

VPort 16-M12 Series

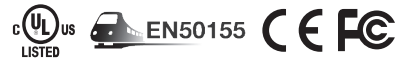
▶ Award-winning Product



EN 50155 compliant, high quality CCD image, compact IP cameras



- > Compliant with EN 50121-3-2 and essential sections of EN 50155
- > 1/3" CCD camera with maximum resolution of 800 x 600
- > Up to 3 independent video streams (2 H.264/1 MJPEG)
- > Built-in 3D-deinterlace for progressive video image
- > IP66 rain and dust protection with dehumidifying membrane
- > -25 to 55°C operating temperature, no heater or fan
- > Vandal-proof with IEC 62262, Class IK10 (Dome model) housing
- > Supports DHCP Opt 66/67 for auto-configuration
- > DynaStream™ supported for network efficiency
- > Built-in SDHC slot for local storage
- > ONVIF supported for standardization and interoperability



Introduction

Rugged Design

The VPort 16-M12 is a compact, fixed-IP camera with EN 50155:2007 compliance that is specially designed for rolling stock CCTV applications. In addition to the -25 to 55°C operating temperature, IP66 rain and dust protection, anti-vibration M12 Ethernet connector, Power-over-Ethernet (PoE), and metal housing with glass lens cover, the VPort 16-M12 also has a built-in dehumidifying membrane for dissipating moisture trapped inside the camera and keeping other moisture out. This innovative design greatly reduces the impact of moisture on the lens. The VPort 16-M12 is compliant with the essential sections of EN 50155, covering operating temperature, power input voltage, surge, ESD, and vibration.

Good Video Quality

To provide good video quality, the VPort 16-M12 adopts the 1/3-inch CCD image sensor and advanced 3D-deinterlacing hardware

enhancement, making it suitable for most lighting conditions. A maximum of 2 H.264 and 1 MJPEG video streams are provided by the VPort 16-M12. In addition, Moxa's DynaStream™ function allows you to change the video frame rate automatically, which can help you control your network bandwidth budget and ease network system management. The VPort 16-M12 also has a built-in SDHC slot for installing an SD card to provide up to 32 GB of local storage.

Convenient Installation

The VPort 16-M12 supports both surface mounting and embedded mounting, and for different viewing angles and distance requirements, 5 lens types with focal length from 3 mm to 16 mm are provided. Moreover, the camera head can be calibrated according to the scale on the camera and can be rotated 360° horizontally and 90° vertically, and DHCP opt 66/67 is also supported for automatic configuration, making mass installation a much easier task.

Specifications

Camera

- Sensor:** 1/3" CCD
- Lens:** 3, 3.6, 6, 8, and 16 mm fixed focal length
- Angle of View (Diagonal):**
 - 3.0 mm / F2.0: 120°
 - 3.6 mm / F2.0: 92°
 - 6.0 mm / F1.8: 53°
 - 8.0 mm / F2.0: 40°
 - 16 mm / F2.5: 19°
- Modulation:** NTSC or PAL
- Camera Angle:** Pan 360°, Tilt 90° (controlled manually)
- Illumination (low light sensitivity):** 0.02 Lux at F2.0, color
- Synchronization:** Internal
- White Balance:** ATW/AWC
- Auto Electronic Shutter:**
 - NTSC: 1/60 to 1/120,000 sec.
 - PAL: 1/50 to 1/120,000 sec.
- S/N Ratio:** 50 dB (MIN) / 58 dB (TYP) (Gamma, Aperture, AGC, OFF)
- AGC Control:** On/Off
- Flickerless Control:** On/Off
- Backlight Compensation:** On/Off
- Auto Exposure:** On/Off
- Image Rotation:** Flip, Mirror, and 180° rotation

Image Setting:

- Manual tuning with brightness, saturation, contrast and hue
- Built-in 3D-deinterlacing and 3D-DNR (3D digital noise reduction)
- Horizontal Resolution:** 540 TVL

Video

- Video Compression:** H.264 (ISO/IEC 14496-10) or MJPEG
- Video Outputs:** Via Ethernet
- Video Streams:** Maximum of 3 video streams (2 H.264 and 1 MJPEG)
- Video Resolution and FPS (frames per second):**

	NTSC		PAL	
	Size	Max. FPS	Size	Max. FPS
QCIF	176 x 112	30	176 x 144	25
CIF	352 x 240	30	352 x 288	25
VGA	640 x 480	30	640 x 480	25
4CIF	704 x 480	30	704 x 576	25
Full D1	720 x 480	30	720 x 576	25
SVGA	800 x 600	30	800 x 600	25

Video Viewing:

- DynaStream™ supported for changing the video frame rate automatically
- Adjustable image size and quality
- Timestamp and text overlay
- Maximum of 10 simultaneous unicast connections

Network

Protocols: TCP, UDP, HTTP, Multicast, SMTP, FTP, NTP, DNS, DHCP, UPnP, RTP, RTSP, ICMP, QoS, SNMPv1/v2c/v3, DDNS, TFTP, OPT 66/67

Ethernet: 1 10/100BaseT(X) Ethernet port, 4-pin M12 D-code connector

Local Storage

SD Socket: Standard SD socket (SDHC)

Power Requirements

Input: Power-over-Ethernet (IEEE 802.3af)

Power Consumption: 6.5 W

Physical Characteristics

Housing: Metal and glass, optional PC dome cover, IP66-rated

Dehumidifying Membrane: GORE protective vent

Dimensions:

• Standard model: 125 x 125 x 109.1 mm (5.6 x 5.6 x 4.3 in)

• Dome model: 125 x 125 x 120.7 mm (5.6 x 5.6 x 4.8 in)

