

VISION SYSTEM

X-VPU / SV4 / SV5 Series



X-VPU Series

- PC-base solution, faster and more accurate
- Provide perfect encryption scheme and personalized user experience
- Rich external interfaces with diverse performance
- Super anti-jamming, stable and reliable PC-base

SV4/SV5 Series

- Embedded intelligent camera, no need PC execution
- 0.3/1.2/5 million pixels, meet different accuracy requirements
- Rich graphics algorithm tools, without user programming
- Support Modbus 485/TCP communication protocol
- Ultra low power consumption

X-VPU

Product introduction

X-VPU is a high-performance, high-reliability visual processor launched by Xinje company.

This product can be equipped with Intel Pentium G series or Intel Core i5 series high performance processors, with standard 4 GB DDR4 2400MHz memory. Up to 8GB memory can be extended. The whole machine has abundant external IO interface, provides perfect encryption scheme, and supports power-on function. Support Windows 7/8/10, Linux. This machine has super anti-jamming ability and can run steadily in harsh environment.

Product features

•Different performance optional configurations, meet different requirements

Visual controllers with Intel Pentium G4400 and Intel Core i5 7400 processors can be selected according to different requirements. The standard configurations are 4GB DDR4 2400MHz memory, up to 8GB memory can be extended. Different storage space can be selected to obtain a reasonable scheme with high cost performance.

•Supports 4-channel GigE Vision, with rich interfaces

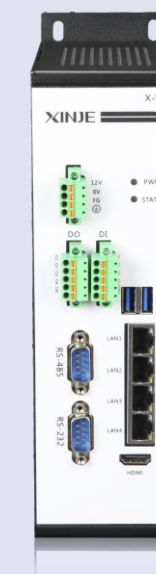
Provide four Gigabit Ethernet channels, Intel Core i5 series can communicate with four cameras at the same time. Support Modbus 232/485 communication protocol, the controller can communicate with all the equipments which support Modbus 232/485 through RS-232/485 port. This machine is equipped with 8-bit DIO port, which can transmit signals with PLC/camera.

•Rich functions, strong adaptability, optimize customer experience

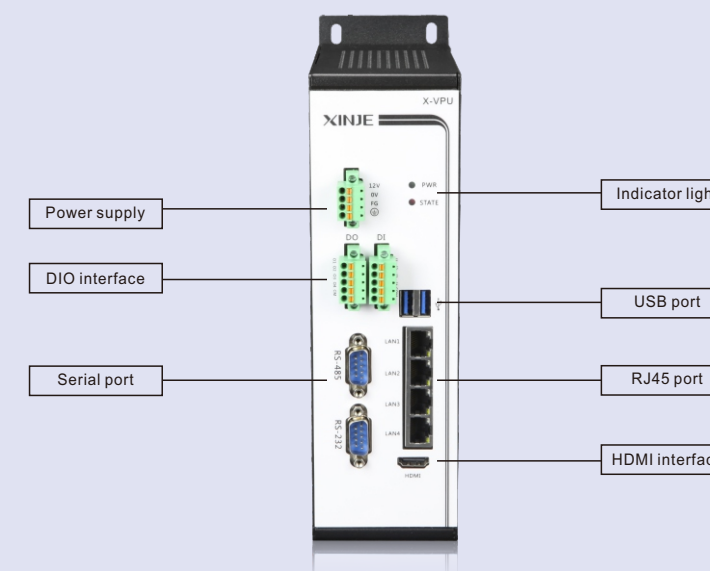
Compatible with win7/8/10, Linux and standard industry software. It can customize PC software according to industry requirements, provide perfect encryption scheme and personalize user experience, it supports the power-on function through BIOS management settings and is easy for users to manage and use.

•Super anti-jamming ability, widely used in various industries

Pass EMI test, it meets the industrial class III standard, continuous power on for power interference 4KV electrostatic interference 8KV, to ensure the safety of operation. It can operate stably in harsh environment. It has been running steadily in automatic welding, alignment, diamond testing and other projects. It is suitable for 3C, automobile, traditional visual inspection industry.



