Moxa IP Camera VPort 26 Series Quick Installation Guide

First Edition, March 2012



P/N: 1802000260010

Overview

The VPort 26 series is a vandal-proof, IP66-rated, fixed dome IP camera desinged for outdoor use. With SVGA (max. 800×600) resolution, H.264/MJPEG 3 simutaneous video streams, and day-and-night camera lens, the VPort 26 series is well-suited for outdoor video surveillance applications.

To enhance video image quality, the VPort 26 series is equipped with a 2.8 to 11 mm vari-focal lens that meets any viewing angle and distance requirements. With the built-in removeable IR-cut filter, and automatic switching from color to B/W images, the VPort 26 series is suitable for day-and-night use. Along with 3D-DNR (3D Digital Noise Reduction) function, which can greatly reduce noises of video frames, and WDR (Wide Dynamic Range), the VPort 26 series provides clear images under back light circumstances. The optional De-mist function also ensures a good image quality in rainy, snowy, or hazy environments.

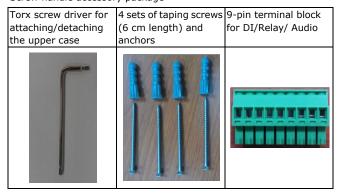
The VPort 26 series is specially designed for outdoor applications with the following features: IP66 rain and dust protection, high EMI/surge protection, -40 to 50°C operating temperature without a fan or heater required, metal housing, and vandal-proof dome cover. In addition, the camera is built in a dehumidified membrane for spreading out the moisture inside the camera. Users can choose either the model with PoE (Power over Ethernet, 802.3af) function, or the wired power input model with 12/24 VDC or 24 VAC.

The VPort 26 series is designed to provide both H.264 and MJPEG video streams and transmit up to 3 independent video streams (2 in H.264, and 1 in MJPEG) simultaneously. The camera is able to encode and transmit up to 30 FPS for each of the H.264 and MJPEG streams. Advanced network security functions, such as 802.1x and SSH, are also provided to prevent unauthorized access or data snooping, which is critical for most surveillance applications

Package Checklist

Moxa's VPort 26 is shipped with the following items. If any of these items is missing or damaged, please contact your customer service representative for assistance.

- 1 x VPort 26 (includes 2-pin terminal block for power input)
- · Screw handle accessory package



Cable glands accessories package



• Sticker for camera mounting positions



- · Quick Installation Guide
- Document & Software CD (includes User's Manual, Quick Installation Guide, and VPort Utility)
- Warranty Statement

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

High Video Image Quality

- 1/3" progressive CMOS sensor for SVGA (800x600) resolution
- Day and night viewing capability with ICR (IR cut filter) and color/black & white image switch
- Supports 3D_DNR (3D digital noise reduction), BLC (Backlight compensation) and WDR (wide dynamic range) for better image quality
- Built-in de-mist function for sharp images in rain, fog, and hazy environments
- Equipped with 2.8 mm to 11 mm vari-focal lens for wide-range fields of view
- Minimum illumination up to 0.01 lux at F=1.2 (AGC 30db and sense-up off)
- Image mirror and inverse
- 350° pan, 85° tilt and 360° rotate camera head angles for different installation positions.
- Support up to 8 privacy mask areas and 4X digital zoom

Excellent Video/Audio streaming and network transmission performance

- Maximum 3 simultaneous video streams for H.264 and MJPEG codecs
- Video stream up to 30 frames/sec at SVGA (800 x 600) resolution (in single stream)
- DynaStream[™] supported for optimal network efficiency
- · Video latency under 200 ms
- 1 audio input and 1 audio output supported for video/audio complete surveillance solution
- SVGA/Full D1/ 4CIF/ VGA/ CIF/ QCIF resolution
- TCP, UDP and HTTP network transmission mode
- Supports RTSP Streaming
- Supports IGMP (ver.3) protocols for efficient network transmission
- Supports SNMP (V1/V2C/V3) for network system integration and management
- Supports QoS (ToS) for transmission priority
- Adjustable frame rate and bit rate control
- User-friendly IP filtering
- Supports IEEE802.1X for network access authentications
- Supports HTTPS and SSH for network transmission security
- UPnP Supported
- Maximum 8 unicast video streams, and 50 multicast clients
- · Support multicast push for all multicast clients
- OnVIF standard support for compatibility with other IP video products
- Modbus/TCP supported for direct communication with SCADA system

