP, FTP, ARP, DHCP, PPPoE, DNS, RTSP, RTCP, Telnet, ICMP, IGMP, ONVIF Profile S, SNMP
Mobile phone	iPhone, iPad, and Android
System integration	ONVIF & LILIN HTTP API
Central management system	CMX 3.6 / NAV 1.0 support
Video display	LILIN Universal ActiveX & LILIN Java Applet
OS	Embedded Linux 2.6.32
2-way audio	G.711
SD card recording	Support Micro SD/SDHC/SDXC card for circular recording (card is not included)

*Please submit ISO 9001, CE certificates.

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