VPort P06-1MP-M12 Series

EN 50155 compliant, HD video image, compact IP cameras

> Compliant with EN 50121-3-2
> Essential compliance with EN 50155* (standard model supports T1 temperatures, -25 to 55°C; T model supports TX temperatures, -40 to 70°C)
> 1/2.7" progressive scan camera with maximum 1280 x 800 resolution at up to 30 frames/second
> High quality video image with DNR and WDR
> Up to 3 independent video streams (2 H.264/1 MJPEG)
> DynaStream™ supported for maximized network efficiency
> CBR Pro™ supported for high image quality in limited bandwidth transmissions
> Supports DHCP Opt 66/67 for auto-configuration
> 1 built-in audio input or microphone
> ONVIF supported for standardization and interoperability

*Moxa defines "essential compliance" to include those EN 50155 requirements that make products more suitable for rolling stock railway applications.

DynaStream   ONVIF

c(UL)us LISTED   EN50155   CE   FC

: Introduction

The compact VPort P06-1MP-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 essential 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 IK8), a -25 to 55°C or -40 to 70°C (T models) operating temperature, a rugged M12 Ethernet port, 1 audio input, PoE power inputs, IP66 rain and dust protection, a dehumidifying membrane, and a selectable lens.

Excellent Image Quality

The VPort P06-1MP-M12 is equipped with a cutting-edge CMOS sensor, which provides excellent high resolution video images at 1280 x 800 pixels and covers larger areas than legacy analog cameras. With the addition of DNR (Digital Noise Reduction), BLC (Black Level Control), and WDR (Wide Dynamic Range) functions, the VPort P06-1MP-M12 provides an extremely clear picture of the surveillance region.

Rugged Hardware Design

The VPort P06-1MP-M12's 47 mm height makes it ideal for tough vehicle environments with limited installation space. It is compliant with EN 50121-3-2 (EMC), IEC 61373 for shock and vibration, and essential sections of EN 50155, with standard models designed for T1 temperatures, and wide temp. models designed to withstand TX temperatures (-40 to 70°C; note that both models are also tested for 10 min. at +15°C over the max. of 70°C and 85°C), without a fan or other cooling equipment. Moreover, the VPort P06-1MP-M12 achieves the highest enclosure protection, IEC 62262 Class IK9, providing users with a true, vandal-proof IP camera.

High Video Performance

The VPort P06-1MP-M12 is designed to provide both H.264 and MJPEG video streams and transmit a maximum of 3 independent video streams (2 H.264, 1 MJPEG) simultaneously. 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 CBR Pro™ function can guarantee the lowest packet loss in limited bandwidth transmissions, which ensures that images will not exhibit the mosaic effect. A DHCP Opt66/67 auto-configuration mechanism simplifies the workload of mass installation and maintenance by backing up the configuration on a TFTP server.

: Specifications

Camera

Sensor: 1/2.7" HD progressive scan CMOS
Lens: 3.6, 4.2, 6 mm fixed focal length
Angle of View:
• 3.6 mm, F1.6: Diagonal 120°, Horizontal 96°, Vertical 56°
• 4.2 mm, F1.6: Diagonal 96°, Horizontal 81°, Vertical 47°
• 6.0 mm, F1.8: Diagonal 66°, Horizontal 51°, Vertical 38°
Camera Angle: Pan: ±30°; Tilt: 0-90°, Rotate: ±180°
Minimum Illumination: 0.2 Lux at F=1.2
Synchronization: Internal
White Balance: ATW/AWB (range: 3200 to 10000°K)
Electronic Shutter: Auto
Auto Electronic Shutter: 1/30 to 1/25000 sec
S/N Ratio: 50 dB (Gamma, Aperture, AGC, OFF; DNR ON)
DNR: Built-in DNR
WDR: Level 1-8
AGC Control: 2X, 4X, 8X, 16X, 32X, 64X
Flickerless Control: Automatic/50 Hz/60 Hz mode
Black Level Control: High/Medium/Low
Auto Exposure: Level ±5
Image Rotation: Flip, Mirror, and 180° rotation
Image Setting: Manual tuning with saturation, sharpness, and contrast

Video

Video Compression: H.264 (ISO/IEC 14496-10) or MJPEG
Video Output: Via Ethernet
Video Streams: 3 video streams (2 H.264, 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
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:
• DynaStream™ supported for automatic frame rate adjustment
• CBR Pro™ for good image quality in limited bandwidth transmission
• 3 privacy mask areas configurable
• Adjustable image size and quality
• Timestamp and text overlay
• OSD (On screen Display) position adjustable
• Maximum of 5 simultaneous unicast connections

