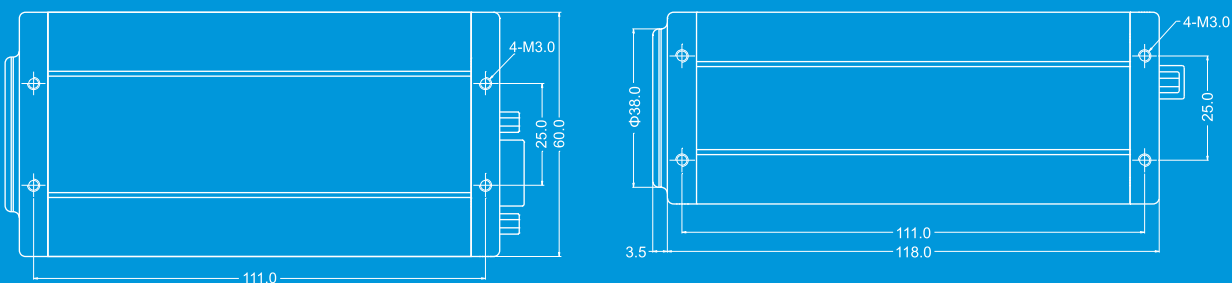
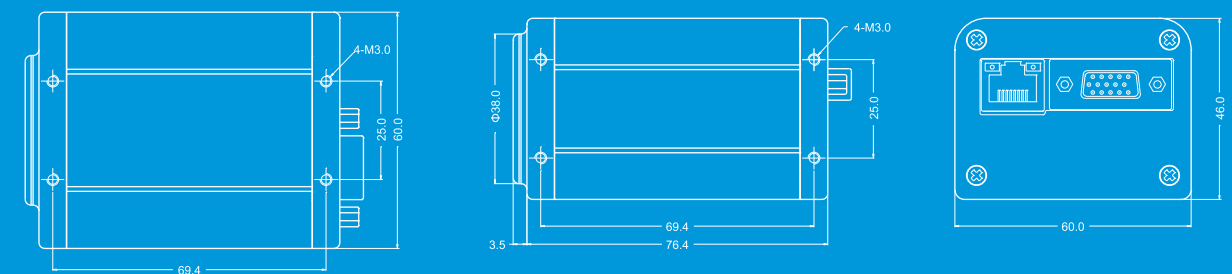


Outline dimension (mm)

● SV4 series



● SV5 series



X-SIGHT

Large memory, Multifunctional intelligent camera
SV4/SV5 series



Intelligent machine vision system

Perfect fusion of processor and camera, highly integration

X-SIGHT

Address: 4th Floor Building 7, Orignality Industry
park, Liyuan Development Zone, Wuxi
Tel: 86-510-85134136
Fax: 86-510-85111290
Website: www.xinje.com
Email: x-sight@xinje.com

Company profile



XINJE Electric Co., Ltd. is a well-known company dedicated to the automation products development and application. The company products include PLC, HMI, servo control system, frequency inverters, machine vision system, robots, network products, etc. We make perfect automation solutions for customers and help them to control the cost, improve the enterprise values.

XINJE set 35 agents and 100 distributors in China, branches in Germany and Korea, 20 agents abroad. The sales market cover Europe, America, Southeast Asia, the Middle East and Africa.

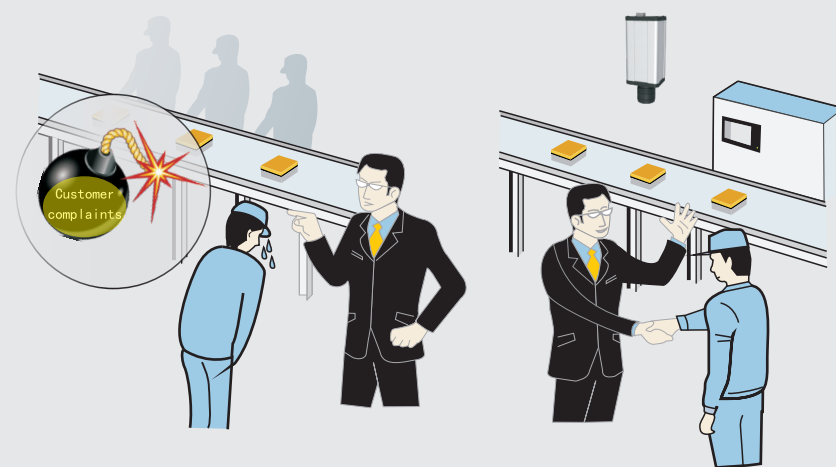
XINJE has become the cooperator of many national projects, such as Beijing Olympics Games, Shanghai World Expo. The product applications cover textile, aerospace, solar energy, nuclear power, coal mining, tunnel engineering, central air conditioning, environmental protection engineering and so on.

With the business philosophy of Innovation, Quality, Service, the company keep developing and designing more reliable products, improving product quality, and striving to become a global automated solution provider. We are committed to build gold brand reputation in the industrial automation field.

What is the purpose to use **X-SIGHT** vision system?