X-VPU vision controller specification



Product introduction

Specification

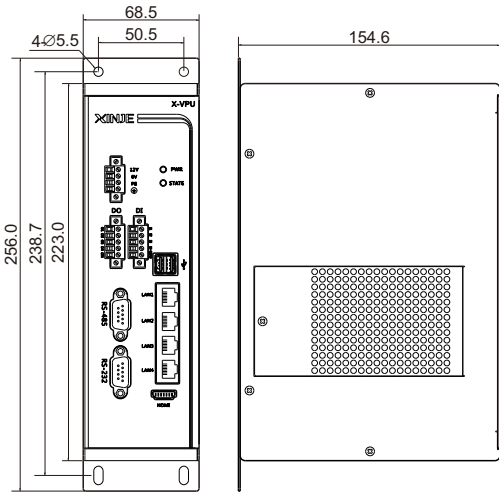
	Type	Definition
Functions	Processor	Intel® Pentium® G4400 processor Intel® Core™ i5 7400 processor With active cooling fan parts
	Memory	4GB DDR4 2400MHz extensible 8GB
	Storage function	Standard 500G HDD can be SSD as needs
	Ethernet port	4XRJ45
	Serial port	1XRS-232 1XRS-485
	DIO interface	4X DI 4X DO
	USB port	2XUSB3.0
	Dongle interface	2XUSB2.0 (built-in) dongle is optional
	Display interface	1XHDMI
	Indicator light	Power supply indicator HDD indicator
	OS	Windows 7/8/10, Linux
Performance	Dimension	256W×154.6D×68.5H mm
	Storage temperature	-10°C~65°C
	Operation temperature	0°C~55°C
	Humidity	10%~90%
	Mechanical environment	Vibration response ability 5Hz~20Hz Shock response capability acceleration speed 20M/S2
	Electromagnetic compatibility	Power supply interference test meets industrial class III standard Electrostatic interference detection conforms to industrial class III standard
	Power waste	100W
	Power supply	With standard adapter SIC-K120-P12

Model selection

CPU	MEM	HDD	SSD	MODEL
INTEL® PENTIUM® G4400	4G	500G	\	SP-XP025G-V1*
			64G	SP-XP625G-V1
		1T	64G	SP-XP621T-V1
		5T	64G	SP-XP625T-V1
	8G	1T	64G	SP-XP631T-V1
INTEL® CORE™ I5 7400	4G	500G	\	SP-XC025G-V1*
			64G	SP-XC625G-V1
		1T	64G	SP-XC621T-V1
		5T	64G	SP-XC625T-V1
	8G	1T	64G	SP-XC631T-V1

Note: * is standard configuration of standard version and upgraded version.

Product dimension (unit: mm)



