VPort P06-1MP-M12 Series
Quick Installation Guide

Moxa IP Camera

Version 6.0, August 2022

MOXA®

Overview

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 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. The cameras feature vandal-proofing (EN 62262 IK10), a -25 to 55°C or -40 to 70°C (T models) operating temperature range, a rugged M12 Ethernet port, 1 audio input, PoE power inputs, IP66 rain and dust protection, a dehumidifying membrane, and a selectable lens.

Ordering Information

Moxa's VPort P06-1MP-M12 is shipped with the following item:

• VPort P06-1MP-M12 (lens included)

If this item is missing or damaged, please contact your customer service representative for assistance.

The following models are available:

EN 50155, T1 -25 to 55°C	EN 50155, TX -40 to 70°C	Lens Focal Length	Line-in/ Microphone
VPort P06-1MP -M12-CAM28	VPort P06-1MP -M12-CAM28-T	2.8 mm	Line-in
VPort P06-1MP -M12-MIC-CAM28	VPort P06-1MP -M12-MIC-CAM28-T	2.8 mm	Microphone-in
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-in
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-in
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-in
VPort P06-1MP -M12-CAM80	VPort P06-1MP -M12-CAM80-T	8.0 mm	Line-in
VPort P06-1MP -M12-MIC-CAM80	VPort P06-1MP -M12-MIC-CAM80-T	8.0 mm	Microphone-in
VPort P06-1MP -M12-CAM28-CT	VPort P06-1MP -M12-CAM28-CT-T	2.8 mm	Line-in
VPort P06-1MP -M12-MIC-CAM28-CT	VPort P06-1MP -M12-MIC-CAM28-CT-T	2.8 mm	Microphone-in
VPort P06-1MP -M12-CAM36-CT	VPort P06-1MP -M12-CAM36-CT-T	3.6 mm	Line-in

| EN 50155, T1 | EN 50155, TX | Lens Focal | Line-in/ |
-25 to 55°C	-40 to 70°C	Length	Microphone
VPort P06-1MP -M12-MIC-CAM36-CT	VPort P06-1MP -M12-MIC-CAM36-CT-T	3.6 mm	Microphone-in
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-in
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-in
VPort P06-1MP-M12-CAM80-CT	VPort P06-1MP-M12-CAM80-CT-T	8.0 mm	Line-in
VPort P06-1MP-M12-MIC-CAM80-CT	VPort P06-1MP -M12-MIC-CAM80-CT-T	8.0 mm	Microphone-in

Screw handle accessory package

Torx screw driver for attaching/detaching the upper case.	4 sets of nuts, gaskets, and spring washers for mounting the camera.	4 indented hexagonal head tapping screws for mounting the camera on the ceiling.
Grounding screw for connecting the device to a grounding surface. 		

Sticker for camera mounting positions

- Quick installation guide
- Warranty card

Unit: mm
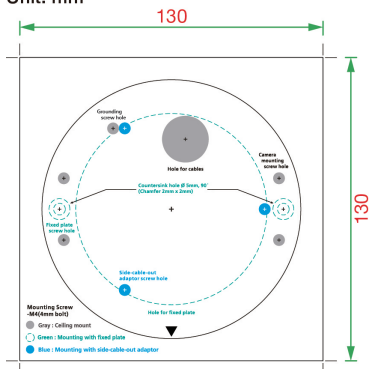
NOTE Check the model name on the VPort's side label to determine if the model name is correct for your order.

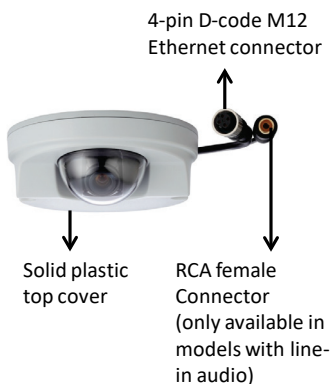**NOTE** This product must be installed in compliance with your local laws and regulations.