Rugged Design for Mission-critical Industrial Environments

- IP 66 form factor protection for rain and dust
- Model available with PoE (802.3af) or 12/24 VDC and 24 VAC power input, with LED indicators
- Panel mounting for ceiling, or outdoor installation kit for versatile installation method
- -40 to 50°C operating temperature for critical industrial environment
- No heater and fan for long MTBF
- CE, FCC, UL60950-1
- 3-year product warranty

Intelligent Alarm Triggered Capability

- Built-in Video Motion Detection (VMD)
- 1 DI and 1 Relay output (DO) for sensors and alarms
- Video loss and power failure alarm
- Pre, Trigger and post snapshot images supported
- Sequential pre-event snapshot images
- · Sequential snapshot images supported
- Support SDHC slot for local storage with SD card in event recording
- Support SMTP and FTP for alarm message transmission
- Support HTTP Event Server

Video management and control

- Support for Moxa SoftNVR-IA IP surveillance software, a video recording and management solution
- Free MOXA VPort SDK Plus with CGI Commands, ActiveX Control and API support for third-party developers

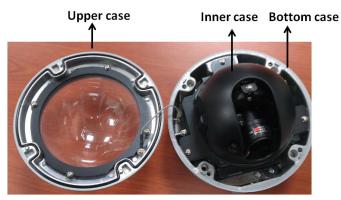
NOTE The VPort P26 has PoE (802.3 af) power input, and the VPort 26 has 12/24 VDC or 24VAC power input.

NOTE If you are interested in the Moxa VPort SDK PLUS, please go to Moxa's website (www.moxa.com) to download the software, or contact a Moxa sales representative for more information.

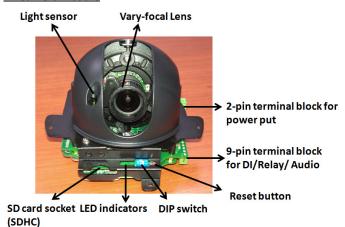
NOTE If you are interested in SoftNVR-IA IP surveillance software, please go to Moxa's website (www.moxa.com) to download the trial version.

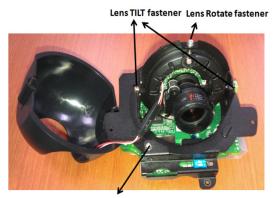
Product Description of the VPort 26

Form Factor

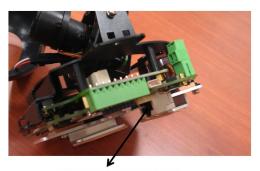


IP Camera Module





Lens PAN fastener



RJ45 Ethernet connector

Vari-focal Lens

The VPort 26 series comes with a day and night 2.8 to 11 mm vari-focal lens for providing high quality video images. Users can adjust the Zoom and Focus manually to get clear images regardless of the site environment.



Pan, Rotation and Tilt Adjustment

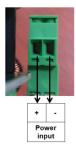
Use the pan, rotation and tilt fasteners for panning, rotating and tilting the lens angles. To do this, the screws must be loosened in advance. After the lens angles are correct, tighten the screws to fix the angles.

Light Sensor

The VPort 26 includes a light sensor for detecting illumination, which is for enabling the ICR (IR-cut filter removable) function. When the illumination is under 3 lux, the image will be switched to night mode in black and white, and when the illumination is greater than 5 lux, the image will be switched back to day mode in color.

2-pin Terminal Blocks for Power Input

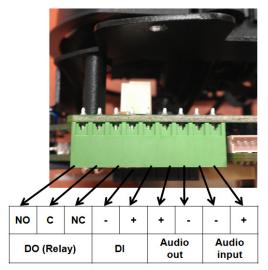
VPort 26 series has comes in two models: the VPort 26 is powered with 12/24VDC or 24VAC, and the VPort P26 is power with PoE (Power over Ethernet, 802.3af). This 2 pin terminal block is for the direct-wired power input of the VPort 26.



NOTE The specifications of the direct-wire power input are 12-32 VDC for 12/24 VDC power input, or 18-30 VAC for 24 VAC power input. The maximum power consumption is 11.7 Watt.

