VPort 06EC-2V Series

EN 50155, 1080p resolution, day & night outdoor IP cameras

Features and Benefits

- IP67-rated

- 1920 x 1080 resolution at up to 60 fps

- Built-in front glass heater to remove snow and frost

- iCapTrue™ image enhancement technology

- DynaStream™ for optimized network efficiency

- CBR Pro™ for high image quality in limited bandwidth transmissions

- ONVIF Profile S support for standardization and interoperability

- Complies with all EN 50155 mandatory test items[1]

Certifications

EN 50155   c(UL)us LISTED   C E   FC

Introduction

The VPort 06EC-2V outdoor IP cameras support 1080P (1920 x 1080) resolution video images at up to 60 frames per second. iCapTrue's new image enhancement technology uses an advanced AE and AWB algorithm to produce better image quality in a variety of environments. The chassis design is IP67-rated, and has been shown to provide ample dust and rain protection, and with a built-in front glass heater and a tough outer cover, the cameras have the versatility and ruggedness needed for outdoor mobile IP video surveillance applications. In addition, models capable of operating between -40 to 70°C are available.

Specifications

Memory

microSD Slot	SDXC

Input/Output Interface

Digital Output Channels	1
Contact Current Rating	Resistive load: 1 A @ 24 VDC
Connector	5-pin A-coded male M12 connector with 20 cm cable

Ethernet Interface

PoE Ports (10/100BaseT(X), M12 D-coded 4-pin female connector)	1

Ethernet Software Features

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

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1.   This product is suitable for rolling stock railway applications, as defined by the EN 50155 standard. For a more detailed statement, click here: www.moxa.com/doc/specs/EN_50155_Compliance.pdf

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Security Functions

Password	User-level password protection
Filter	IP address
Encryption	HTTPS

Power Parameters

No. of Power Inputs	2
Source of Input Power	PoE (IEEE 802.3af)
Input Voltage	24 VDC for front-window heater (for defrosting)
Input Current	0.167 A @ 48 VDC, 0.9 A @ 24 VDC
Power Connector	M12 connector
Note	PoE is for powering the camera; 24 VDC is for powering the heater

Camera Characteristics

Sensor	1/3-in 1080P progressive scan CMOS
Lens	VPort 06EC-2V36M Series: f=3.6 mm, F1.6, Diagonal 99°, Horizontal 70°, Vertical 39° VPort 06EC-2V42M Series: f=4.2 mm, F1.6, Diagonal 82°, Horizontal 62°, Vertical 34° VPort 06EC-2V60M Series: f=6.0 mm, F1.8, Diagonal 62°, Horizontal 43°, Vertical 24° VPort 06EC-2V80M Series: f=8.0 mm, F1.6, Diagonal 42°, Horizontal 33°, Vertical 17°
Minimum Illumination	Color: 0.2 lux, at F1.6 (Gain High, 50 IRE, 1/30 sec) B/W: 0.05 lux, at F1.6 (Gain High, 50 IRE, 1/30 sec)
Day & Night	Auto/Color/BW; ICR control
ICR Control	Auto
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: ±5°, Tilt: +10/-5° (controlled manually)

Video Interface

Video Compression	H.264 (ISO/IEC 14496-10) or MJPEG
Video Output	via Ethernet
Video Streams	4 independent H.264 or MJPEG video streams
NTSC/PAL	Auto-sensing or manual

	NTSC		PAL	
Video Resolution and FPS (frames per second)	Size	Max. FPS	Size	Max. FPS
QCIF	176 x 112	60	176 x 144	50
CIF	352 x 240	60	352 x 288	50
VGA	640 x 480	60	640 x 480	50
4CIF	704 x 480	60	704 x 576	50
Full D1	720 x 480	60	720 x 576	50
SVGA	800 x 600	60	800 x 600	50
HD	1280 x 720	60	1280 x 720	50
WXGA	1280 x 800	60	1280 x 800	50
1080p	1920 x 1080	60	1920 x 1080	50

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 Maximum of 5 simultaneous unicast connections, 50 multicast clients Digital PTZ

Camera Software Development

VPort SDK PLUS	Includes CGI commands, ActiveX Control, and API library for customized applications or system integration for third-party developers.
Video Standards	ONVIF Profile S

Camera Alarm Software Features

Intelligent Video	Camera tampering detection
Video Motion Detection	3 independently configurable areas
Shock Detection	Built-in G sensor
Humidity	Detects camera's internal humidity
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
Pre-Alarm Buffer	50 MB video buffer for JPEG snapshot images
Video Recording	Event recordings stored on the SD card

Software Requirements

Memory Size	2 GB
Operating System	Windows 7 or above
Browser	Internet Explorer 9.x or above
Multimedia	DirectX 9.0C or above