Features

- 1/2.7" HD progressive CMOS image sensor
- High image quality with WDR (wide dynamic range) and DNR (Digital Noise Reduction) supported
- Minimum illumination up to 0.2 lux (color)
- Supports MJPEG and H.264 Dual Codecs
- Provides 3 video streams for H.264 and MJPEG simultaneously
- Video stream up to 30 frames/sec at WXGA (1280 x 800) resolution
- Supports video quality configuration with fixed bit rate (CBR) and fixed quality (VBR)
- Video latency under 200 ms
- DynaStream™ for network efficiency with dynamic frame rates
- CBR Pro™ supported for high image quality with limited bandwidth transmissions
- WXGA, 720P, SVGA, Full D1, 4CIF, VGA, CIF, QCIF resolution
- TCP, UDP, and HTTP network transmission modes
- Supports DHCP OPT66/67 for automatic configuration from TFTP server, making it easy to batch-configure several units
- Supports RTSP streaming
- Supports multicast (IGMP) video streaming
- Supports SNMP (V1/V2C/V3) for network system integration and management
- Supports QoS (ToS) for transmission priority
- Built-in web server for easy configuration
- Accessible IP filtering
- UPnP supported
- Complies with all EN 50155 mandatory test items*

- 1 10/100BaseT(X) port with M12 D-code connector
- 1 audio input with water-proof RCA-type connector, or 1 built-in microphone
- IP66 rain and dust protection, with dehumidifying membrane
- PoE (Power-over-Ethernet, IEEE 802.3af) supported
- EN 62262 IK10 level vandal resistance
- -25 to 55°C (EN 50155, OT1), or -40 to 70°C (EN 50155, OT4) operating temperature for rolling stock environments
- CE, FCC, UL 62368-1
- Built-in tamper alarm and Video Motion Detection (VMD)
- Pre, trigger, and post snapshot images supported
- Supports sequential snapshot images
- Supports FTP for alarm message transmission
- Supports HTTP event server
- 5-year warranty

Product Description

Appearance

4-pin D-code M12 Ethernet connector

Aluminum bottom plate

Solid plastic top cover

RCA female Connector (only available in models with line-in audio)

Transparent Dome cover

Torx screw for top cover

Built-in Microphone (-MIC model)

- **4-pin D-coded M12 Ethernet connector:** Can be used for both the PoE power supply (Mode A) and an Auto MDI/MDI-X Ethernet connection.

PIN	TX
1	TD+
2	RD+
3	TD−
4	RD−

NOTE To connect the VPort P06-1MP-M12 to a network, use an Ethernet cable with a D-coded M12 connector and an M12 PoE switch or RJ45 PoE switch

M12 D-code to M12 D-code cable	M12 PoE switch (e.g., TN-5508-4PoE)
M12 D-code and RJ45 cable	RJ45 PoE switch (e.g., EDS-P510)

NOTE The power input rating of the VPort P06-1MP-M12 is 48 VDC, 0.12 A, with maximum power consumption of approximately 6 W.

NOTE The equipment is designed for in-building installation only and is not intended to be connected to exposed (outside the plant) networks.
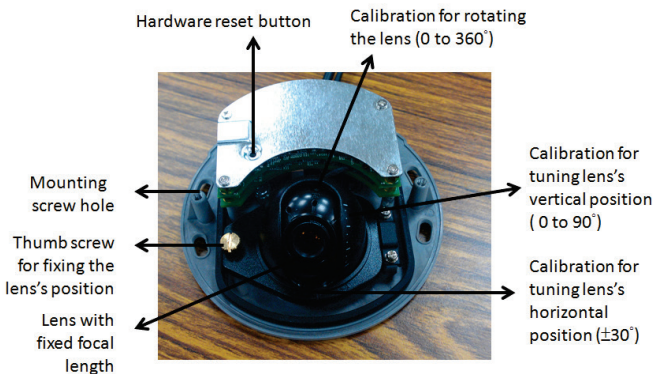
- **RCA female connector:** The VPort P06-1MP-M12 supports one audio input with RCA female connector. The audio will be digitized and compressed as an audio stream for network transmission with the video stream.

NOTE RCA audio connectors are popular and easily found in the market. If you require any other kind of audio connector, please contact your Moxa sales representative for customization service.
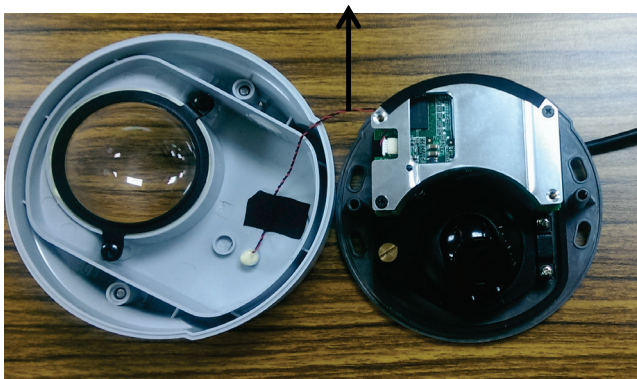
- **Solid plastic top cover:** This top cover can be removed for tuning the camera lens position.
- **Transparent dome cover:** The VPort P06-1MP-M12 is designed with a transparent PC dome cover, which is vandal-proof and satisfies EN 62262 (IEC 62262) Class IK10 requirements.
- **2 Torx screws for top cover:** These 2 torx screws are designed with anti-shedding to make installation more convenient. Use the L-type torx screwdriver to remove or attach the top cover.
- **Built-in microphone:** The VPort P06-1MP-M12-MIC Series products have a built-in microphone, and can simultaneously display or record live video and audio.

