

1.0 Manufacturer

Merit LILIN ENT. Co. Ltd
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2.0 Warranty

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

3.0 General Specifications

The network camera shall be LILIN F2R3682IM camera.

Video Performance

- A. The camera shall have a minimum light requirement of 0.04 Lux at F2.0 in color mode, 0.009 Lux at F2.0 in B/W mode.

Power

- A. Power requirement for the network camera shall be DC12V, 5.6W or PoE, 6.8W.
- B. The camera shall provide power consumption DC12V at 6.8W.

Sensor

- A. The camera shall use a progressive scan 1/1.8" CMOS image sensor.
- B. The camera shall produce a maximum resolution of 3864 (H) × 2180 (V) = 8,423,520 (Pixels).

Certifications

- A. The camera shall be compliant with CE Class B certifications.
- B. The camera shall be compliant with FCC Class B certifications.

PC Requirements

- A. The PC CPU requirement shall be Intel® Core™ i7 or higher grade for the camera.
- B. The camera shall support Windows 7 64 bit, Windows 8 64 bit, Windows 10 64 bit.
- C. The PC memory RAM shall be at least 8GB or above for the camera.

Mechanical

- A. The camera shall not exceed a dimension of $\Phi 120 \times 58.8$ mm approximately.
- B. The camera shall not exceed a weight of 585g approximately.

Alarm Input / Output

- A. The camera shall support digital input (TTL, +3 – 5VDC) Terminal block.
- B. The camera shall support MOS Relay contact N.O., Load.max. 40VDC,450mW/300mA,450mW), Terminal block.

Video Streaming

- A. The camera shall support H.265 / HEVC main profile.
- B. Video streaming format shall meet the standard H.264, and in order to provide better quality and compression rate, shall support H.264 main profile, H.264 high profile and also shall support Motion JPEG.
- C. The camera shall provide RTP/HTTP, RTP/TCP, RTP/UDP and multicast features.
- D. The camera shall provide 4 streaming with combine compression and resolution at same time for various Internet or Intranet applications.
- E. The camera shall provide ePTZ & digital zoom up to 4 independent distortion corrected view angle, 360-degree field of imaging, and an ROI supported.
- F. The camera shall provide screen mode for full panorama / wide panorama / around panorama / 4 window / 1 window.
- G. The camera shall support VBR, CBR, GOP adjustable, fixed bitrate range encoding mode.
- H. The camera shall provide smart H.264 / H.265.

- I. The camera shall provide 4 of resolution in browser for user easy to change resolution.
- J. The camera shall support RTSP unicast streams and multicast streams.

Network Security

- A. The camera shall support up to 10 users for accessing the streaming.
- B. The camera shall support multiple user access levels with password protection.
- C. The camera shall support Onvif search disable setting for preventing unauthorized system search and keeping device secure.
- D. The camera shall support IP and MAC address filtering for security purposes.
- E. The camera shall support UPnP and Bonjour service disable setting for preventing unauthorized system search and keeping device secure.
- F. The camera shall support the system Log to store the IP address, account and related setting record of connected user for security purposes.
- G. The camera web interface shall display the number of currently connected devices to video, to know the device connection status.
- H. The camera web interface shall display the last time the camera boot up, to know the device connection status.

Authentication

- A. The camera shall support base64 HTTP encryption, digest HTTP authentication, IEEE 802.1x, IP and MAC address filter, RTSP authentication, DDNS via HTTPS, HTTPS encryption and TLS.
- B. The camera shall support login account digest access authentication for avoiding passwords being extracted improving the network security.
- C. The camera shall support HTTPS encryption of data. It shall support self-import of digital signatures, and change HTTPS port.
- D. The camera shall comply with IEEE 802.1x authentication protocol transport.
- E. The camera shall be compatible with IEEE 802.1x, and it shall support EAP-PEAP and EAP-TLS methods selection.
- F. The camera shall require a username and password for Video transmission over RTSP streaming.
- G. The camera shall support ONVIF search enable/disable. To avoid using public tools to search for the device and to reduce network security risks.

Integration

- A. The camera shall be able to be accessed by the mobile device (IOS and Android).
- B. The camera shall conform to the ONVIF Profile S standard and provide official documentation.
- C. The camera shall support LILIN Navigator Enterprise 2.0.
- D. The camera shall support 3rd. party VMS through LILIN HTTP API.

SD Card Recording

- A. The camera shall support micro SD, SDHC and SDXC.
- B. The camera shall support circular recording.
- C. The camera shall support SD card size up to 128 GB.

Web Browser

- A. The camera shall support IE 10, IE 11, Chrome, Firefox, Opera.

Alarm Events

- A. The camera shall support motion detection, tamper detection, audio detection, DI alarm detection, network lost detection , Smart Event.
- B. The camera disconnected network detection shall support automatic related alarm triggering and recording to SD card when there is no streaming output, no matter how many network devices are connected in a series.
- C. The camera shall support multiple event triggering alarms to avoid false alarm and system integration
- D. The camera shall support trigger an alarm only when motion detection and digital input occur at the same time.
- E. The camera shall support multiple schedule setting, and set consecutive national holiday as holiday schedule.
- F. The camera shall support at least five sets of events, each set of events can be set to at least five sets of conditions, when the conditions are met, and the alarm is triggered.
- G. The camera shall provide at least 25 sets of customizable HTTP POST commands after multiple event triggering for system integration.