● Greatly improve the qualified rate

- 1.Reduce customer complaints and treatment cost
- 2.Reduce the defective products loss for production material



● Enhance the enterprise image

- 1.Improve the product quality and enterprise image



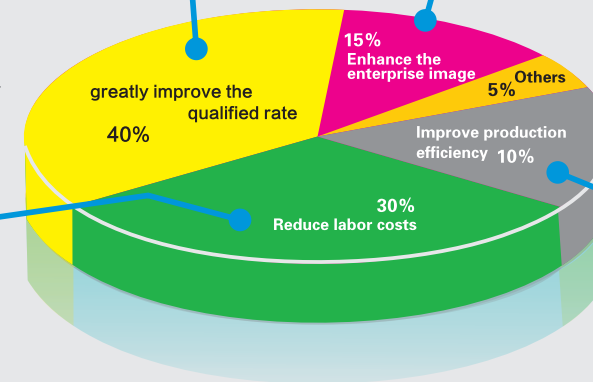
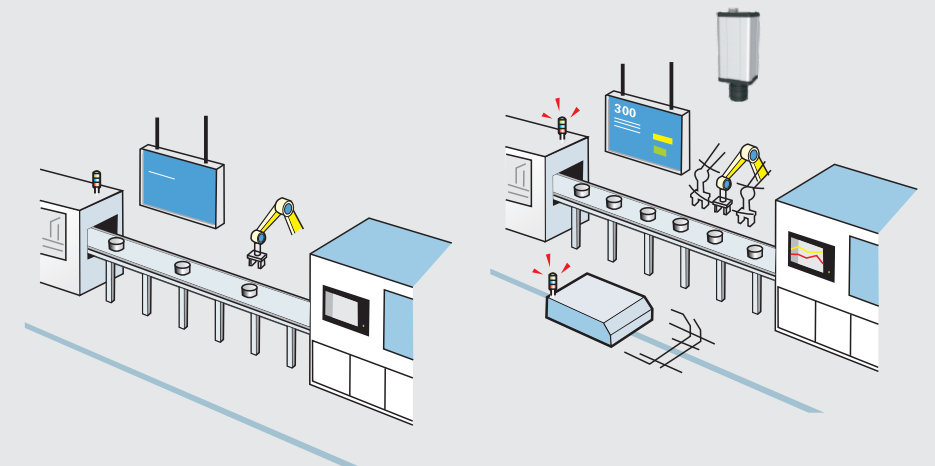
● Reduce labor costs

- 1.Reduce the number of inspectors
- 2.Reduce the workload of the production line

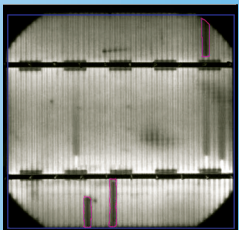
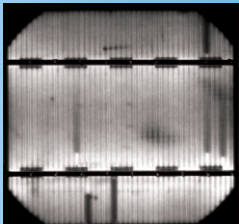


● Improve production efficiency

- 1.Improve the detection products quantities in unit time
- 2.Cooperate with other automated assembly line to improve the output in unit time

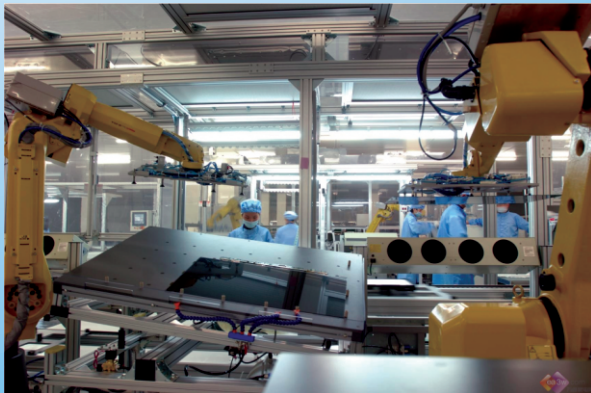


Electronic and semiconductor industries



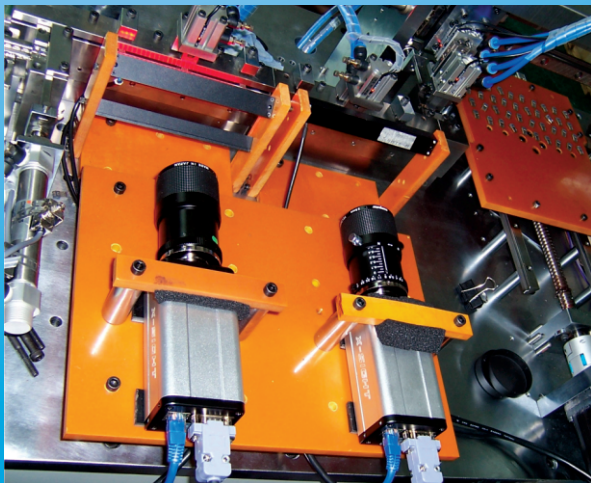
Solar battery

SV4-30ML camera can detect the printing defects, margin fault grille, surface leakage current and other unhealthy phenomenon of solar battery in the production process under infrared light source with defect detection tool, and help clients to save human cost and improve the quality of products.



LCD panel

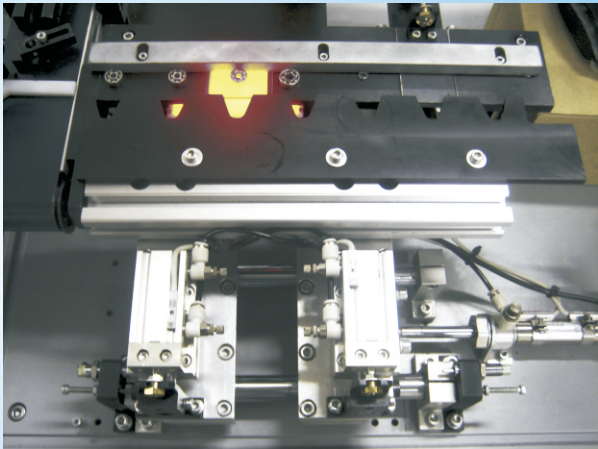
Before LCD panel pressing, the positioning tool of X-SIGHT smart camera can accurate positioning MARK point, guide the movement device to correct the position, make each layer of the plate high precision fitting. It provides high quality security for the following pressing and cutting process.