> **NOTE** The color of the form factor can be customized based on your installation environment. Please contact your Moxa sales representative for customization service.

Inside the Camera

Hardware reset button

Calibration for rotating the lens (0 to 360°)

Calibration for tuning lens's vertical position (0 to 90°)

Calibration for tuning lens's horizontal position (±30°)

Mounting screw hole

Thumb screw for fixing the lens's position

Lens with fixed focal length

Microphone line (-MIC model)

- **Mounting screw holes:** There are 4 mounting screw holes for mounting the VPort P06-1MP-M12 on the ceiling or the accessory.
- **Thumb screw for fixing the lens position:** To tune the lens position, loosen the thumb screw, tune the lens, and tighten the thumb screw again.
- **Lens with fixed focal length:** The VPort P06-1MP-M12 Series includes models with 3 different focal lengths. Choose the appropriate focal-length lens based on the viewing angle and object distance.
- **Hardware reset button:** Use a pointed object to depress the reset button to reboot or restore factory defaults.
  - ➢ Reboot: Press the button one time.
  - ➢ Factory default: Press and hold the button for at least 90 seconds.

- **Calibration for rotating the lens (0 to 360°):** Rotate the lens to get the optimal image. When done, mark the position of this calibration for future placement or mass installation.
- **Calibration for tuning the vertical position of the lens (0 to 90°):** After tuning the vertical position of the lens, mark the position of this calibration for future placement or mass installation.
- **Calibration for tuning the horizontal position of the lens (± 30°):** After tuning the horizontal position of the lens, mark the position of this calibration for future placement or mass installation.

Hardware Installation

Step 1: Open and remove the top cover.

Use the torx screwdriver to loosen the top cover screws.

Step 2: Use the installation sticker for drilling the holes. There are 3 types of installation.

a. Mounting with 4 mounting screws

To mount the camera on the ceiling, drill a hole through the gray portion of the sticker and then mount the camera with the 4 nut/gasket/spring-washer sets and 4 indented hexagonal head tapping screws.
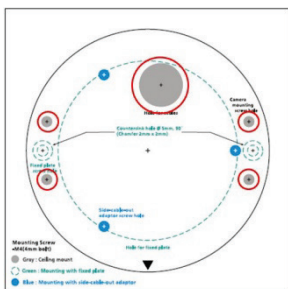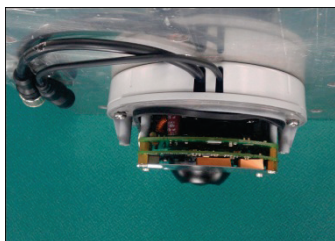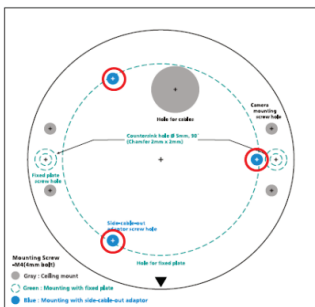
NOTE The 4 screws for mounting the VPort P06-1MP-M12 are M4 type with a 30 mm length thread.


Ø7.0±0.22

3.05±0.03

4.0±0.18

30±0.42
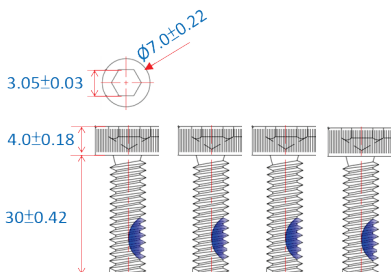
b. Mounting with the side-cable-out adapter

Use the side-cable-out adapter (VP-SCO1) if your installation requires the cable–out on the side. Drill a hole through the blue portion of the sticker for mounting the adaptor on the surface with 3 nut/gasket/spring-washer sets and indented hexagonal head tapping screws (included in the VPort P06-1MP-M12 package). Next, mount the VPort P06-1MP-M12 on the adapter with 4 M4 screws, which are provided in the VP-SCO1's package.