9-pin Terminal Block Connector for DI, DO, and Audio

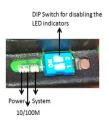
The VPort 26 supports 1 DI (digital input), 1 DO (relay output), 1 audio input (line-in or mic-in), and 1 audio output (line-out) through the 9-pin terminal block.



	NO (Normal Open) C (Common) NC (Normal Close) Max. 1A, 24 VDC Initial status is Normal Open
DI (Digital Input) + High: +13V to +30V Low: -30V to +3V	+ High: +13V to +30V

LED Indicators and DIP Switche

The VPort 26 has 3 LEDs for indicating the power status, 10/100 Mbps Ethernet link, and system status. In addition, one DIP switch (No.2) is provided for enabling or disabling the LED light for users who do not want the LED light to be visible at night.



LED	Description				
Power	On: power on				
	Off: power off				
10/100 M	Amber: Ethernet link is 10 Mbps Green: Ethernet link is 100 Mbps				
System	Red On	Hardware initialization			
	Red blinking	Software initialization			
	Green On	System boot-up successfully			
	Green blinking	Firmware upgrade proceeding			
DIP Switch 1	Reserved				
DIP Switch 2	On: LED light is on Off: LED light is off				

SD card Socket (SDHC)

The VPort 26 supports a standard SDHC interface for local storage with a current maximum size of 32 GB. The user can use an SD card which is fits this specification. Currently, the local storage supports triggered video recording when an event has occurred.

NOTE You are recommended to use Transcend or Sandisk SD cards. Sandisk Extreme III SD cards are highly recommended due their read/write speed.

NOTE To check if the SD card is mounted successfully, please go to system configuration → Local storage in the VPort's web-based manager

Reset Button

The reset button is used to reset the camera hardware.

1. Reboot:

To reboot the VPort 26, power it off and then power it back on again, or push the RESET button one time. The System LED will light in red as the POST (Power on Self Test) process runs. When the rebooting process is finished, the System LED will change to a green color.

2. Restore to Factory Settings:

To restore the VPort 26 to the factory default settings, press the reset button continuously until the System LED blinks in red. After the system LED stops blinking, release the reset button. The POST process will run, and the VPort will reboot. The System LED will light in green when the VPort has finished rebooting.

RJ45 Ethernet Port

The RJ45 Ethernet port is for 10/100Mbps network transmission, in addition to PoE (power over Ethernet, 802.3af) power supply for VPort P26.

NOTE The VPort P26 supports standard IEEE 802.3af Power-over-Ethernet (PoE). The power input rating is 48V/0.11A, and the maximum power consumption is about 4.8W.

NOTE The equipment is designed for in building installation only and is not intended to be connected to exposed (outside plant) networks.

First-Time Installation and Configuration

Before installing the VPort 26, check to make sure that all items in the Package Checklist are in the box. In addition, you will need access to a notebook computer or PC equipped with an Ethernet port.

Hardware Installation

Step 1: Open and remove the upper case.

Use the Security Torx to loosen the upper case screws.



Step 2: Remove the inner case.

Loosen 4 screws, and take out the IP camera module.





Step 3: Connect the cables.

a) Open the conduit hole. (use the side conduit hole as example)



b) Prepare the cable gland (if required).



C) Use the cable gland to assemble the cables.





NOTE When installing the cable gland, make sure the 2 rubber rings are assembled properly for IP66 protection. If necessary, use silicon sealant.



d) Connect the cables to the IP camera module's connectors.

Remove the protective plastic film in the bottom of IP camera module. Then connect the Ethernet cable to RJ45 Ethernet port, as well as the terminal blocks with power line and DI /DO/ Audio lines (if used).









NOTE Be sure to arrange the cables carefully to make sure that all cables are connected properly. We recommend connecting the Ethernet cable first, and then the 9-pin terminal block. Connect the 2-pin terminal block last.

NOTE The conduit hole must face downward to provide the VPort 26 with IP66 protection against rain when installed in an outdoor environment.

Step 4: Mount the bottom case on the ceiling or accessory's mounting kit (VP-MK2)

a) Mounting on the ceiling

Step 1: Use the installation stick or attach the bottom case to the appropriate mounting location on the wall, and mark the positions of the four screw holes with a pen or a pencil.