Electronic products connectors

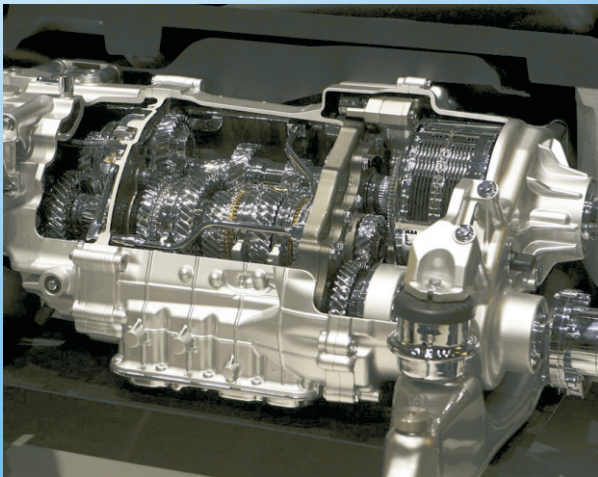
SV4-500ML camera has high resolution telecentric lens which provide new optical detection tool for electronic connector producers. It can detect the height, width and spacing of PIN, instead of worker eyes.

Machining and assembly industry



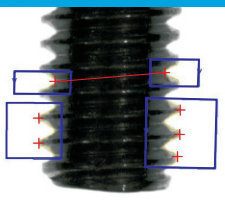
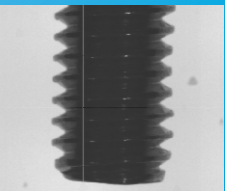
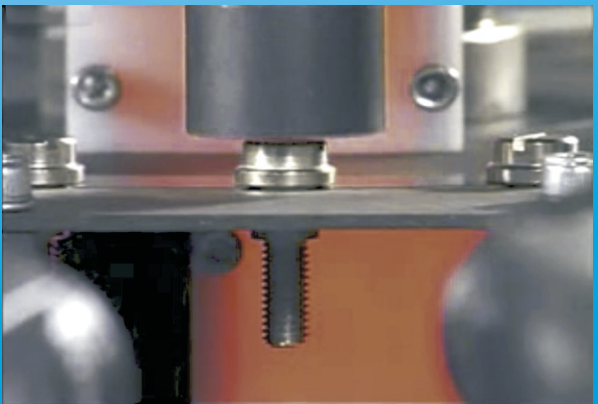
Bearing production and assembly

The bearing production and assembly are supermatic but the quality inspection always troubled the producer. X-SIGHT SV4-30ML can perform the mosttest functions at the lowest costs. For example, lack of balls and needles, scratch on the surface, and character detection.



Auto parts processing

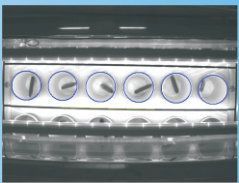
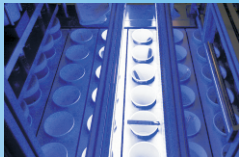
Auto parts processing is very strict with the precision requirement. X-SIGHT has powerful distance and angle measurement tools, as well as the completed camera model sequence, meet different size, different precision of the detection requirements.



Mechanical fasteners

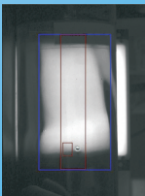
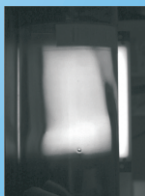
Mechanical fasteners need high speed, high reliability and low cost measurement method to test the pitch, tooth height, tooth angle. Machine vision will become the key of upgrading from traditional mechanical manufacturing industry to technology-intensive industry.

Food and drink industries



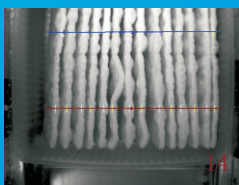
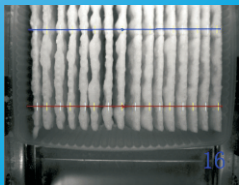
Milk tea production

In automation production process of milk tea, automatic loading machine of straws has the chance of leakage. SV4-30ML can easily identify the cup which is not put straw and alarm.



Beer bottle

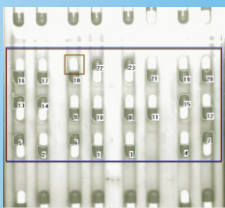
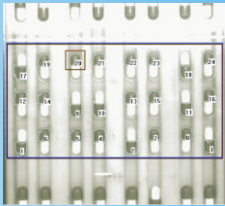
Before filling the beer bottle, it needs to find out the bottle with crack, bubble, impurity. X-SIGHT camera can find any small defects and eliminate the hidden safety concerns.