VP-SCO1

4 M4 screws for mounting the camera on VP-SCO1 adaptor

NOTE The 4 screws for mounting the VPort P06-1MP-M12 onto the VP-SCO1 are M4 type with a 12 mm length thread.
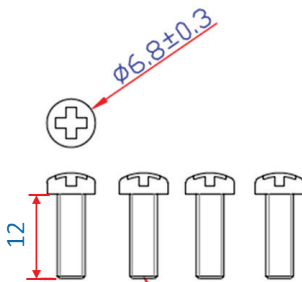

c. Mounting with the fixed plate

If you cannot use the nut/gasket/spring-washer set to mount the camera on your ceiling, use the VP-FP1 fixed plate. Drill holes through the green dotted-line holes and 4 camera mounting screw holes on the sticker, and then put the VP-FP1 inside the hole. Use the 2 countersink screws to mount the VP-FP1. Finally, mount the VPort P06-1MP-M12 on the fixed plate with the 4 indented hexagonal head tapping screws.

VP-FP1
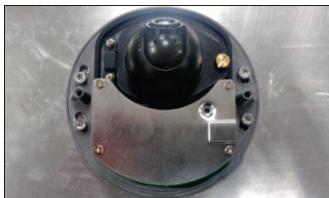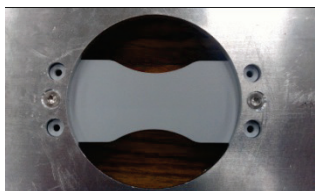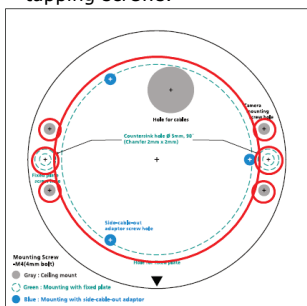
NOTE The screw hole for mounting the VP-FP1 fixed plate is a countersunk hole with 5 mm diameter, and 90° 2 x 2 mm chamfer. Take this into consideration when drilling these 2 screw holes.

NOTE The 2 screws for mounting the VP-FP1 onto the ceiling are M4 type with a 16 mm length thread.
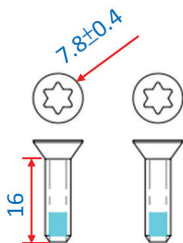
Step 3: Connect the camera with the 4-pin M12 D-code Ethernet connector and RCA male connector.

Step 4: Loosen the thumb screw to rotate and tune the horizontal and vertical position of the lens. Once the lens position is correct, fix the thumb screw.

Step 5: Fix the top cover. The installation is now complete.

Software Installation

Step 1: Configure the VPort P06-1MP-M12's IP address

When the VPort P06-1MP-M12 is first powered on, the POST (Power On Self Test) will run for a few moments (about 30 seconds). The network environment determines how the IP address is assigned.

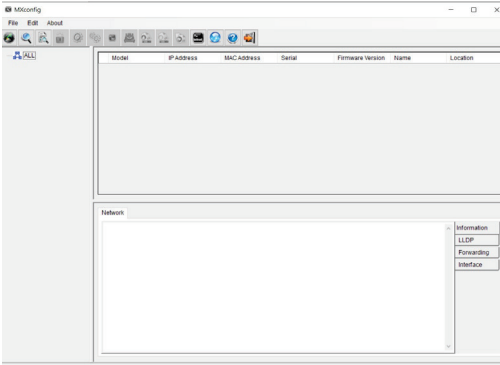#### Network Environment With DHCP Server

For this network environment, the unit's IP address will be assigned by the network's DHCP server. Refer to the DHCP server's IP address table to determine the unit's assigned IP address. You may also use the MXconfig network configuration tool as described below:

Using the MXconfig Network Configuration Tool

1. Download the MXconfig software from https://www.moxa.com/en/products/industrial-network-

infrastructure/network-management-software/mxconfig-series.

2. Run the MXconfig software utility. After the utility's window opens, click the **Search** button to initiate a search.

3. When the search has concluded, the model name, IP and MAC address, and firmware version of the VPort will be listed in the utility's window.

You can double-click the selected VPort, or use the IE web browser to access the VPort's web-based manager (web server).

Non-DHCP Server Network Environment

If your VPort is connected to a network that does not have a DHCP server, then you will need to configure the IP address manually. The default IP address of the VPort is 192.168.127.100 and the default subnet mask is 255.255.255.0. Note that you may need to change your computer's IP address and subnet mask so that the computer is on the same subnet as the VPort.