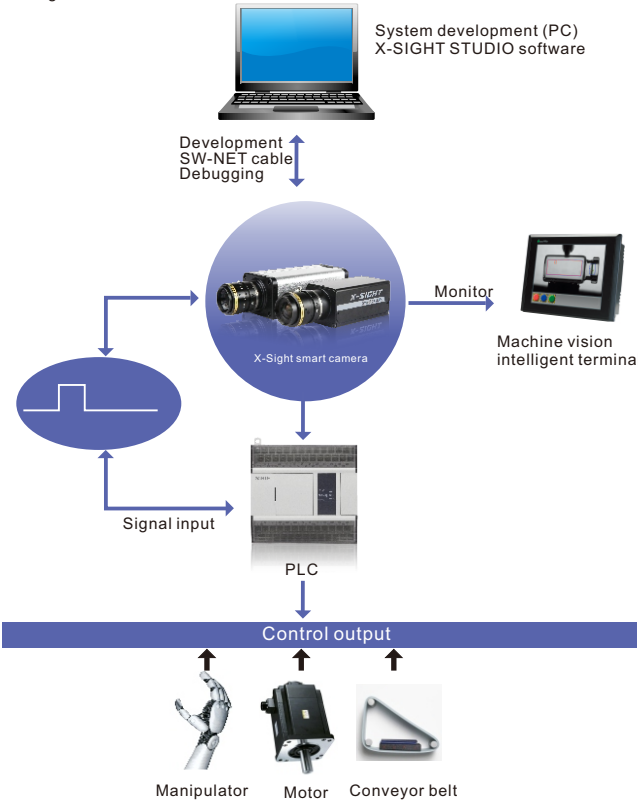
Vision SystemX-VPU/SV4/SV5 Series

SV4/SV5 Series

Product features

Embedded intelligent camera, highly integrated

SV series cameras have built-in acquisition and processing units, which can operate and process images without PC. Users can configure tools through X-SIGHT software. Programs can be downloaded to cameras for independent detection. As the perception layer in the whole industrial process, X-SIGHT vision system will directly return the test results to the control unit or executive body. Customers can modify camera parameters or view real-time pictures through intelligent terminals.

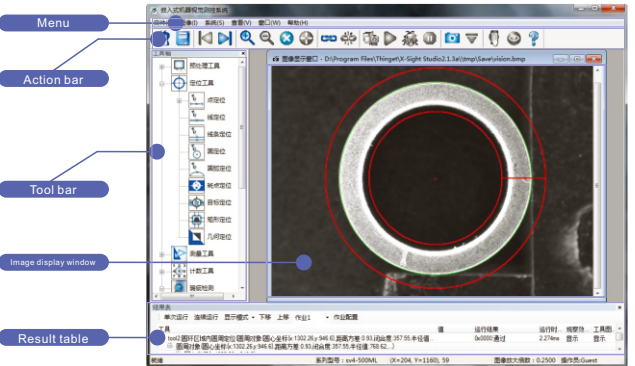


Various resolutions are available to meet different accuracy requirements

According to different product testing requirements, we can choose 640*480, 1280*960 and 2560*1920 cameras with different resolutions. The higher the resolution, the higher the detection accuracy, but the slower the running speed. On the premise of meeting the accuracy requirements, we can choose the appropriate resolution pixels to obtain the most cost-effective scheme.

Rich graphics algorithmic tools without user editing

X-SIGHT STUDIO is a graphical editing software specially designed for engineering development. It has 6 categories and 34 kinds of graphical algorithm tools, intuitive graphical editing interface, simple tool parameter settings, and convenient for customers to quickly create visual inspection tools.







Support Modbus 485/TCP communication protocol

Camera-supported communication modes include: RS-485, Ethernet. The camera can communicate with all devices supporting the Modbus communication protocol through RS-485 serial port, and with all devices supporting the Modbus-TCP protocol through Ethernet.

Function application

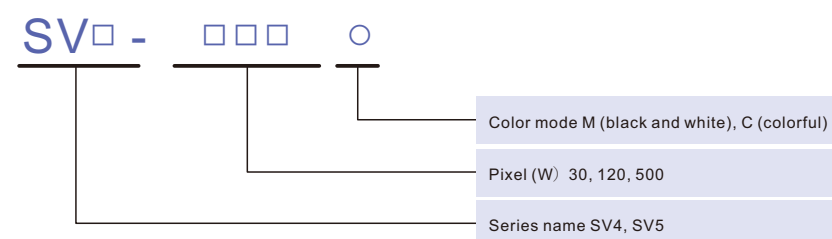
X-SIGHT STUDIO has powerful graphics algorithm tools to meet different detection requirements; which include feature location, counting, measurement, defect detection and other functions, it is widely used in mechanical processing and assembly, food and beverage packaging, textile production testing, electronic semiconductor and other industries.