Installation: Surface (ceiling) or flush (recessed) mounting

Security

Password: User level password protection

Filtering: By IP address

Alarms

Intelligent Video: Tamper alarm

Video Motion Detection: Includes sensitivity tuning

Video Loss: Video loss alarm

Scheduling: Daily repeat timing schedule

Imaging: JPEG snapshots for pre/trigger/post alarm images

Custom Alarms: HTTP event servers for setting customized alarm actions

Pre-alarm Buffer: 9 MB video buffer for JPEG snapshot images

Local Video Recording: Triggered by the alarm within the given time period

Environmental Limits

Operating Temperature: -25 to 55°C (-13 to 131°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Conformal Coating: Available on request

Standards and Certifications

Safety: UL 60950-1

EMI: FCC Part 15 Subpart B Class A, EN 55022 Class A

EMS:

EN 61000-4-2 (ESD), Level 3,

EN 61000-4-3 (RS), Level 3,

EN 61000-4-4 (EFT), Level 3,

EN 61000-4-5 (Surge), Level 3,

EN 61000-4-6 (CS), Level 3,

EN 61000-4-8,

EN 61000-4-11

Rolling Stock: EN 50155:2007 compliance (shock, vibration, temperature, EMC)

Shock: IEC 61373

Freefall: IEC 60068-2-32

Vibration: IEC 61373

Vandal resistance: EN 62262, IK10 level (dome cover model)

Note: Please check Moxa's website for the most up-to-date certification status.

Warranty

Warranty Period: 3 years

Details: See www.moxa.com/warranty

Minimum Viewing System Requirements

CPU: Pentium 4, 2.4 GHz

Memory: 512 MB of memory

OS: Windows XP/2000 with SP4 or above

Browser: Internet Explorer 6.x or above

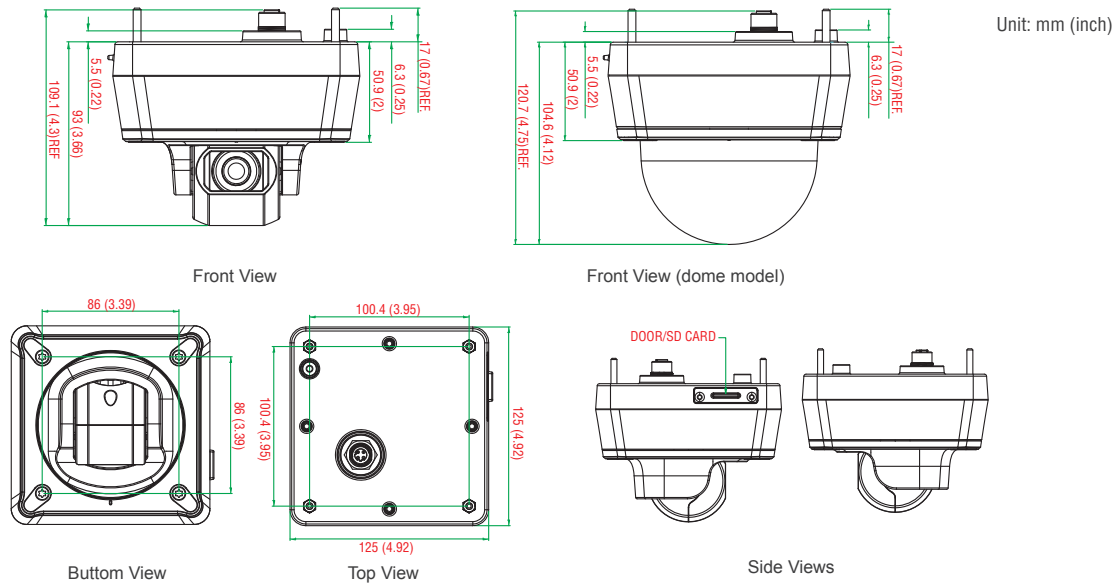
Multimedia: DirectX 9.0c or above

Software Development Kit

VPort SDK PLUS: Includes CGI commands, ActiveX Control, and API library for customized applications or system integration for third-party developers (the latest version of SDK is available for download from Moxa's website).

Standard: ONVIF

Dimensions



Ordering Information

Standard Models	Dome Models	Lens	Modulation	
			NTSC	PAL
VPort 16-M12-CAM3L5430N	VPort 16-DO-M12-CAM3L5430N	3 mm	✓	—
VPort 16-M12-CAM3L5430P	VPort 16-DO-M12-CAM3L5430P	3 mm	—	✓
VPort 16-M12-CAM3L5436N	VPort 16-DO-M12-CAM3L5436N	3.6 mm	✓	—
VPort 16-M12-CAM3L5436P	VPort 16-DO-M12-CAM3L5436P	3.6 mm	—	✓
VPort 16-M12-CAM3L5460N	VPort 16-DO-M12-CAM3L5460N	6 mm	✓	—
VPort 16-M12-CAM3L5460P	VPort 16-DO-M12-CAM3L5460P	6 mm	—	✓
VPort 16-M12-CAM3L5480N	VPort 16-DO-M12-CAM3L5480N	8 mm	✓	—
VPort 16-M12-CAM3L5480P	VPort 16-DO-M12-CAM3L5480P	8 mm	—	✓
VPort 16-M12-CAM3L54160N	VPort 16-DO-M12-CAM3L54160N	16 mm	✓	—
VPort 16-M12-CAM3L54160P	VPort 16-DO-M12-CAM3L54160P	16 mm	—	✓

Package Checklist

- VPort 16-M12 IP camera
- L-type Torx screw driver
- 4 nuts and 4 washers
- 4 top cover screws for flush mount
- Installation stick
- Quick installation guide (printed)
- Documentation and software CD
- Warranty card

Notes: Conformal coating is available on request.