

# VPort 07-3 Series

## EN 50155 3-megapixel H.265 compact IP cameras



### Features and Benefits

- 1/3" progressive scan camera with maximum 2048 x 1536 resolution at up to 20 fps, 1920 x 1080 at up to 30 fps
- High quality video imaging with DNR and WDR
- Up to 4 simultaneous H.265/H.264 or MJPEG independent video streams
- DynaStream™ for optimized network efficiency
- CBR Pro™ for high image quality in limited bandwidth transmissions
- 1 built-in audio input or microphone
- ONVIF conformity for standardization and interoperability

### Certifications



### Introduction

The VPort 07-3 cameras are compact, 3 megapixels (2048 x 1536), H.265/H.264/MJPEG dome IP cameras designed for mobile video surveillance applications. The cameras are compliant with EN 62262 IK8, mandatory sections of EN 50155,<sup>1</sup> and support a -40 to 55°C or -40 to 70°C operating temperature range. With a rugged M12 Ethernet port, ONVIF Profile S, T, M, standardization, built-in audio line port or microphone, PoE or 24 VDC power inputs, IP66-rated, and the option of changing the different fixed focal-length lens, the VPort 07-3 cameras will perform reliably in a variety of extreme environmental conditions, making them suitable for a wide variety of mobile video surveillance applications.

### Specifications

Input/Output Interface	
Digital Input Channels	1
Digital Inputs	+13 to +30 V for state 1 -30 to +1 V for state 0 Max. input current: 8 mA
Connector	VPort P07-3 Series: 5-pin male M12 connector with 20 cm cable VPort 07-3 Series: DB9 male
Ethernet Interface	
PoE Ports (10/100BaseT(X), M12 D-coded 4-pin female connector)	VPort P07-3 Series: 1
10/100BaseT(X) Ports (M12 D-coded 4-pin female connector)	VPort 07-3 Series: 1

1. This product is suitable for rolling stock railway applications, as defined by the EN 50155 standard. For a more detailed statement, refer to: [www.moxa.com/doc/specs/EN\\_50155\\_Compliance.pdf](http://www.moxa.com/doc/specs/EN_50155_Compliance.pdf)

## Ethernet Software Features

Protocols	TCP/IP IPv4/IPv6 UDP HTTP RTP/RTSP ARP UPnP FTP TFTP SFTP NTP Client DNS QoS IGMP v3 ICMP SNMPv1/v2c/v3 DHCP Opt66/67 HTTPS
-----------	--

## Security Functions

Password	User-level password protection
Filter	IP address
System Boot	Secure Boot
Encryption	HTTPS SSH

## Power Parameters

No. of Power Inputs	1
Source of Input Power	VPort P07-3 Series: PoE (IEEE 802.3af)
Input Voltage	VPort 07-3 Series: 12/24 VDC
Input Current	VPort P07-3: 48 VDC @ 0.137 A VPort 07-3: 24V VDC @ 0.27 A; 12 VDC @ 0.59 A
Power Connector	VPort 07-3 Series: DB9 connector

## Camera Characteristics

Sensor	1/3-in 3-megapixel progressive scan CMOS
Lens	VPort 07/P07-3x24M Series: f=2.4 mm, F2.0, Diagonal 139°, Horizontal 110°, Vertical 81° VPort 07/P07-3x36M Series: f=3.6 mm, F1.6, Diagonal 97°, Horizontal 75°, Vertical 55° VPort 07/P07-3x42M Series: f=4.2 mm, F1.6, Diagonal 82°, Horizontal 64°, Vertical 47° VPort 07/P07-3x60M Series: f=6.0 mm, F1.8, Diagonal 57°, Horizontal 43°, Vertical 32° VPort 07/P07-3x80M Series: f=8.0 mm, F1.6, Diagonal 41°, Horizontal 33°, Vertical 24°
Minimum Illumination	Color: 0.2 lux, at F1.2 (Gain High, 50 IRE, 1/30 sec)
Synchronization	Internal
White Balance	ATW/AWB
Electronic Shutter	Auto, Fixed (1/30 to 1/25000 sec)
S/N Ratio	Maximum 50 dB (AGC off; DNR on)
DNR (digital noise reduction)	Built-in 2D/3D DNR
WDR (wide dynamic range)	100 dB
AGC (auto gain control)	2X, 4X, 8X, 16X