Functions		Application	
	Location	Locate the position of the target points, lines, circles and irregular patterns with similar features in the image area and output the position information.	Mark point location/packing fit/welding seam tracking/ material sorting
	Counting	The feature lines, circles, intersections, irregular graphics and pixels in the image area are automatically judged and counted.	Food packaging detection/yarn detection/bearing bead deficiency/diamond particle detection
	Measurement	Measure the distance and angle between the target objects in the image area. The target objects can be the points, lines and circles output by the positioning tool and the counting tool.	Deviation correction detection/flame height detection/automatic tool alignment detection/line diameter detection
	Defect detection	Products with random bad appearance will be detected from good products. Defect types include product surface depression, wear, scratch, bulge and so on.	Chip mixture/printing detection/nonwoven fabric detection/carbon brush crack

Model description



SV series camera naming rule



Camera lens specification

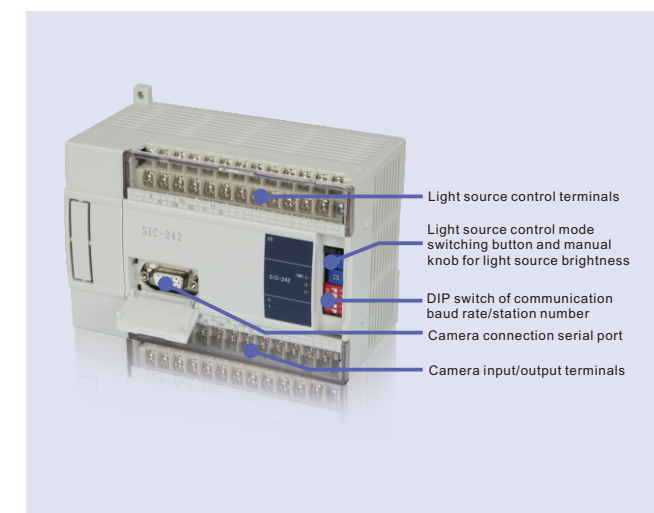
Specification		SV4-30ML	SV4-30CL	SV4-120ML	SV4-500ML	SV5-30M	SV5-120M	SV5-500M
Camera collection	Resolution (pixel)	640*480 About 0.3 million pixels	640*480 About 0.3 million pixels	1280*960 About 1.2 million pixels	2560*1920 About 5 million pixels	640*480 About 0.3 million pixels	1280*960 About 1.2 million pixels	2560*1920 About 5 million pixels
	Color mode	Black and white	Color	Black and white	Black and white	Black and white	Black and white	Black and white
	Sampling unit	1/3inchCMOS	1/3inchCMOS	1/2inchCMOS	1/2.5inchCMOS	1/3inchCMOS	1/2inchCMOS	1/2.5inchCMOS
	Pixel dimension (um)	6.0*6.0	6.0*6.0	5.2*5.2	2.2*2.2	6.0*6.0	5.2*5.2	2.2*2.2
	Pixel digit (2n)	8	24	8	8	8	8	8
	Exposure mode	Global exposure	Global exposure	Rolling exposure	Rolling exposure	Global exposure	Rolling exposure	Rolling exposure
	Maximum frame rate (fps)	60	60	30	15	60	30	15
	Shutter time (ms)	0.1-200	0.1-200	0.1-200	0.1-200	0.1-200	0.1-200	0.1-200
Communication	Capacity (M)	40	40	40	40	256	256	256
	Interface	RJ45/RS485	RJ45/RS485	RJ45/RS485	RJ45/RS485	RJ45/RS485	RJ45/RS485	RJ45/RS485
	Protocol	Modbus-485 Modbus-TCP	Modbus-485 Modbus-TCP	Modbus-485 Modbus-TCP	Modbus-485 Modbus-TCP	Modbus-485 Modbus-TCP	Modbus-485 Modbus-TCP	Modbus-485 Modbus-TCP
I/O	Input terminals	2	2	2	2	2	2	2
	Output terminals	5	5	5	5	2	2	2
Normal working	Working temperature (°C)	0-50	0-50	0-50	0-50	0-50	0-50	0-50
	Storage temperature (°C)	-10~60	-10~60	-10~60	-10~60	-10~60	-10~60	-10~60
	Working voltage (V)	24	24	24	24	24	24	24
Mechanical parameters	Dimension (mm)	118*60*46	118*60*46	118*60*46	118*60*46	106*45*40	106*45*40	106*45*40
	Weight (g)	290	290	290	290	236	236	236
Electrical parameters	Max power (W)	5.3	5.3	5.3	5.3	5.3	5.3	5.3
	Max current (mA)	220	220	220	220	220	220	220
Software	Max tool numbers	64	64	64	64	64	64	64

Specification of light source controller

The light source controller integrates the input and output terminals and communication interfaces of the camera. It is mainly used to supply power for the camera light source, adjust the brightness of the light source and trigger the IO port.