Soda biscuit production

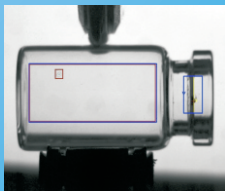
Soda biscuit shape differences is quite obvious, that can't count by common sensor. Through our SV4-30ML not only can guarantee the biscuits' shape and number is consistent, but also can save a lot of human resource.

Pharmaceutical Industry



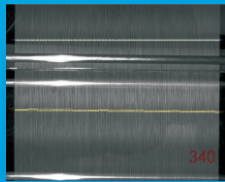
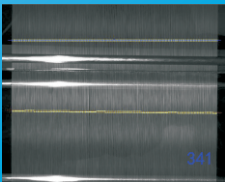
Pharmaceutical production

Pharmaceutical industry requests highly demanding of production environment, and try to achieve the unmanned production workshop. The number inspection process before capsule encapsulation can use X-SIGHT technology tools to achieve the goal of high reliability testing.



Medicine bottle foreign body detection

The medicine bottle will be disinfected and detected before filling. The bottle with foreign body will cause a medical accident. X-SIGHT detection tool can find the foreign body and thorns at the bottleneck. The non-contact detection mode can avoid bottle secondary contamination.



The textile industry

Broken wire and fabric defects detection

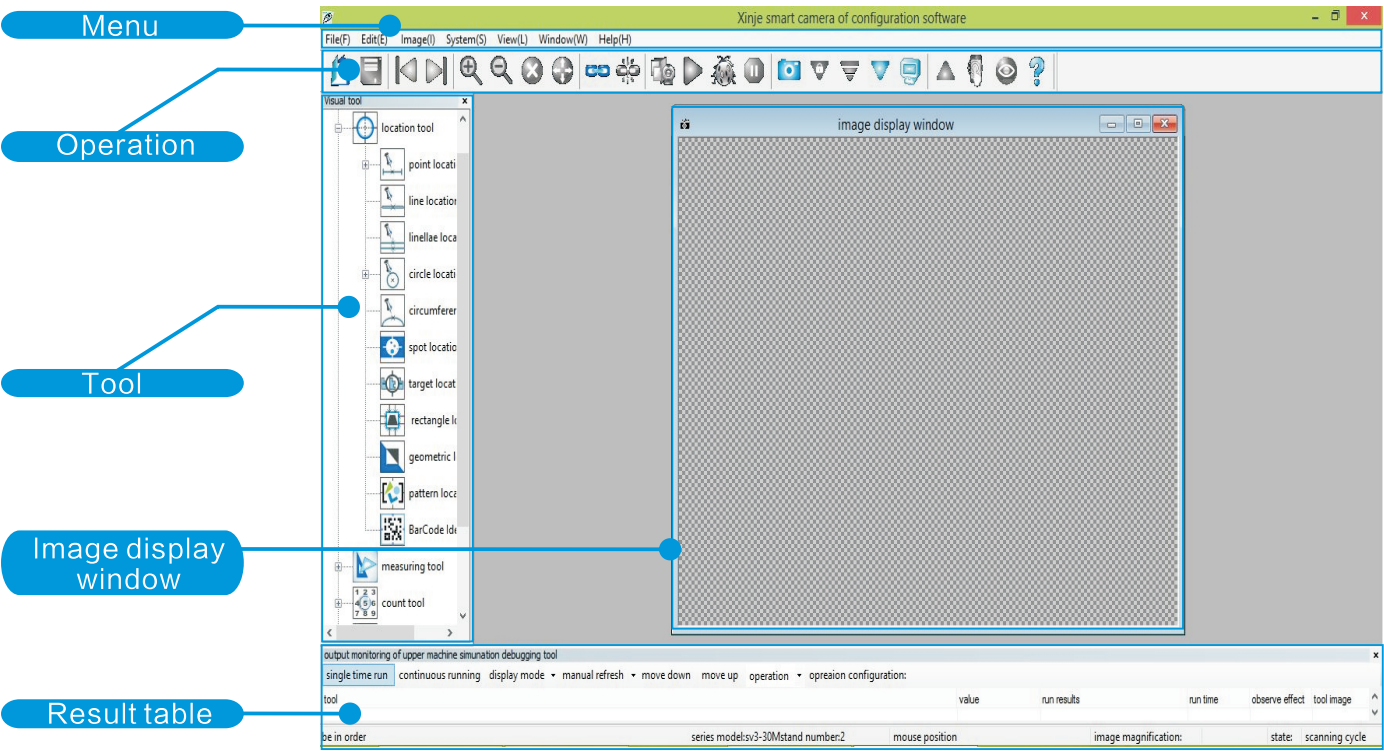
The textile industry is labor intensive industry. Every production process including warping, warp knitting, tailoring, dyeing and garment manufacture needs lots of workers. The labor pool has already affected the textile industry development. X-SIGHT upgraded the industry and free up the labor.

X-SIGHT STUDIO project editing software

X-SIGHT STUDIO is graphical editing software which can speed up the vision application engineer developing process and shorten the project period.

