

VTK Public Security

Vecow Turn-key Solution of Public Security with ECX-3400 PEG and C251 PoE Camera



Features

- Workstation-grade Platform : 13th Gen Intel® Core™ i7 Processor (Raptor Lake-S) running with Intel® R680E Chipset
- Diverse of hardware and software combinations
- Image Recognition for Hazard Detection
- Simultaneously detect smoke and flames by using imaging
- Customizable electronic fence boundaries and personalized personnel dwell time settings
- Automatically detects whether personnel wears protective equipment (safety helmets/vests)
- The fastest and most accurate face recognition on the market



ECX-3400 PEG Specifications

System	
Platform	Intel® Core™ i7-13700TE Processor (Raptor Lake-S) with Intel® R680E PCH
Memory	DDR5 SO-DIMM 4800MHz 32GB
OS	Windows 11
Graphics	
Graphics Processor	<ul style="list-style-type: none"> ▪ Intel® UHD Graphics 770/730 driven by Intel® X® Architecture ▪ NVIDIA GeForce RTX 3050
Interface	<ul style="list-style-type: none"> ▪ 1 DVI-I : Up to 1920 x 1080 @60Hz ▪ 1 HDMI : Up to 1920 x 1080 @60Hz ▪ 2 DisplayPort : Up to 7680 x 4320 @60Hz/5120 x 2880 @60Hz ▪ 1 x HDMI Port (from Graphics Card) ▪ 3 x DisplayPort (from Graphics Card)
I/O Interface	
Serial	4 COM RS-232/422/485
USB	<ul style="list-style-type: none"> ▪ 6 USB 3.2 Gen 2, USB Type A Connector ▪ 1 USB 3.2 Gen 2x2, USB Type C Connector supports max 20Gbps data transfer (15W, 5V/3A)
LAN	<ul style="list-style-type: none"> ▪ LAN 1 : Intel® I219LM GigE LAN supports iAMT ▪ LAN 2 : Intel® I210 GigE LAN ▪ LAN 3 to LAN 6: 2.5GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I226, RJ45 Connector
Audio	1 Mic-in, 1 Line-out
Isolated DIO	32 Isolated DIO (16 DI, 16 DO)
SIM Card	3 External Nano SIM Card Socket
Storage	
SATA	4 SATA III (6Gbps) support software RAID 0, 1, 5, 10
M.2	1 M.2 Key M Socket (2280, PCIe x4)
Expansion	
Mini PCIe	1 Mini PCIe Socket for PCIe/USB/SIM Card
M.2	<ul style="list-style-type: none"> ▪ 1 M.2 Key B Socket (3042/2280, PCIe/USB 3, default/USB 2) ▪ 1 M.2 Key B Socket (3052/2280, PCIe/USB 3, default/USB 2) ▪ 1 M.2 Key E Socket (2230, PCIe/USB)
Power	
Power Input	DC 12V to 50V Power Input, 3-pin Terminal Block
Remote Switch	3-pin Terminal Block
Mechanical	
Dimensions	260mm x 240mm x 104mm (10.24"x9.45"x4.09")
Mounting	Wallmount by Mounting Bracket
Environment	
Operating Temperature	20°C to 45°C (-4°F to 113°F), with System Fan
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

Camera Specifications

Series	
Model Name	MBL050M-ORF028 Camera Lens (5MP)
Camera	
Lens Type	f2.8mm, F1.6, fixed
Field of View	97°(H) 71°(V)
Minimum Illumination	Color : 0.0572 Lux F1.6, B/W: 0.00460 Lux when IR on
IR Distance	30M, smart IR
Image	
Exposure Mode	Auto, Shutter-Priority, Manual, Flickerless, True WDR
Shutter Speed	1/2s~1/10,000s
WDR	True WDR
Video	
Maximum Frame Rate	3 simultaneous streams, up to 5MP@30fps
General	
On Board Storage	1 x micro SDHC/SDXC Slot (card not included), Recording & Playback
I/O Interface	<ul style="list-style-type: none"> ▪ 1 Reset Button, 1 Default Button ▪ 1 DC12V Terminal Block ▪ 1 RJ45 IEEE 802.3, 10/100 Base-T/TX
Memory	RAM 512MB, Flash 128MB
ONVIF Compliance	Profile S/G/T/M, test tool 21.06
Mechanical	
Casing Material	Metal Housing- Aluminum Alloy
Weathering Resistance	IP67
Vandal Resistance	IK08
Dimension	84mm x 79mm x 147mm
Weight	490g
Electrical	
Power Source	DC 12V, PoE
Power-over-Ethernet	IEEE 802.3af, Class 3
Power Consumption	6.7W (Max)

Software License



Features

- Deep learning algorithm capable of simultaneously detecting multiple recognition boxes and intruders
- Real-time alert for personnel intrusion, reducing the chances of dangerous incidents
- High accuracy rate of more than 90% (85% at night)
- Flexible compatibility with ONVIF IP cameras
- Can recognize multiple targets in the same frame
- Works with VTK Public Security system, providing lowlatency, real-time Live View, and a complete real-time notification system with multiple notification platforms

Specifications				
Model Name	Public Security Software License			
Product Description	Face Recognition	Tripwire Detection	Blaze Detection	Wearables Detection
Video Format				
Protocol Support	Utilizes the RTSP Connection Protocol			
Image Files	MP4/AVI/MKV			
Encoding Format	H.264/H.265			
Development Tools	Support SDK/API			
Smart Recognition				
Multi-Object Recognition Supported	AI deep learning image analysis technology			
	Setting multiple detection zones			
	Simultaneous multi-person recognition			
	Human Face	Configurable maximum number of people/dwell time	Blaze and smoke	Person, helmet and safety vest
Real-Time Reporting	Pre-warning events are sent to the central management system for administrators to integrate and manage			
Video Recording and Storage	Support Full-time Recording/Event-based Recording			
	Customized monitoring and retention for verification			
Recognition Time	Within 0.1 sec			
Alarm Notification				
Reporting Format	Email/Line/SMS/Http Push			
Reporting Speed	Event occurrence within 20 seconds			
Alarm Events	Blacklist detection, network disconnection	Obstacle ahead, object abnormality, network disconnection	Fire detection, network disconnection	No helmet/safety vest, network disconnection
Recognition Accuracy				
Daytime Detection	Over 90%			
Nighttime Detection (with Illumination above 0.01 lux)	Over 85%			
AI Recognition Requirement				
Environment	Full-color daytime/Nighttime IR images			
Detection Distance	Within 20 meters			
Camera Installation Height	Installation height is lower than 4 meters Recognition height angle < 30 degrees			
Camera Angle Limitations	Horizontal/Vertical angle < 30 degrees Tilt angle < +/-5 degrees			

Order Information

VTK-PSC-1000	ECX-3400 PEG, Intel® Core™ i7-13700TE Processor, DDR5 SO-DIMM 4800MHz 32GB, 512GB SSD, 5MP Camera, optional for SW license
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Software Selection

Face Recognition	Face Recognition Software Kit
Tripwire Detection	Tripwire Detection Software Kit
Blaze Detection	Blaze Detection Software Kit
Wearables Detection	Wearables Detection Software Kit

Optional Accessories

PWA-280WB-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block (7.62mm pitch), Wide Temperature -30°C to 70°C
PWA-330WB	330W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block (7.62mm pitch)
4G Module	4G/GPS Module with Antenna
5G Module	5G Module with Antenna
Wifi & Bluetooth	WiFi & Bluetooth Module with Antenna