Physical Characteristics

Housing	Metal IP67 Transparent Glass cover
Dimensions	83 x 168 x 233 mm (3.27 x 6.61 x 8.78 in)
Weight	1630 g (3.59 lb)
Installation	Wall mounting (standard)
Protection	-CT models: PCB conformal coating

Environmental Limits

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 (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Ingress Protection	IEC 60529, IP67
Salt Spray Test	ASTM B368 (CASS), 125 hours
Altitude	2000 m

Standards and Certifications

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: 1 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 60950-1
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)

MTBF

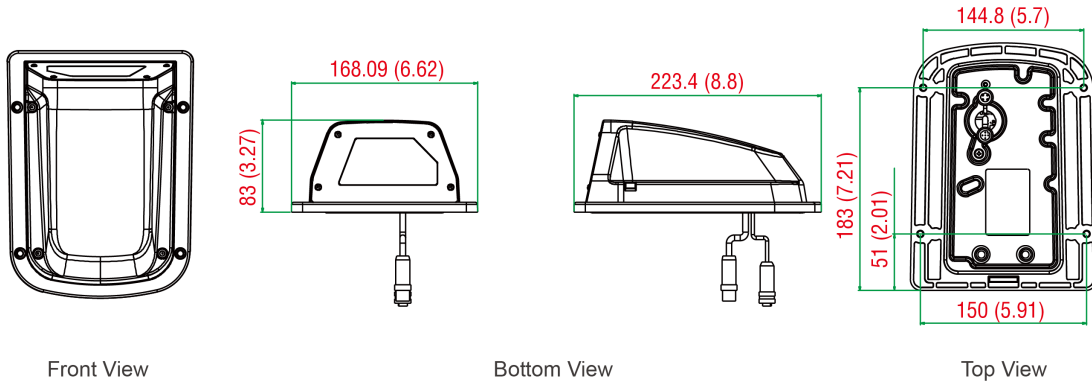|	
Time	480,269 hrs
Standards	Telcordia SR332

Warranty

Warranty Period	5 years Note: Limited warranty on moving parts; see Moxa's online warranty policy for details.
Details	See www.moxa.com/warranty

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Package Contents

Device	1 x VPort 06EC-2V Series camera
Installation Kit	1 x cap, male, metal, for M12 port 1 x 15 g dry pack (VP-DP02) 1 x sticker
Documentation	1 x document and software CD 1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)

Front View   Bottom View   Top View

Ordering Information

Model Name	Lens	Local Storage	Operating Temp.	Conformal Coating
VPort 06EC-2V36M	3.6 mm	microSD slot, SDXC interface	-25 to 55°C	–
VPort 06EC-2V42M	4.2 mm	microSD slot, SDXC interface	-25 to 55°C	–
VPort 06EC-2V60M	6.0 mm	microSD slot, SDXC interface	-25 to 55°C	–
VPort 06EC-2V80M	8.0 mm	microSD slot, SDXC interface	-25 to 55°C	–
VPort 06EC-2V36M-T	3.6 mm	microSD slot, SDXC interface	-40 to 70°C	–
VPort 06EC-2V42M-T	4.2 mm	microSD slot, SDXC interface	-40 to 70°C	–
VPort 06EC-2V60M-T	6.0 mm	microSD slot, SDXC interface	-40 to 70°C	–
VPort 06EC-2V80M-T	8.0 mm	microSD slot, SDXC interface	-40 to 70°C	–
VPort 06EC-2V36M-CT	3.6 mm	microSD slot, SDXC interface	-25 to 55°C	✓
VPort 06EC-2V42M-CT	4.2 mm	microSD slot, SDXC interface	-25 to 55°C	✓
VPort 06EC-2V60M-CT	6.0 mm	microSD slot, SDXC interface	-25 to 55°C	✓
VPort 06EC-2V80M-CT	8.0 mm	microSD slot, SDXC interface	-25 to 55°C	✓
VPort 06EC-2V36M-CT-T	3.6 mm	microSD slot, SDXC interface	-40 to 70°C	✓

Model Name	Lens	Local Storage	Operating Temp.	Conformal Coating
VPort 06EC-2V42M-CT-T	4.2 mm	microSD slot, SDXC interface	-40 to 70°C	✓
VPort 06EC-2V60M-CT-T	6.0 mm	microSD slot, SDXC interface	-40 to 70°C	✓
VPort 06EC-2V80M-CT-T	8.0 mm	microSD slot, SDXC interface	-40 to 70°C	✓

Accessories (sold separately)

Camera Mounting Kits

VP-DP02	15 g dry pack with hook-and-loop fastener