Flickerless Control	Automatic, 50 Hz, 60 Hz modes
Image Rotation	Flip, Mirror, 90°, 180°, 270° rotation
Image Setting	Manual tuning with saturation, sharpness, and contrast
Camera Angle	Pan: ±15°, Tilt: 20° to 90° for 2.4mm lens, 0° to 90° for other lens (controlled manually)

#### Video Interface

Video Compression	H.265 (MPEG-H part 2/HEVC), H.264 (ISO/IEC 14496-10/AVC), or MJPEG
Video Output	via Ethernet
Video Streams	4 independent video streams

#### Video Resolution and FPS (frames per second)

	NTSC		PAL	
	Size	Max. FPS	Size	Max. FPS
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
Full HD	1920 x 1080	30	1920 x 1080	30
QXGA	2048 x 1536	20	2048 x 1536	20

Note: Once the 3-megapixels resolution is configured in one stream, all video streams will be only up to maximum 20 FPS at all resolutions due to sensor limitation.

#### Video Viewing

DynaStream™ support for changing the video frame rate automatically  
 CBR Pro™ for good image quality in limited bandwidth transmissions  
 3 privacy mask areas provided  
 Adjustable image size and quality  
 Timestamp and text overlay  
 OSD (On Screen Display) position adjustable  
 LDC (Lens distortion correction) for less image warp  
 Maximum of 10 simultaneous unicast connections, 50 multicast clients

#### Audio Interface

Audio Format	Mono, PCM (G.711) AAC
Audio Inputs	VPort 07/P07-3MxxM Series: 1 x built-in microphone VPort 07-3LxxM Series: 1 x line-in, with DB9 connector VPort P07-3LxxM Series: 1 x line-in, with M12 connector

#### Camera Software Development

Video Standards	ONVIF Profile S, T, M
-----------------	-----------------------

#### Camera Alarm Software Features

Intelligent Video	Camera tampering detection
Video Motion Detection	3 independently configurable areas
Imaging	JPEG snapshots for pre/trigger/post alarm images
Custom Alarms	HTTP event servers for setting customized alarm actions

FTP Messaging	Automatic transfer of stored images via FTP as event-triggered actions
Pre-Alarm Buffer	50 MB video buffer for JPEG snapshot images
<b>Software Requirements</b>	
Memory Size	8 GB
Operating System	Windows 10 or above
Browser	Internet Explorer 11 or above Chrome: Version 118 or above Microsoft Edge: Version 118 or above
Multimedia	DirectX 12 or above
<b>Physical Characteristics</b>	
Housing	IP66 rain and dust protection Metal housing, PC dome cover IK8 vandal resistant protection Built-in heater for dome cover demist
Dimensions	110 x 115.5 x 61.8 mm (4.33 x 4.53 x 2.43 in)
Weight	620 g (1.37 lb)
Installation	Panel mounting
Protection	PCB conformal coating is optional and provided on request. If conformal coating is required, please contact Moxa.
<b>Environmental Limits</b>	
Operating Temperature	Standard Models: -40 to 55°C (-40 to 131°F) Wide Temp. Models: -40 to 70°C (-40 to 158°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Ingress Protection	IEC 60529, IP66
Vandal Resistance	EN 62262, IK8
Altitude	2000 m Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.
<b>Standards and Certifications</b>	
EMI	CISPR 32, FCC Part 15B 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 PFMF
Freefall	IEC 60068-2-31
Railway Fire Protection	EN 45545-2
Safety	UL 62368-1
Shock	IEC 60068-2-27, IEC 61373, EN 50155

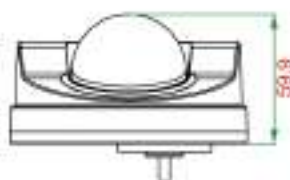
Vibration	IEC 60068-2-64, IEC 61373, EN 50155
Railway	EN 50155 (complies with a portion of EN 50155 specifications)
<b>Warranty</b>	
Warranty Period	5 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>
<b>Package Contents</b>	
Device	1 x VPort 07-3 Series camera
Installation Kit	1 x sticker 1 x L-type Torx screwdriver 4 x indented hexagonal head tapping screws, nuts, gaskets, and spring washers
Documentation	1 x quick installation guide 1 x warranty card

