

MxNVR-MO4 Series

4-channel H.264/MJPEG streaming video recorders for mobile surveillance



- Embedded system with low power consumption; no heater and fan required
- Transmits and records the H.264 and MJPEG video streams simultaneously
- One SATA interface for 2.5" hard disk or SSD (solid state disk)
- Meets EN 61373 vibration criteria with a 2.5" inch hard disk installed*
- Anti-vibration with built-in M12 Ethernet and power input connector, DB9 audio inputs, and DI/DO connector
- T model is compliant with EN 50121-3-2 and a portion of EN 50155 specifications (T model supports TX temperature level with -40 to 75° operating temperature; SSD required)
- DynaStream™ supported for optimized network efficiency
- ONVIF conformity for standardization and interoperability
- Supports DHCP OPT66/67 for auto-configuration

* Hard disk must be purchased separately



Introduction

The MxNVR-MO4 is a streaming DVR (digital video recorder), which can transmit and record H.264 or MJPEG video streams simultaneously. With a rugged design that complies with a portion of EN 50155 specifications, covering operating temperature, power input voltage, surge, ESD, and vibration (T model, TX temperature level), the MxNVR-MO4 especially excels in rolling stock IP video surveillance applications. Moreover, the MxNVR-MO4 has passed EN 61373 standard anti-vibration testing with a 2.5 inch hard disk (purchased separately), delivering highly reliable storage performance for rolling

stock applications. The MxNVR-MO4 can be triggered to record by system boot, by event, by schedule, or by external commands, such as CGI or SNMP. The embedded DynaStream™ function increases the network transmission efficiency by dynamically adjusting the video frame rate. To prevent unauthorized access, advanced 802.1X authentication is available to provide high network security. The MxNVR-MO4 also supports the ONVIF standard to easily integrate and interoperate with third party systems and software.

Specifications

Recording

Stream Types: H.264 @ 120 FPS or MJPEG @ 60 FPS

Video File Format: AVI

Record Modes: continuous recording, schedule recording, event recording

Playback

Method: Playback with popular media players (FFDShow codec required) or with customized software (programmed by SDK)

Video Download: Remote download via FTP

Storage

Disk Interface: 1 SATA interface for 2.5-inch hard disk or SSD (solid state disk)

Disk Tray: Removable disk tray

Note: The 2.5-inch hard disk and SSD need to be purchased and installed by the user.

Video

Video Compression: H.264 (MPEG4 part 10, AVC), MJPEG

Video Inputs: 4 BNC connectors (1Vpp, 75 ohms)

Video Outputs: Via Ethernet

Video Streams: H.264/ MJPEG dual streams

Video Resolution and FPS (frames per second):

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

Note:

1. When enabling the H.264 and MJPEG video streams simultaneously, the 2 video streams support up to full D1 resolution at 30 FPS. For example, if the resolution of the H.264 video stream is 720 x 480 at 20 FPS, the MJPEG video stream will support 720 x 480 resolution at 10 FPS, or 352 x 240 at 30 FPS.
2. 4 channels of the MJPEG video streaming support up to VGA, 4CIF and Full D1 resolution at 60 FPS (including pre-event video).

Video Viewing:

- DynaStream™ supported for changing the video frame rate automatically
- Adjustable image size and quality
- Timestamp and text overlay
- Maximum of 8 simultaneous unicast connections

Audio

Audio Inputs: 2, Line-in or MIC-in, DB9 connector

Audio Format: Mono, PCM (G.711)

Network

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

Ethernet: 1 10/100BaseT(X) isolated Ethernet port, M12 connector

Serial Port

Console Port: 1, RS-232 isolated RJ45 port

GPIO

Digital Inputs: 4, max. 8 mA

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

Relay Output: 1, max. 24 VDC @ 1A

Connector: isolated DB9

LED Indicators

STAT: System status

Power: Power on/off

FAULT: Can be configured to correspond to disconnected network

V1, V2, V3, V4: 1, 2, 3, 4 video inputs activity

HDD: Storage disk status

10/100: 10Mbps or 100Mbps

Power Requirements

Input Voltage: 1, 12 VDC or 24 VDC input, 5-pin isolated M12 connector

Power Consumption: Max. 11.5 W (with 1 2.5-inch HDD)