- Step 2: In the marked locations, drill a hole slightly smaller than the supplied screw anchors.
- Step3: Put anchors into these drilled holes.
- Step 4: Fasten the bottom case with the four copper pillar screws.



b) Mounting on the accessory's mounting kit (VP-MK2)

Step 1: Fasten the bottom case on the plate with the four machine screws, which are provided in VP-MK2's accessory package.





Step 2: Assemble the mounting kit with the selected accessory.



NOTE Choose the appropriate mounting accessories based on the installation requirements.

Step 5: Assemble the IP Camera Module with the bottom case.



Step 6: To get the desired video image, adjust the angles and zoom strength.



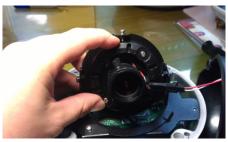
b) Tilt adjustment





c) Rotate adjustment





d) Zoom adjustment



Step 8: Fasten the upper case with bottom case to complete the hardware installation.

Software Installation

Step 1: Configure the VPort 26's IP address

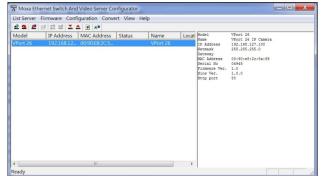
When the VPort 26 is first powered on, the POST (Power On Self Test) will run for a few moments. The System LED will turn green when the POST is complete. The 10 Mbps or 100 Mbps LED will then flash as the IP address is assigned. The network environment determines how the IP address is assigned.

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 Moxa VPort and Ether Device Configurator Utility (edscfgui.exe), as described below:

Using the Moxa VPort and EtherDevice Configurator Utility (edscfgui.exe)

- Run the edscfgui.exe program to search for the VPort. After the utility's window opens, you may also click on the Search button
 - do initiate a search.
- When the search has concluded, the Model Name, MAC address, IP address, serial port, and HTTP port of the VPort will be listed in the utility's window.



NOTE The **Serial** number is the production serial number of this VPort, and the **HTTP Port** number is the http port used by this VPort.

3. Users 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 26 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 26 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, and then navigate to the **System Configuration** → **Network** → **General** page to configure the IP address and other network settings. Check the **Use fixed IP address** to ensure that the IP address you assign is not deleted each time the VPort is restarted.

Step 2: Accessing the VPort 26's web-based manager

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

Step 3: Install the ActiveX Control Plug-in

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 plug-in 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. Users should unlock the ActiveX control blocked function or disable the security configuration to enable the installation of the VPort's ActiveX Control component.

Step 4: Access the homepage of VPort 26's web-based manager.

After installing the ActiveX Control component, the homepage of the VPort 26's web-based manager will appear. Check the following items to make sure the system was installed properly:

- Video Images
- Audio Sound (make sure your PC's or notebook's sound is turned on)

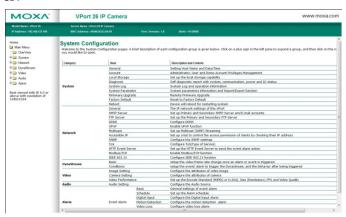
3. Video Information



Step 5: Access 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, Firmware Version**, and **LED Status** appear in 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 on the software CD.



Wiring Requirements



ATTENTION

Safety First!

Be sure to disconnect the power cord before installing and/or wiring your Moxa VPort 26.

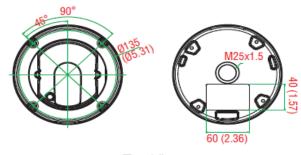
Calculate the maximum possible current in each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size.

If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.

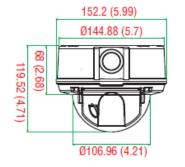
You should also pay attention to the following:

- 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 separated.
- It is strongly advised that you label wiring to all devices in the system when necessary.