X-SIGHT STUDIO has the following features:

- 1. 34 algorithm tools
- 2. Intuitive graphical tool
- 3. Easy tool parameter setting, fast building the vision detection project
- 4. Connect the camera and download the project through the Ethernet



X-SIGHT STUDIO has detailed result output and feature description which is convenient for the user to customize the operation. It can output Modbus address through the tool, monitor the lower computer address and result.

output monitoring of upper machine simulation debugging tool	
single time run continuous running display mode manual refresh move down move up operation operation configuration:	
tool	value
tool1: Circle Location in CircleLoop{tool result:0, time:891, max radius :108, min radius :105.94, ...}	
tool result:0	0
time:891	891
max radius :108	108
min radius :105.94	105.94
circle round object{circle center coordinate{x:325.43,y:240.5}, distance variance:1.49, ...}	
circle center coordinate{x:325.43,y:240.5}	
x:325.43	325.43
y:240.5	240.5
distance variance:1.49	1.49
closure:357.37	357.37
radius value :107.02	107.02

X-SIGHT VIEWER terminal display software

In order to facilitate the user to monitor and control the production site, X-SIGHT supplies X-SIGHT Viewer software for terminal PC. It supports 20 serial ports, can connect 8 cameras at the same time, real-time display the image, supplies user authority in parameter setting area, manage the site efficiently. The data display area can show any data set by user, support error image save and statistical data export.

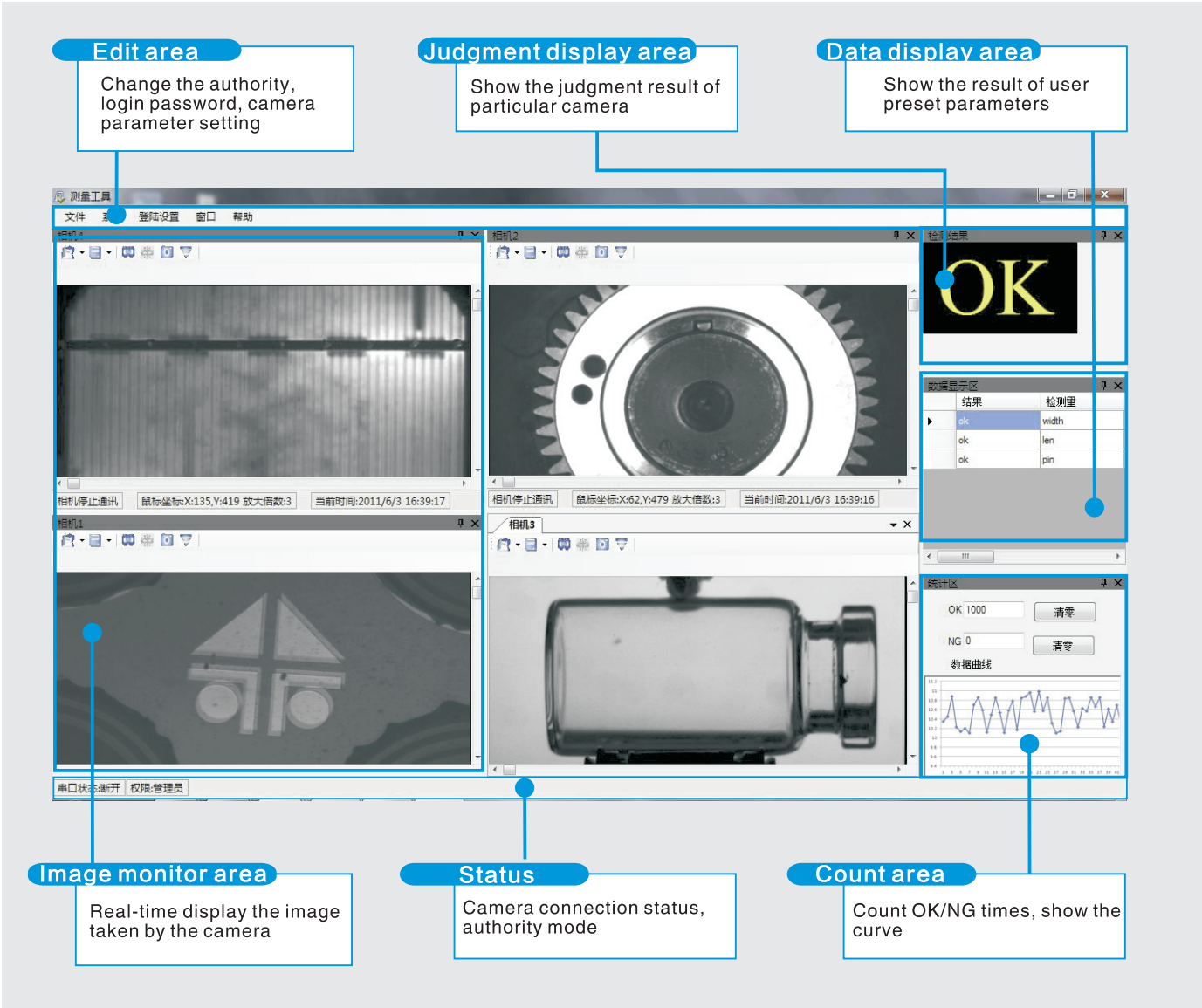
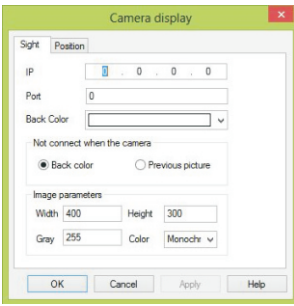