## Dimensions

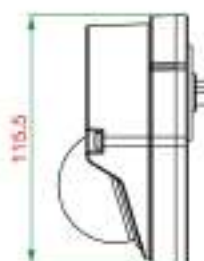
Unit: mm



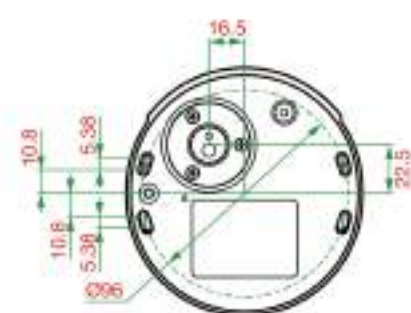
Top View



Front View



Side View



Bottom View

## Ordering Information

Model Name	Lens	Audio Interface	Power Input	Operating Temp.
VPort P07-3L24M	2.4 mm	Line-in	PoE	-40 to 55°C
VPort P07-3L24M-T	2.4 mm	Line-in	PoE	-40 to 70°C
VPort P07-3M24M	2.4 mm	Microphone	PoE	-40 to 55°C
VPort P07-3M24M-T	2.4 mm	Microphone	PoE	-40 to 70°C
VPort 07-3L24M	2.4 mm	Line-in	12/24 VDC	-40 to 55°C
VPort 07-3L24M-T	2.4 mm	Line-in	12/24 VDC	-40 to 70°C
VPort 07-3M24M	2.4 mm	Microphone	12/24 VDC	-40 to 55°C
VPort 07-3M24M-T	2.4 mm	Microphone	12/24 VDC	-40 to 70°C
VPort P07-3L36M	3.6 mm	Line-in	PoE	-40 to 55°C
VPort P07-3L36M-T	3.6 mm	Line-in	PoE	-40 to 70°C
VPort P07-3M36M	3.6 mm	Microphone	PoE	-40 to 55°C
VPort P07-3M36M-T	3.6 mm	Microphone	PoE	-40 to 70°C
VPort 07-3L36M	3.6 mm	Line-in	12/24 VDC	-40 to 55°C
VPort 07-3L36M-T	3.6 mm	Line-in	12/24 VDC	-40 to 70°C
VPort 07-3M36M	3.6 mm	Microphone	12/24 VDC	-40 to 55°C

Model Name	Lens	Audio Interface	Power Input	Operating Temp.
VPort 07-3M36M-T	3.6 mm	Microphone	12/24 VDC	-40 to 70°C
VPort P07-3L42M	4.2 mm	Line-in	PoE	-40 to 55°C
VPort P07-3L42M-T	4.2 mm	Line-in	PoE	-40 to 70°C
VPort P07-3M42M	4.2 mm	Microphone	PoE	-40 to 55°C
VPort P07-3M42M-T	4.2 mm	Microphone	PoE	-40 to 70°C
VPort 07-3L42M	4.2 mm	Line-in	12/24 VDC	-40 to 55°C
VPort 07-3L42M-T	4.2 mm	Line-in	12/24 VDC	-40 to 70°C
VPort 07-3M42M	4.2 mm	Microphone	12/24 VDC	-40 to 55°C
VPort 07-3M42M-T	4.2 mm	Microphone	12/24 VDC	-40 to 70°C
VPort P07-3L60M	6.0 mm	Line-in	PoE	-40 to 55°C
VPort P07-3L60M-T	6.0 mm	Line-in	PoE	-40 to 70°C
VPort P07-3M60M	6.0 mm	Microphone	PoE	-40 to 55°C
VPort P07-3M60M-T	6.0 mm	Microphone	PoE	-40 to 70°C
VPort 07-3L60M	6.0 mm	Line-in	12/24 VDC	-40 to 55°C
VPort 07-3L60M-T	6.0 mm	Line-in	12/24 VDC	-40 to 70°C
VPort 07-3M60M	6.0 mm	Microphone	12/24 VDC	-40 to 55°C
VPort 07-3M60M-T	6.0 mm	Microphone	12/24 VDC	-40 to 70°C
VPort P07-3L80M	8.0 mm	Line-in	PoE	-40 to 55°C
VPort P07-3L80M-T	8.0 mm	Line-in	PoE	-40 to 70°C
VPort P07-3M80M	8.0 mm	Microphone	PoE	-40 to 55°C
VPort P07-3M80M-T	8.0 mm	Microphone	PoE	-40 to 70°C
VPort 07-3L80M	8.0 mm	Line-in	12/24 VDC	-40 to 55°C
VPort 07-3L80M-T	8.0 mm	Line-in	12/24 VDC	-40 to 70°C
VPort 07-3M80M	8.0 mm	Microphone	12/24 VDC	-40 to 55°C
VPort 07-3M80M-T	8.0 mm	Microphone	12/24 VDC	-40 to 70°C

© Moxa Inc. All rights reserved. Updated Jan 18, 2025.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.