Physical Characteristics

Housing: Metal

Dimensions: 92.8 x 135 x 150.4 mm (3.93 x 5.31 x 5.93 in)

Installation: Panel mounting or DIN-rail mounting

Alarms

Video Motion Detection: Includes sensitivity settings

Video Loss: Video loss alarm

Scheduling: Daily repeat timing schedule

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

Video Recording: Event recording to the hard disk (if installed)

Custom Alarms: HTTP event servers and CGI events for setting customized alarm actions

Email/FTP Messaging: Automatic transfer of stored images via email

or FTP as event-triggered actions

Pre-alarm Buffer: 16 MB video buffer for JPEG snapshot images

Security

Password: User level password protection

Filtering: By IP address

Authentication: 802.1X

Environmental Limits

Operating Temperature:

Standard Model: 0 to 60°C (32 to 140°F)

Wide Temp. Model: -40 to 75°C (-40 to 167°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, CISPR (EN55022) 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*

*Complies with a portion of EN 50155 specifications. Please contact Moxa or a Moxa distributor for details.

Shock: IEC 60068-2-27

Freefall: IEC 60068-2-32

Vibration: EN/IEC 61373 (with Toshiba 2.5-inch hard disk)

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

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

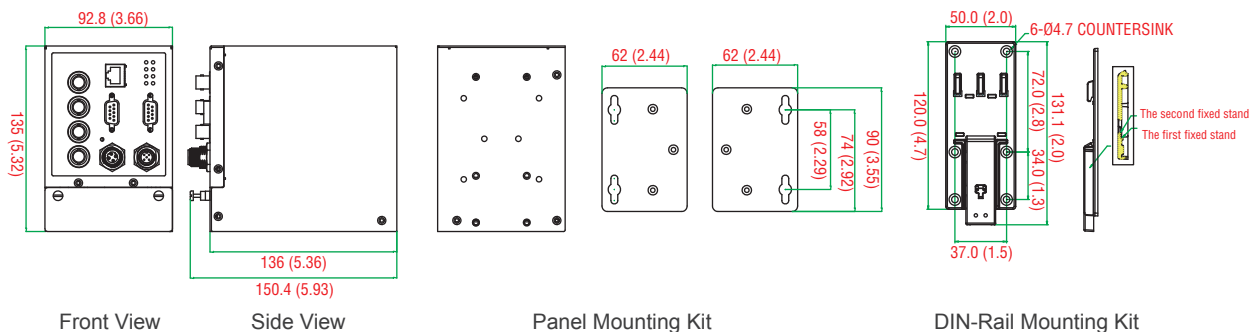
Software Development Kit

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 available for download from Moxa's website).

Standard: ONVIF

Dimensions

Unit: mm (inch)



: Ordering Information

Available Models

MxNVR-MO4: 4-channel H.264/MJPEG industrial video recorder, 1 SATA socket, M12 Ethernet connector, 0 to 60°C operating temperature

MxNVR-MO4-T: 4-channel H.264/MJPEG industrial video recorder, 1 SATA socket, M12 Ethernet connector, -40 to 75°C operating temperature

Note:

1. The MxNVR-MO4 does not include a hard disk or SSD; users must purchase a drive separately.
2. The hard disk or SSD is not included in the MxNVR-MO4's 5-year warranty.
3. An SSD is required for the MxNVR-MO4-T to meet wide operating temperature specifications.
4. Conformal coating is available on request.

Optional Accessories (can be purchased separately)

DR-4524/75-24/120-24: 45/75/120 W DIN-Rail 24 VDC power supplies

MDR-40-24/60-24: 40/60 W DIN-Rail 24 VDC power supplies, -20 to 70°C operating temperature

SoftNVR-IA V3.0: 64-channel IP surveillance software for industrial automation applications

DK-DC50131: DIN-Rail Mounting Kit, 50x131 mm

CBL-M12(FF5P)/OPEN-100 IP67: 1-meter M12-to-5-pin power cable with IP67-rated 5-pin female A-coded M12 connector

Package Checklist

- MxNVR-MO4 network video recorder
- Panel mounting kit and 6 screws
- 4 hard disk screws
- Quick installation guide (printed)
- Documentation and software CD
- Warranty card