Image monitoring terminal

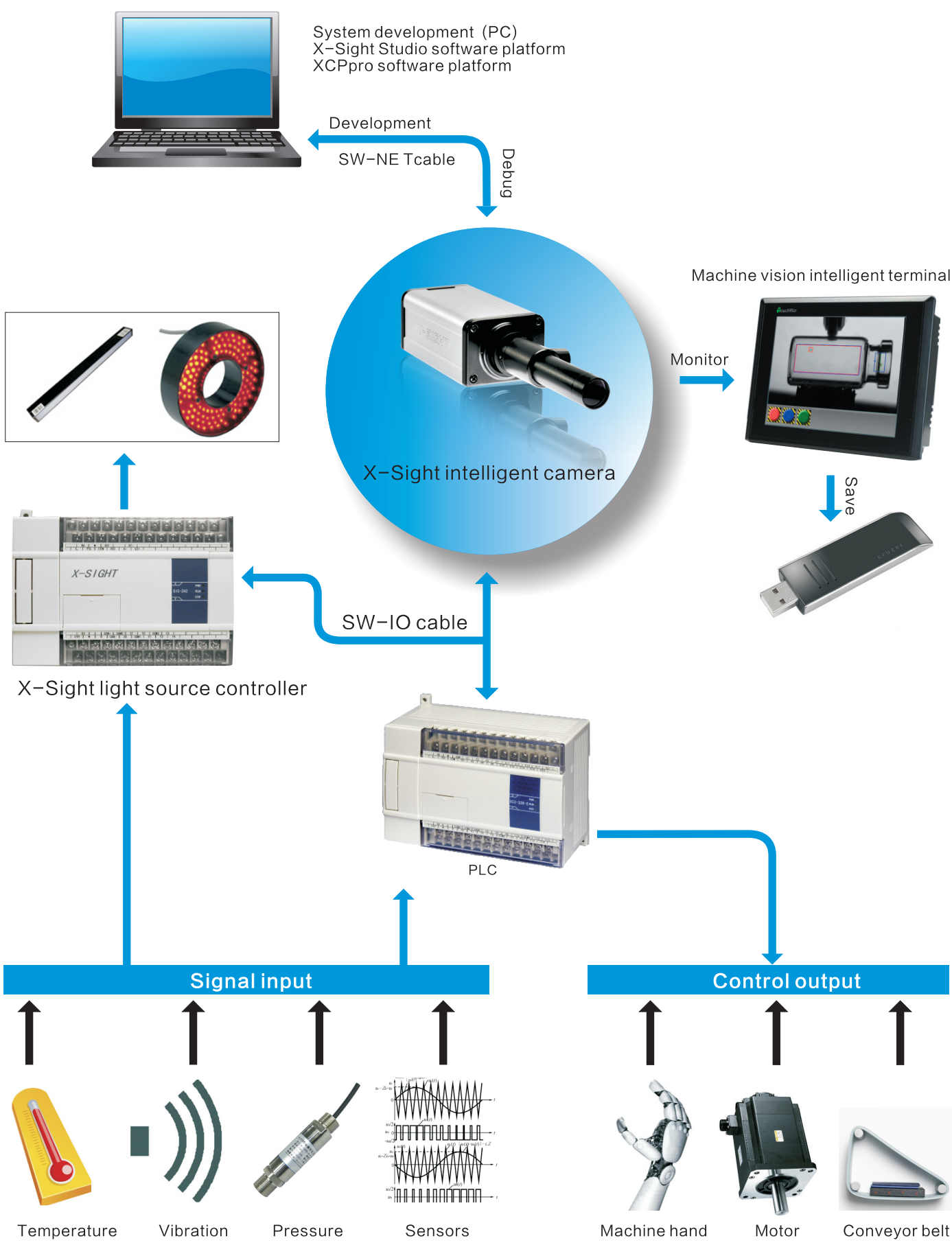
X-SIGHT STG865 machine vision system has touch screen and image display function. It can replace the PC and save costs, make the system compact.



screen setting



STG865-ET

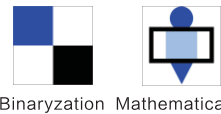
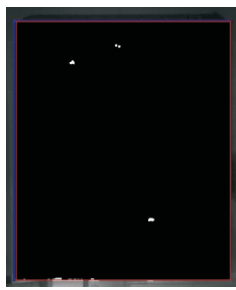
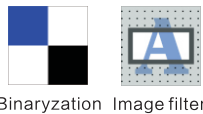
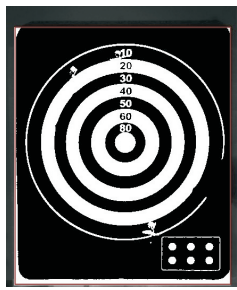


Preprocessing tool

The image will be preprocessed by the algorithm of filter, binaryzation and gray level transformation before image recognition to fit for later image processing.

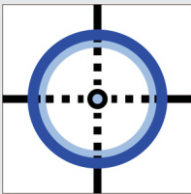


Original image, the target has 3 darts on it



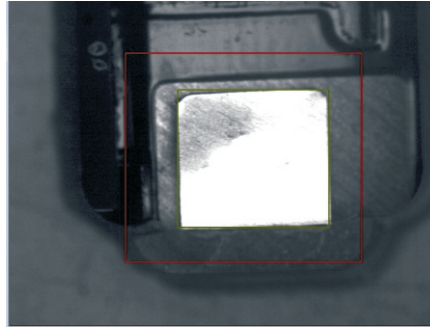
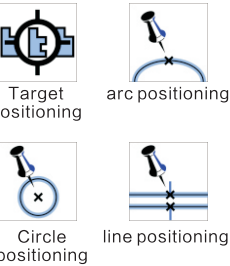
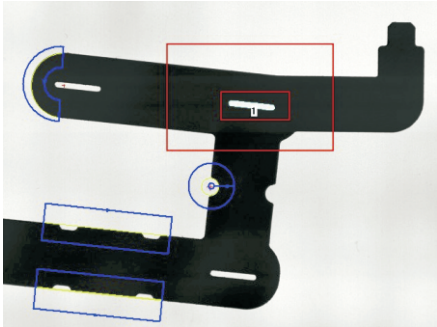
Simplify the image to two gray levels which are black and white according to certain threshold. The target boundary is very clear.

