

VPort P16-1MP-M12 Series

EN 50155 compliant, HD video image, rugged IP cameras



- > Complies with all EN 50155 mandatory test items* (T1 temperatures: -25 to 55°C; TX temperatures: -40 to 70°C)
- > 1/2.7" progressive scan camera with maximum 1280 x 800 resolution at up to 30 frames per second
- > Built-in light sensor for day & night images
- > High quality video images with DNR and WDR
- > Up to 3 H.264 or MJPEG independent video streams
- > DynaStream™ supported for network efficiency
- > CBR Pro™ supported for high image quality in limited bandwidth transmissions
- > Supports DHCP Opt 66/67 for auto-configuration
- > ONVIF supported for standardization and interoperability

*This product is suitable for rolling stock railway applications, as defined by the EN 50155 standard. For a more detailed statement, click here: www.moxa.com/doc/specs/EN_50155_Compliance.pdf



Introduction

The rugged VPort P16-1MP-M12 cameras provide an HD (720P, 1280 x 720) video image, and feature an H.264/MJPEG IP dome, giving them the versatility and ruggedness to excel in many different installations and environments for mobile IP video surveillance applications. In addition, the cameras are compliant with mandatory sections of EN 50155, covering operating temperature, power input voltage, surge,

ESD, and vibration, as well as conformal coating and power insulation, making them suitable for a variety of industrial applications, and feature vandal-proofing (EN 62262 IK10), a -25 to 55°C or -40 to 70°C (T models) operating temperature, a rugged M12 Ethernet port, PoE power inputs, IP66 rain and dust protection, and day & night image capability.

Specifications

Camera

- Sensor:** 1/2.7" HD progressive scan CMOS
- Lens:** 3.6, 8 mm fixed focal length
- Angle of View:**
 - 3.6 mm, F1.6: Diagonal 120°, Horizontal 96°, Vertical 56°
 - 8.0 mm, F1.8: Diagonal 48°, Horizontal 38°, Vertical 24°
- Illumination (low light sensitivity):**
 - Color: 0.2 Lux @ F1.2
 - B/W: 0.05 Lux @ F1.2
- Camera Angle:** Pan 350°, Tilt 80° (controlled manually)
- ICR Control (for day & night):** Auto
- Synchronization:** Internal
- White Balance:** ATW/AWC
- Electronic Shutter:** Auto, Fixed (1/30 to 1/25000 sec)
- S/N Ratio:** 50 dB (Gamma, Aperture, AGC, OFF; DNR ON)
- DNR:** Built-in
- WDR:** Levels 1-8, up to 155 dB
- AGC (auto gain control):** 2X, 4X, 8X, 16X, 32X, 64X
- Flickerless Control:** Automatic/50 Hz/60 Hz
- Auto Exposure:** Level ±5
- Image Rotation:** Flip, Mirror, and 180° rotation
- Image Setting:** Manual tuning with saturation, sharpness, and contrast
- Black Level Control:** High/Medium/Low

Video

- Video Compression:** H.264 (ISO/IEC 14496-10) or MJPEG
- Video Output:** via Ethernet
- Video Streams:** 3 independent H.264 or MJPEG video streams
- Video Resolution and FPS (frames per second):**

	NTSC		PAL	
	Size	Max. FPS	Size	Max. FPS
QCIF	176 x 112	30	176 x 144	25
QVGA	320 x 240	30	320 x 240	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
HD	1280 x 720	30	1280 x 720	25
WXGA	1280 x 800	30	1280 x 800	25

Video Viewing:

- CBR Pro™ for good image quality in limited bandwidth transmissions
- DynaStream™ supported for automatic frame rate adjustment
- 3 configurable privacy mask areas
- Adjustable image size and quality
- Timestamp and text overlay
- OSD (On screen Display) position adjustable
- Maximum of 5 simultaneous unicast connections

Network

Protocols: TCP/IP, UDP, HTTP, SMTP, NTP, DNS, DHCP, UPnP, RTP, RTSP, ICMP, QoS, IGMPv3, SNMPv1/v2c/v3, DDNS, TFTP, ARP, DHCP, OPT66/67

Ethernet: 1 10/100BaseT(X) isolated Ethernet port, 4-pin M12 Dcode female connector

Power Requirements

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

Power Consumption: 5 W (max.)