Audio

Audio Inputs: 1, Line-in, rugged RCA connector; or 1 bulit-in mircophone input
Audio Format: Mono, PCM (G.711)

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 D-code female connector

Power Requirements

Input: Power-over-Ethernet (IEEE 802.3af)
Power Consumption: 6 W

Physical Characteristics

Housing: IP66 rain and dust protection, EN 62262 IK9 vandal-proof protection
Dimensions: 110 mm (diameter) x 47 mm (height)
Weight: 310 g
Installation: Surface mounting

Alarms

Intelligent Video: Camera tamper
Video Motion Detection: 3 independently configurable motion 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

Security

Password: User level password protection
Filtering: By IP address
Encryption: HTTPS, SSH

Environmental Limits

Operating Temperature:
Standard model: -25 to 55°C (-13 to 131°F)
Wide Temp. model: -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
EMI: FCC Part 15, CISPR (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
Rolling Stock: EN 50155 (essential compliance*)
*Please contact Moxa or a Moxa distributor for details.
Shock: IEC 61373
Freefall: IEC 60068-2-32
Vibration: IEC 61373
Vandal Resistance: EN 62262, IK9 level
Fire Protection: EN 45545:2013

MTBF (mean time between failures)

Time: 1,944,678 hrs (Ground Benign); 206,189 hrs (Ground Mobile)
Database: Telcordia (Bellore), 25°C

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
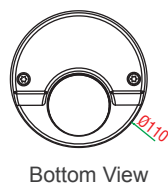**Multimedia:** DirectX 9.0c or above

Software Development 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 vailable for download from Moxa's website).
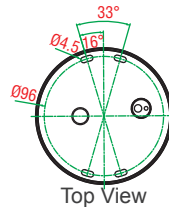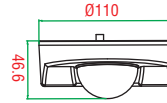**Standard:** ONVIF ProfileS

Dimensions

Unit: mm (inch)

Bottom View   Top View   Side View

Ordering Information

Standard temperature model	Wide temperature model	Lens focal length	Line-in/ Microphone
-25 to 55°C	-40 to 70°C		
VPort P06-1MP-M12-CAM36	VPort P06-1MP-M12-CAM36-T	3.6 mm	Line-in
VPort P06-1MP-M12-MIC-CAM36	VPort P06-1MP-M12-MIC-CAM36-T	3.6 mm	microphone
VPort P06-1MP-M12-CAM42	VPort P06-1MP-M12-CAM42-T	4.2 mm	Line-in
VPort P06-1MP-M12-MIC-CAM42	VPort P06-1MP-M12-MIC-CAM42-T	4.2 mm	microphone
VPort P06-1MP-M12-CAM60	VPort P06-1MP-M12-CAM60-T	6.0 mm	Line-in
VPort P06-1MP-M12-MIC-CAM60	VPort P06-1MP-M12-MIC-CAM60-T	6.0 mm	microphone
VPort P06-1MP-M12-CAM36-CT	VPort P06-1MP-M12-CAM36-CT-T	3.6 mm	Line-in
VPort P06-1MP-M12-MIC-CAM36-CT	VPort P06-1MP-M12-MIC-CAM36-CT-T	3.6 mm	microphone
VPort P06-1MP-M12-CAM42-CT	VPort P06-1MP-M12-CAM42-CT-T	4.2 mm	Line-in
VPort P06-1MP-M12-MIC-CAM42-CT	VPort P06-1MP-M12-MIC-CAM42-CT-T	4.2 mm	microphone
VPort P06-1MP-M12-CAM60-CT	VPort P06-1MP-M12-CAM60-CT-T	6.0 mm	Line-in
VPort P06-1MP-M12-MIC-CAM60-CT	VPort P06-1MP-M12-MIC-CAM60-CT-T	6.0 mm	microphone

Package Checklist

- VPort P06-1MP-M12 IP camera
- L-type Torx screw driver
- 4 indented hexagon head tapping screws, nuts, gaskets and spring washers
- Installation stick
- Quick installation guide (printed)
- Documentation and software CD
- Warranty card

Optional Accessories (can be purchased separately)
SoftNVR-IA: 64-channel IP surveillance software for industrial automation applications
VP-SCO1: Side-cable-out adapter for mounting the VPort P06-1MP-M12 on a surface
VP-FP1: Fixed plate with threaded screw holes for mounting the VPort P06-1MP-M12 directly over a ceiling aperature

Side-cable-out adaptor for surface mounting

VP-SCO1
Dimensions: Ø110 x 17 (H) mm
Material: Plastic
Operating temperature: -30 to 120°C
Weight: 60 g

Plate with threaded screw holes for ceiling mounting

VP-FP1
Dimensions: 110 (L) x 40 (W) mm
Material: Metal
Weight: 40 g