Specification	Product	SIC-242
Light source control	Light source control channel	2
	Output voltage	24V DC
	Control mode	Communication/analog
	Communication protocol	Modbus-485
	Communication baud rate	38400/57600/115200bps
	Max output current	400mA DC
Camera control	Input terminals	2
	Output terminals	5
	Communication interface	Modbus-485
	Communication baud rate	38400/57600/115200bps
	Power supply input	24V DC
Normal working	Working temperature	0-50℃
	Storage temperature	-10~60℃
	Power supply voltage	220V AC
Mechanical parameters	Dimension (mm)	139.0*110.0*73.3



Model specification of machine vision intelligent terminal


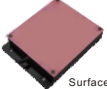


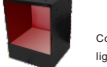

Intelligent terminal is mainly used to view camera images and modify parameters. It supports Modbus TCP communication protocol. It can directly connect with the camera through the network to transmit images in real time. It can also set and modify camera internal parameters without PC.







Specification		Product	STGA62-ET	STG865-ET	STG765-ET
Features	Dimension (inch)		10.1	8	7
	Resolution		800*480	800*600	800*480
	Display color		16 million true colors		
	Memory		128MB		
Interface	PLC port		RS232/RS422/RS485		
	Download port		RS232/RS485		
	USB		Standard USB 2.0 interface (standard USB-A, USB-B)		
	Ethernet		Standard RJ45 port		
Electrical features	Input voltage		DC24V (voltage range: DC20V~28V)		
	Consumption current		250mA	230mA	220mA
Structure	Mounting dimension		260.2*179.7	211.4*157.8	192.0*138.5

Product introduction

Fittings selection

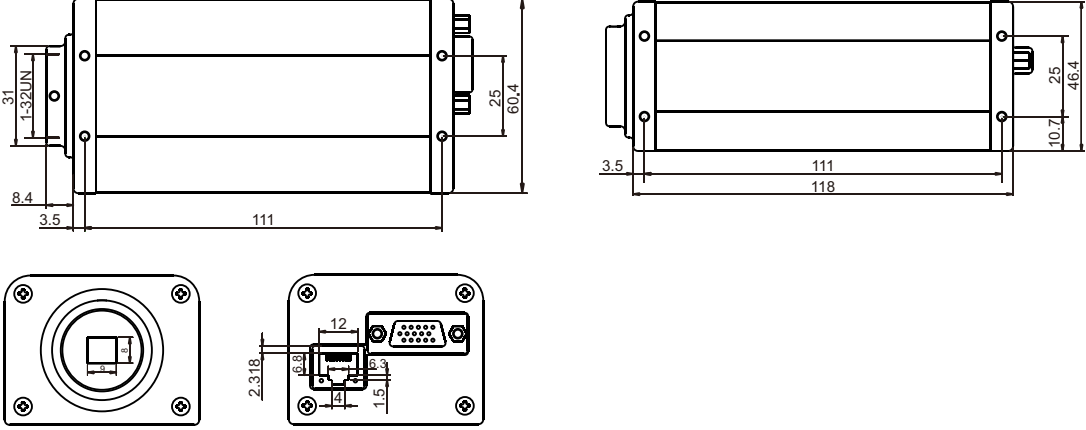
Specification and performance of light sources					
Light source	Model	Color	Angle	Dimension	Features
 Annular light source	XJ-DR120-A00-W/R/B/I	White/red/blue/ infrared	0°	External diameter120mm	Providing different angles of illumination, highlight the three-dimensional information of objects
	XJ-DR90-A45-W/R/B	White/red/blue	45°	External diameter90mm	
	XJ-DR126-A90-W	White	90°	External diameter126mm	
	XJ-DR50-A30-W/R/U	White/red/ ultraviolet rays	30°	External diameter50mm	
 Surface light source	SI-FL133127R/B/W/G	Red/blue/white/green		133*127mm	Highlight the outline features of the object, especially for the microscope carrier
	SI-FL118082R/B/W/G	Red/blue/white/green		118*82mm	
	SI-FL073050R/B/W/G	Red/blue/white/green		73*50mm	
 Strip light source	XJ-LN150-W/R/B/U/I	White/red/blue/ ultraviolet rays/infrared		150*20mm	The preferred light source for a larger square structure, the angle of illumination can be freely combined and the installation can be adjusted at will
	XJ-LN300-W/R	White/red		300*20mm	
 Spherical integral light source	XJ-DM100-W	White		100*50mm	The inner wall of the hemisphere with integral effect, uniform reflects the light emitted 360 degrees from the bottom
 Coaxial light source	XJ-CL-50W/B	White/blue		75*60mm	It can eliminate the shadows caused by surface irregularity and reduce the loss of light by using spectroscopic design
	XJ-CL-70W	White		100*80mm	
 Combination light source	SI-LIM150020R/B/W	Red/blue/white		206*206mm	Four sides are equipped with strip light, which can adjust the required lighting angle according to the requirements of the measured object.