Filter the target and only display the darts position by increasing the threshold to fit for later coordinates positioning.



Positioning tool

The positioning tool can catch the image features: point, circle, line, geometry, irregular spots. It can output the coordinates, rotation angle and other information after positioning. The tool application including motion guide, target searching, to be the tool before measuring tool for inherited.



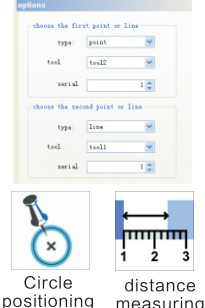
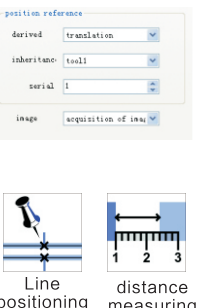
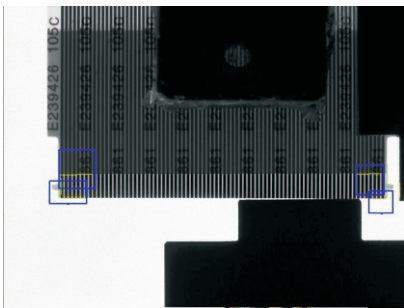
geometric positioning

Accurate positioning the work piece outline after studying



Measuring tool

Measuring tool can measure the target object distance and angle, which include point to point distance, point to linedistance, point to circle distance, line to line distance, line and circle distance, line and line angle. The target object can be point, line and circle outputting from positioning tool or counting tool.



123
456
789

Counting tool

The counting tool can count the object with the following features: circle, line, crossover point, irregular graphics, pixels. The application includes packing detection, appearance recognition, process monitoring.

Circle counting

Count the product numbers before packing.

Line counting

High speed camera monitored the production process.

Defective tool

The defective tool can check the appearance defects of the products. This applies to various defects detection including surface indentation, wear, scratches, bumps.

Circle defects

Check the bearing external circle wear by circle defective checking tool.

Line defects

Check the bubbles and foreign body in the transparent products with backlight.

Surface checking

A B C D

Character recognition tool

X-SIGHT character recognition tool can multi-angle check the printing stamp, dot character. The character type includes number, letter. The tool is good for high speed product classification and information collection.

Character recognition in the rectangle

Character recognition in the circular ring

The tool can recognize the character distributed along the circular ring

Script

X-SIGHT script edit tool is a simple compile module based on JAVA. It can integrate and second develop the running parameters and camera output, make the camera editable and intelligent, simplify the output parameter.

Call the internal function

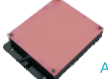
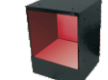
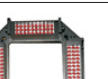
Call the tool result

Define the variable

Function sentence

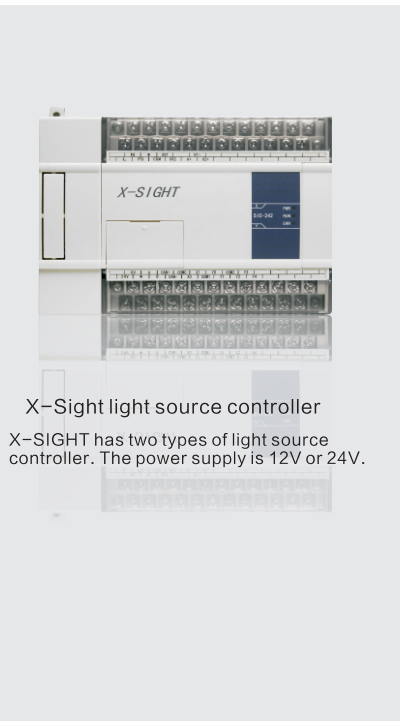
Models

Light source specification

Series	Model	Colors	Angle	Dimension
 Ring light	SI-RI140090W	white	90°	diameter140mm
	SI-RI103000R/B/W/U/I	Red/blue/white/UV/Infrared	0°	diameter103mm
	SI-RI090030B/W/I	White/infrared	30°	diameter90mm
	SI-RI100080W/I	White/infrared	80°	diameter80mm
 Area light source	SI-FL133127R/B/W/G	red/blue/white/green		133*127mm
	SI-FL118082R/B/W/G	red/blue/white/green		118*82mm
	SI-FL073050R/B/W/G	red/blue/white/green		73*82mm
 Strip light source	SI-LI150020R/B/W/U/I	red/blue/white/UV/Infrared		150*20mm
 Integrating sphere light source	SI-RID100050W	white		100*50mm
 Coaxial light source	SI-CO065025R	red		65*40mm
	SI-CO090040B	Blue		90*70mm
	SI-CO097050B	Blue		97*50mm
	SI-CO120070R/B	Red/blue		120*70mm
 Combination light source	SI-LIM150020R/B/W	red/blue/white		206*206mm