Alarm Notification

- A. The camera shall provide alarm notification with SMTP, FTP, HTTP post, SAMBA, Alarm Output, SD card, SNMP Trap and Push Service notification..
- B. The camera shall support FTP setting a timer to automatically upload photo for time-lapse photography.
- C. The camera shall support Event & operation log & IVS event log.
- D. The camera shall support holiday schedule.

Standard IVS

- A. The camera shall support IVS include motion detection, tampering detection, advanced motion detection, traffic light detection, tripwire detection and object counting.

Environmental

- A. The camera shall be operated in following temperature range: -40°C – +50°C / -40°F – 122°F..

Lens

- A. The camera shall support fixed lens at 1.0 mm.
- B. The camera shall support fixed iris at F2.8.
- C. The camera shall support horizontal angle of view at 185° .
- D. The camera shall support vertical angle of view at 185° .
- E. The camera shall support diameter angle of view at 185° .

Infrared LED

- A. The camera shall support IR distance at 20M.
- B. The camera shall support peak wavelength at 850nm.
- C. The camera shall support beam spread at 90°.

Video Resolutions

- A. The camera shall support 2176 x 2160 (4.7M), 2000 x 2000 (4.0M), 1744 x 1744 (3M), 1440 x 1440 (2M), 1024 x 1024 (1M), 736 x 720 , 480 x 480, and 352 x 240 (CIF)..

Maximum Frame Rate

- A. The maximum frame rate is up to 30FPS @ 2176 x 2160 resolution

IR-cut Filter

- A. The IR cut filter shall be able to support color (day), monochrome (night), auto, schedule.

Scanning System

- A. The camera shall use a progressive scan image sensor.

Picture Setting

- A. The camera shall provide brightness, contrast, hue, saturation and sharpness.

White Balance

- A. The camera shall provide the white balance settings including: ATW-NARROW, ATW-WIDE and AWC (MANUAL).
- B. The camera shall support One Push AWC to ensure optimum white balance for the scene requirement.

Video Quality

- A. The camera is able to specify its shutter speed for min and max range 1/30(1/25) s – 1/30000s for various environments.
- B. The camera shall support back light compensation.
- C. The camera shall support 2D WDR.
- D. The camera shall support 3D noise reduction.
- E. The camera shall support privacy mask up to 4 zones.
- F. The camera shall provide the sense up settings including: off, x2, x4, x8, x16.
- G. The camera shall support Sense up+.
- H. The camera shall support auto gain control up to 60dB.

- I. The S/N ratio shall be more than 50dB (AGC off).
- J. The camera shall support display OSD date, time, camera name, position configurable, watermark and event status.

Network

- A. The camera shall support 10Base-T, 100Base-TX.
- B. The camera shall support LILIN API (CGI).
- C. The camera shall support three IP addresses simultaneously for different network connections.
- D. The camera shall support multicast TTL setting to prevent network congestion and affecting other network devices.
- E. The camera shall support to manually change the RTSP URL and Port for system compatibility.
- F. The camera shall support to manually change the RTCP for system compatibility.

CPU

- A. The camera shall support up to SoC ARM Cortex-A9, 816MHz.
- B. The camera shall support up to 512MB DDR3L, 256MB flash memory.

Video Display

- A. The camera shall provide the video display settings including: LILIN Universal Active X, LILIN Java Applet.

OS

- A. The OS of the camera should be embedded Linux 3.10

Protocols

- A. The camera shall support the following network protocols: IPv4, IPv6, TCP, UDP, HTTP, HTTPS, SMTP, SIP, MQTT, QoS, SNMP V1, SNMP V2, SNMP V3, SNMP Trap, Heart Beat, NTP, DDNS, UPnP, FTP, ARP, DHCP, PPPoE, DNS, RTSP, RTCP, Telnet, ICMP, IGMP, ONVIF Profile S, SDDP, Bonjour, IEEE 802.1x and SSL/TLS.

Languages

- A. The camera shall support the following languages: English, Traditional Chinese, Simplified Chinese, Spanish, Italian, Turkish, Russian, Korean, French, Arabic, Hungarian, Japanese.

Others

- A. The camera shall support multi IP addresses.
- B. The camera shall support IP filtering and MAC address filtering to prevent denied devices access to the network ensuring security.

4.0 Installation

- A. All equipments shall be tested and configured based on the manufacturer guide line prior to installation.
- B. All the products shall be updated for the latest firmware.
- C. All the products shall be changed for the default username and password prior to installation.

5.0 Environmental Green Policy

- A. The specified camera shall be manufactured in accordance with ISO 14001.
- B. The specified camera shall be compliant with the EU directives RoHS and WEEE.
- C. The specified camera shall be compliant with the EU regulation REACH.

END OF SECTION