To change the IP address of the VPort manually, access the VPort's web server, then navigate to the **System Configuration → Network → General** page to configure the IP address and other network settings. Check *Use fixed IP address* to ensure that the IP address you assign is not deleted each time the VPort is restarted.

Step 2: Access the VPort P06-1MP-M12's web-based manager.

Type the IP address in the web browser's address bar and then press enter.

Step 3: Install the ActiveX Control Plugin.

A security warning message will appear the first time you access the VPort's web-based manager. The message is related to installing the VPort AcitveX Control component on your PC or notebook. Click Yes to install this plugin to enable the IE web browser for viewing video images.

NOTE For Windows XP SP2 or above operating systems, the ActiveX Control component will be blocked for system security reasons. In this case, the VPort's security warning message window may not appear. You should unblock ActiveX or temporarily disable browser security to enable the installation of the VPort's ActiveX Control component.

Step 4: Configure authentication for accessing the VPort's web-based management interface.

You will need to log in to access the VPort's web-based interface. The default administrator account name is "admin" and the default password is "moxamoxa". After accessing the camera using the default admin password, you will need to change the password for security reasons.

When accessing the web UI for the first time, use the default login:

Account name: admin

Password: moxamoxa.

If you log out and log back in without changing the password, the Change Password dialog will appear. You will need to change the password to proceed.

Change Password

Admin Password

Admin Password:	••••••••••••••
Confirm Password:	••••••••••••••

Note: Admin password must be either blank, or from 8 to 16 characters.

Save

Step 5: Access the homepage of the VPort P06-1MP-M12's web-based manager.

After installing the ActiveX Control component, the homepage of the VPort P06-1MP-M12's web-based manager will appear. Check the following items to make sure the system was installed properly:

1. Video Images
2. Video Information

Step 6: Access the VPort's system configuration.

Click on **System Configuration** to access the overview of the system configuration to change the configuration. **Model Name**, **Server Name**, **IP Address**, **MAC Address**, and **Firmware Version** appear on the green bar near the top of the page. Use this information to check the system information and installation.

For details of each configuration, check the user's manual which can be downloaded from www.moxa.com.

Wiring Requirements

> ## ⚠ ATTENTION
>
> **Safety First!**
> Be sure to disconnect the power cord before installing and/or wiring your Moxa VPort P06-1MP-M12. Calculate the maximum possible current in each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size. If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.

You should also pay attention to the following:

• Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross, make sure the wires are perpendicular at the intersection point.

- You can use the type of signal transmitted through a wire to determine which wires should be kept separate. The rule of thumb is that wiring that shares similar electrical characteristics can be bundled together.
- Keep input wiring and output wiring separate.
- We strongly advise labeling wiring to all devices in the system.

Grounding the VPort-P06-1MP-M12

The grounding screw accessory can be used to connect the VPort camera to ground. If required, the grounding screw can be inserted in the grounding hole located on the VPort P06-1MP-M12's aluminum bottom plate. Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the grounding screw to the grounding surface prior to connecting devices.

NOTE The grounding screw is exclusively used to ground the VPort camera. Do not use it to ground other devices and equipment.
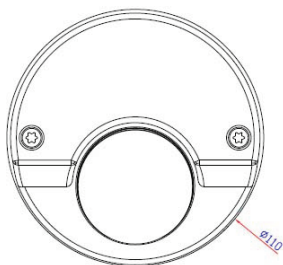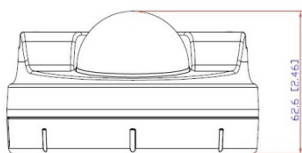
Dimensions (mm)
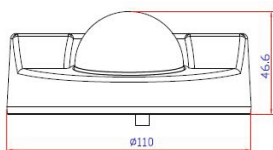
Front View
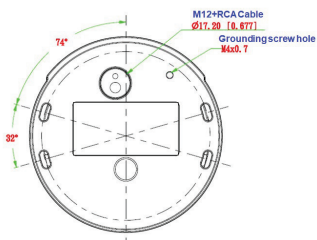
Bottom View

Top View

Camera with SCO1 adaptor

Specifications

Input Current	0.12 A @ 48 VDC
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)

NOTE The equipment is intended to be supplied by an external power source (UL listed/IEC 60950-1/IEC 62368-1), of which the output complies with ES1/SELV/PS2/LPS, and the output rating is 48 VDC, 0.12 A minimum in ambient temperatures of at least 70°C.
If you are using a Class I adapter, the power cord should be connected to an outlet with an earthing connection.