Dimension



Top View





Side View

Specifications

Camera

Sensor 1/3" SVGA progressive scan CMOS

Lens Wide end: F=1.4, Diagonal 125.2°, horizontal

97.1°, vertical 71.1°

Tele End: F=2.8, diagonal 31.6°, horizontal

25.3°, vertical 19.0°

Focal length= 2.8 to 11 mm

Auto Iris type DC drive

Camera Angle Pan: ±175°; Tilt: 0 to 85°; Rotation: ±180°

Minimum illumination 0.01 lux, F=1.2

(low light sensitivity)

Synchronization Internal Gamma Correction 0.45

White Balance ATW/AWB (range: 3200 to 10000°K)

ICR Control Auto

S/N Ratio 52dB (TYP) (Gamma, Aperture, AGC Off;

3D-DNR On)

DNR Built-in 3D-DNR (3D digital noise reduction)

WDR 94 dB, Level 1 to Level 9
De-mist Off, low, medium, high
AGC Control Level 1 to Level 9

Backlight Compensation On/off with selectable areas

Digital Zoom 4X

Auto Light Control Level 1 to Level 8

Image Rotation: Flip, Mirror, and 180° rotation
Image Setting Manual tuning with saturation and sharpness

Video

Video Compression H.264 (ISO/IEC 14496-10) or MJPEG

Video Output Via Ethernet port

Video Streams Maximum of 3 video streams (2 x H.264, 1 x

MJPEG)

Video Resolution and FPS (Frame 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 8 privacy mask areas provided Adjustable image size and quality Timestamp and text overlay

PTZ Digital PTZ with 4X zoom

Audio

Audio Input 1 Line-in or MIC-in with 2-pin terminal block

connector

Audio Output 1 Line out with 2-pin terminal block connector

Network

Protocols TCP, UDP, HTTP, SMTP, FTP, Telnet, NTP, DNS, DHCP, UPnP, RTP, RTSP, ICMP, IGMPv3, QoS,

SNMPv1/v2c/v3, DDNS, Modbus/TCP, 802.1X,

SSH, HTTPS

Ethernet 1 10/100BaseT(X) Ethernet port, RJ45

connector

GPIO

Digital Input 1, max. 8 mA

"Low": +13V to +30V "High": -30V to +3V

Relay Output 1 (max. 24 VDC @ 1A)

LED Indicators

Network 10 Mbps or 100 Mbps

Power On/Off

System Indicates if the system booted properly or not

DIP Switch For turning the LED light ON or Off

Power

Input VPort 26: 1, 12/24 VDC or 24 VAC with 2-pin

terminal block connector

VPort P26: 1, Power-over-Ethernet

(IEEE802.3af)

Consumption Max. 11.7W

Physical Properties

Housing Metal, IP66 rated for rain and dust protection,

vandal-resistant

Diameter: 149 mm (5.7 in) Height: 1w0 mm (4.7 in)

Weight 1.4 kg

Installation Surface mounting, or outdoor mounting with

accessories

Environmental Limits

Operating Temperature Storage Temperature Ambient Relative -40 to 50°C (-40 to 122°F) -40 to 85°C (-40 to 185°F) 5 to 95% (non-condensing)

Humidity

Dimensions

Regulatory Approvals

UL 60950-1

EMI FCC Part 15, CISPR (EN55022) class A

EMS EN61000-4-2 (ESD), Level 3

EN61000-4-3 (RS), Level 3 EN61000-4-4 (EFT), Level 3 EN61000-4-5 (Surge), Level 3

EN61000-4-6 (CS), Level 3 EN61000-4-8

EN61000-4-11

 Shock
 IEC60068-2-27

 Freefall
 IEC60068-2-32

 Vibration
 IEC60068-2-6

 Vandal-resistant
 EN 62262, IK10 level

Warranty 3 years

Alarm Features

- Intelligent Video: Camera tamper (Pending)
- Video motion detection with sensitivity tuning
- · Video loss alarm
- · Daily repeat timing schedule
- JPEG snapshots for pre/trigger/post alarm images
- Automatic transfer of stored images via email or FTP as event-triggered actions
- HTTP event servers and CGI events for setting customized alarm actions
- 24 MB pre-alarm video buffer for JPEG snapshot images

Security

- User level password protection IP address filtering
- 802.1X authentication
- HTTPS, SSH encryption

Minimum Viewing System Requirements

Pentium 4, 2.4 GHz

512 MB of memory

Windows XP/2000 with SP4 or above

Internet Explorer 6.x or above

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

Technical Support Contact Information www.moxa.com/support

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