Lens specification

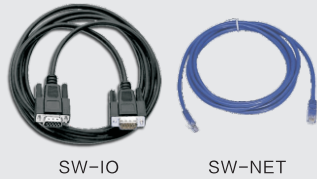
Series	Model	Focal length or amplified factor	Resolution	Interface
 FA fixed focus lens	SL-FA04FM	4mm	One million	C
	SL-FC08FM	8mm	One million	C
	SL-FC16FM	16mm	One million	C
	SL-FC25FM	25mm	One million	C
	SL-FC35FM	35mm	One million	C
	SL-FC50FM	50mm	One million	C
	SL-FK08F2M	8mm	two million	C
	SL-FK12F2M	12mm	two million	C
 CCTV lens	SL-CC28VM	2.8-12mm		CS
 Telecentric lens	SL-TC55FM	55mm	One million	C
 Micro lens	SL-MH12X	1.2 times	One million	C
	SL-MC03XM	3 times		C



X-Sight light source controller
X-SIGHT has two types of light source controller. The power supply is 12V or 24V.



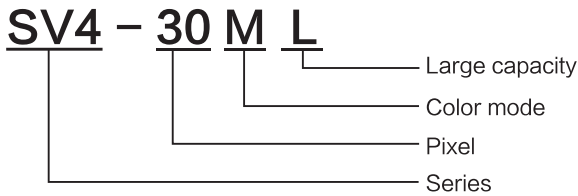
Machine vision intelligent terminal
Output the real-time image



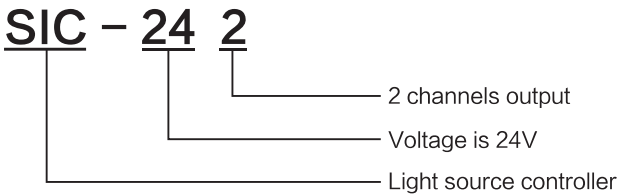
Cable
X-SIGHT has two types of cable. They are SW-IO and SW-NET.

Model

Camera model naming rule



Light source controller model naming rule



Camera specification

Spec	Model	SV3-30ML	SV4-30ML	SV4-30CL	SV4-120ML	SV4-500ML
Camera collection	Resolution (pixel)	640*480 300 thousand pixel	640*480 300 thousand pixel	640*480 300 thousand pixel	1280*960 1.2 million pixel	2560*1920 5 million pixel
	Color mode	black and white	black and white	color	black and white	black and white
	Sampling unit	1/3inchesCCD	1/3inchesCMOS	1/3inchesCMOS	1/2inchesCMOS	1/2.5inchesCMOS
	Pixel dimension (μm)	7.4*7.4	6.0*6.0	6.0*6.0	5.2*5.2	2.2*2.2
	Pixel bit (2")	8	8	24	8	8
	Exposure mode	global exposure	global exposure	global exposure	rolling exposure	rolling exposure
	The max frame rate (fps)	15	60	60	30	15
	Shutter time (ms)	0.1-15	0.1-200	0.1-200	0.1-200	0.1-200
Communication	Capacity (M)	40	40	40	40	40
	Interface	RJ45/RS485	RJ45/RS485	RJ45/RS485	RJ45/RS485	RJ45/RS485
I/O	Protocol	Modbus-485 Modbus-TCP	Modbus-485 Modbus-TCP	Modbus-485 Modbus-TCP	Modbus-485 Modbus-TCP	Modbus-485 Modbus-TCP
	Input terminal	2	2	2	2	2
Working	Output terminal	5	5	5	5	5
	Working temperature (°C)	0-50	0-50	0-50	0-50	0-50
	Storage temperature (°C)	-10-60	-10-60	-10-60	-10-60	-10-60
Mechanical parameters	Working voltage (V)	24	24	24	24	24
	Dimension (mm)	118*60*43	118*60*43	118*60*43	118*60*43	118*60*43
Electrical parameters	Weight (g)	290	290	290	290	290
	The max power (W)	5.3	5.3	5.3	5.3	5.3
Software	The max current (mA)	220	220	220	220	220
	The max tool numbers	64	64	64	64	64

Light source controller specification

Spec	Model	SIC-242	SIC-122
Light source control part	Light source control channel	2	2
	Output voltage	24V DC	12V DC
	Control mode	communication/simulation	communication/simulation
	Communication protocol	MODBUS-485	MODBUS-485
	Baud rate	38400/57600/115200 bps	38400/57600/115200 bps
	The max output current	400mA DC	400mA DC
Camera control part	Input terminal	2	2
	Output terminal	5	5
	Communication interface	MODBUS-485	MODBUS-485
	Baud rate	38400/57600/115200 bps	38400/57600/115200 bps
	Power supply	24V DC	24V DC
	Working temperature	0-50	0-50
Working	Storage temperature	-10-60	-10-60
	Power supply voltage	220V AC	220V AC
Mechanical parameters	Dimension (mm)	139.0*110.0*73.3	139.0*110.0*73.3

Machine vision intelligent terminal specification

Spec	Model	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 color		
	Memory	128M		
External Interface	PLC port	RS232/RS422/RS485		
	Download port	RS232/RS485		
	USB port	Standard USB2.0 interface (USB-A, USB-B standard)		
Electrical features	Ethernet port	Standard RJ45 interface		
	Input voltage	DC24V (voltage range: DC20-28V)		
Structure	Current consumption	250mA	230mA	220mA
	Mounting dimension	260.2*179.7	211.4*157.8	192.0*138.5