Note: * The size and color of the light source can be customized according to the site requirements.

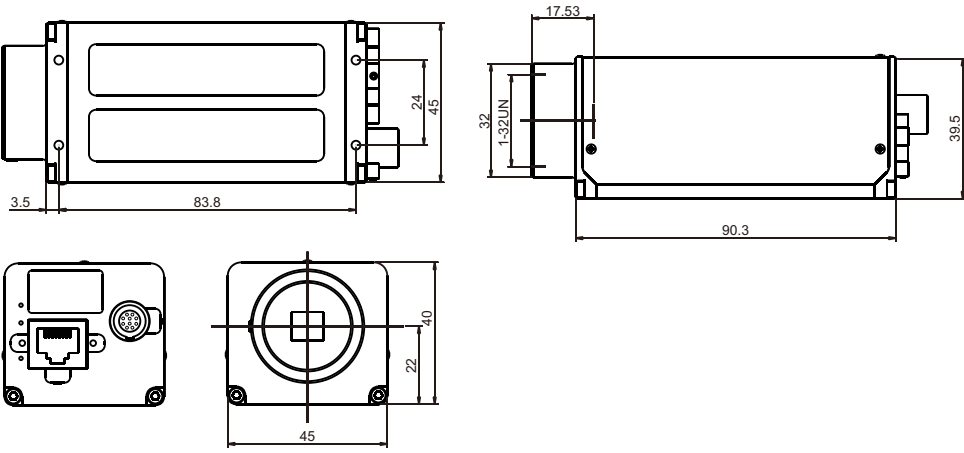
Specification and performance of lens					
Lens series	Model	Focal length or magnification	Resolution	Interface	Features
 FA focusing lens	SL-FA04FM	4mm	1 million	C	The variety is the most complete, the image distortion is smaller, and the cost-effective ratio is high
	SL-FC08FM	8mm	1 million	C	
	SL-FC16FM	16mm	1 million	C	
	SL-FC25FM	25mm	1 million	C	
	SL-FC35FM	35mm	1 million	C	
	SL-FC50FM	50mm	1 million	C	
	SL-FK08F2M	8mm	2 million	C	
	SL-FK12F2M	12mm	2 million	C	
 CCTV lens	SL-CC28VM	2.8-12mm		CS	To achieve focal length transformation within a certain range, change the field of view angle width, image size and depth of field range
 Telecentric lens	SL-TC55FM	55mm	1 million	C	In a certain range of object distance, the magnification of the image will not change with the object distance
 Microlens	SL-MH12X	1.2 times	1 million	C	Usually used for shooting systems with an imaging ratio greater than 10:1
	SL-MC03XM	3 times		C	

Product Dimension (unit: mm)

SV4



SV5



Light source controller SIC-242