Physical Characteristics

Housing: Metal housing and dome cover with IP66 rain and dust protection

Dimensions: 125 x 125 x 120.7 mm (5.6 x 5.6 x 4.8 in)

Weight: 820 g (1.8 lb)

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

Alarms

Intelligent Video: Camera tamper

Video Motion Detection: 3 independently configurable areas

Scheduling: Daily repeat timing schedule

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

Custom Alarms: HTTP event servers for setting customized alarm actions

Email/FTP Messaging: Automatic transfer of stored images via email or FTP as event-triggered actions

Pre-alarm Buffer: 12 MB video buffer for JPEG snapshot images

Security

Password: User level password protection

Filtering: By IP address

Encryption: HTTPS, SSH

Environmental Limits

Operating Temperature:

Standard Models: -25 to 55°C (-13 to 131°F)

Wide Temp. Models: -40 to 70°C (-40 to 158°F)

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

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

Altitude: 2000 m

Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

Standards and Certifications

Safety: UL 60950-1

Rail Traffic: EN 50155*, EN 45545-2

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EMI: FCC Part 15, CISPR (EN 55032) Class A

EMS:

IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV

IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m

IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV

IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV

IEC 61000-4-6 CS: 10 V

IEC 61000-4-8

Shock: IEC 61373

Freefall: IEC 60068-2-32

Vibration: IEC 61373

Vandal Resistance: EN 62262, IK10 level

Salt Spray Test: ASTM B117

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

MTBF (mean time between failures)

Time: 1,602,553 hrs

Standard: Telcordia TR/SR

Warranty

Warranty Period: 5 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, Windows Vista, Windows 7

Browser: Internet Explorer 9.x or above

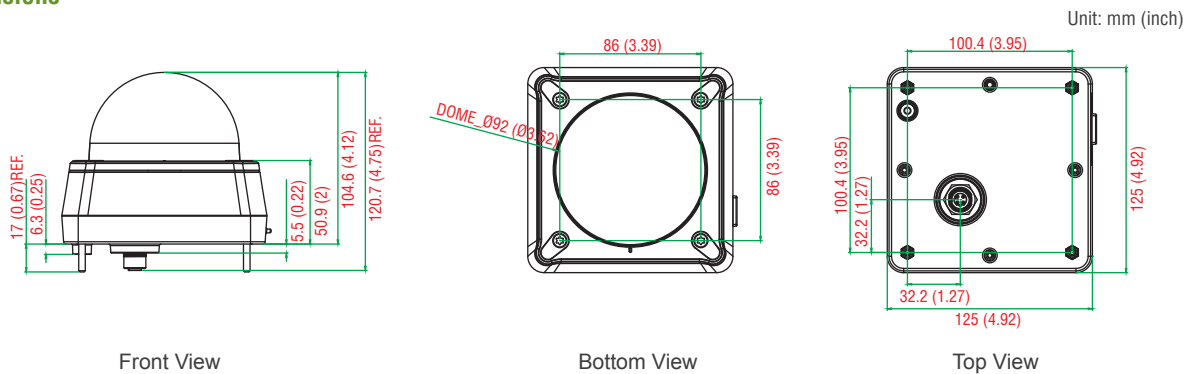
Multimedia: DirectX 9.0c or above

Software Development

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 ProfileS

Dimensions



Ordering Information

Model	Lens		Operating Temperature		Conformal Coating
	PoE (802.3af)	3.6 mm	8.0 mm	-25 to 55°C	
VPort P16-1MP-M12-CAM36	✓	✓	✓	✓	✓
VPort P16-1MP-M12-CAM80	–	–	✓	–	–
VPort P16-1MP-M12-CAM36-T	✓	–	–	✓	–
VPort P16-1MP-M12-CAM80-T	–	–	–	–	–
VPort P16-1MP-M12-CAM36-CT	✓	–	✓	–	✓
VPort P16-1MP-M12-CAM80-CT	–	–	✓	–	✓
VPort P16-1MP-M12-CAM36-CT-T	✓	–	–	✓	✓
VPort P16-1MP-M12-CAM80-CT-T	–	–	–	✓	✓

Package Checklist

- VPort P16-1MP-M12 IP camera
- L-type Torx screw driver
- 4 nuts and 4 washers
- 4 top cover screws for flush mounting
- Installation sticker
- Quick installation guide (printed)
- Documentation and software CD
- Warranty card