



isense

“

Accelerating  
your adoption  
of digital  
transformation  
in an Industry 4.0 age

”

# SMART AI VISION

## FOR A BETTER TOMORROW

Our smart AI vision technology helps you to make better QC process thus allowing you to operate your factory more efficiently which then leads to increased productivity.

IR 4.0  
SOLUTION

## LEADER PROVIDER

Provides a user friendly solutions that speeds up your production process. You will receive expert's advices and suggestions on how to automate your factory.

# HIGHLY EFFICIENT VISION INSPECTION SYSTEM POWERED BY AI & MACHINE LEARNING ALGORITHMS

The best solutions for product validation, minimum human error invention that meet the specification & requirements as desired.

## SMART AI VISION INSPECTION SYSTEM

We offers commercial functional test systems for a broad range of industrial manufacturing test applications. Designed for production testing, our solutions are optimized for throughput, reliability, repeatability, and cost.

### STATE-OF-THE-ART TECHNOLOGY



Machine learning algorithms.  
Self-learned classification.

### INCREASE PRODUCTIVITY



High throughput & automated  
processing.  
Instant data recording.

### SEAMLESS INTEGRATION

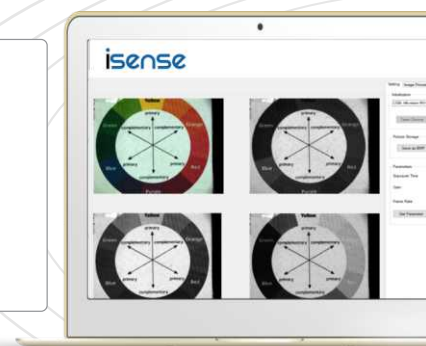


IR 4.0 Ready  
Customizable to existing workflow.

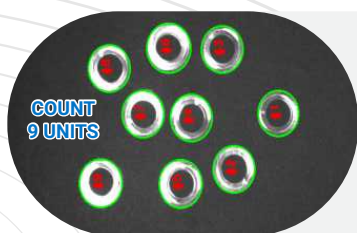
### CONSISTENT RESULTS



100% QC Check  
Eliminate human errors.



## Product Benefits



### Object Counting

- Count the number of sample in seconds, support major camera system available on market. Support customization and can easily be integrated to any process, machine or equipment.

### Offset Measurement

- User configurable tolerance for the inspected parts. Offset measurement up to 0.01mm within seconds and the overall results are available in a glance.

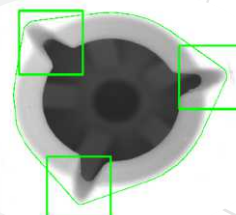


### Template Matching

- An efficient solution for QC test with the capability of setting golden sample for similarity comparison within seconds. The system equipped with easy to read "PASS" & "FAIL" indication, clear, message for process owner to judge.

### Smart Defect Detection

- Simple and ease setup with user configurable tolerance for the inspected parts. Capable of detecting defects that are complex in nature within seconds and the overall results are available in a glance.



# REALIZE THE SMART FACTORY TRANSFORMATION

Adoption of Digital Transformation in IR 4.0 with Smart AI Vision Inspection

## SMART AI VISION INSPECTION

Simple and ease setup with user configurable tolerance for the inspected parts.  
Automatically inspect objects within seconds and the overall results are available in a glance.

### TEST RESULTS IN A GLANCE



Shown overall results inclusive  
passed, failed, total, yield,  
offset dx and dy

### TAILORED TO ANY SAMPLE



Customized sample jig based on  
client's needs

### OPERATOR FRIENDLY UI



Powerful yet simple  
vision inspection system

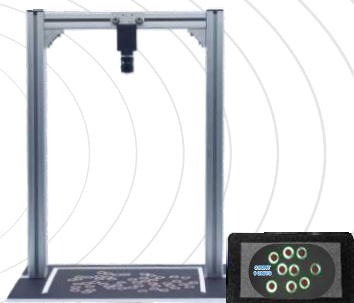
### INDUSTRY REVOLUTION 4.0 READY



End-to-end traceability.  
Data visualization for quick  
decision making.

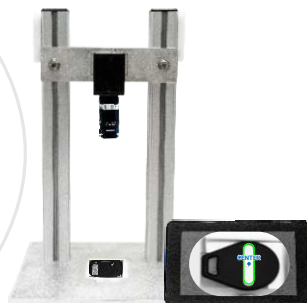
## HOW IT WORKS?

### S3000



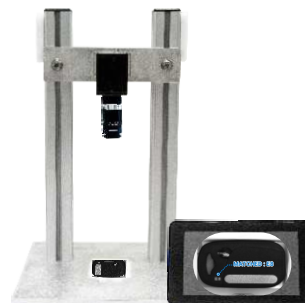
#### OBJECT COUNTING

### S3100



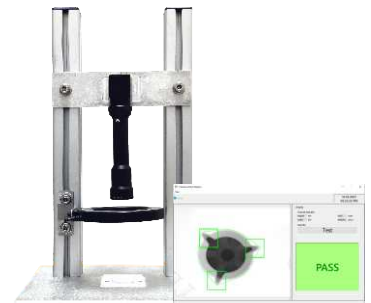
#### OFFSET MEASUREMENT

### S3200



#### TEMPLATE MATCHING

### S3300



#### ADVANCED DEFECT DETECTION

1

User configures the software to determine the type of vision inspection.  
Device under test (DUT) is placed into the camera jig to conduct the inspections.  
Object counting is done in real time with highly efficient algorithm.

2

Overall test results are shown in software UI in a glance, inclusive of yield (%),  
total passed, failed and also the inspected parameters. The inspected results  
will also be stored digitally in the system.



# REALIZE THE SMART FACTORY TRANSFORMATION

Adoption of Digital Transformation in IR 4.0 with Smart AI Vision Inspection

## S3000 SMART AIV OBJECT COUNTING

The best solution for defect detection and quality control validation.  
Minimize human error and maximize production yield while preserving the best quality.



### HIGHLY EFFICIENT



Count the number of sample in seconds

### INCREASE PRODUCTIVITY



High throughput & automated process with convincing result

### CONSISTENT RESULTS



100% QC Check  
Eliminate human errors.

## PRODUCT SPECIFICATIONS

GENERAL	CLIENT SOFTWARE	Smart Object Counting 2021
	OPERATING SYSTEM	LINUX
	DIMENSIONS & WEIGHT	480 (L) * 360 (W) * 608(H) mm & 10 kg
	REGION OF INTEREST	250 (L) * 320 * (W) * 25 (H) mm
	OPERATING VOLTAGE	5.1V DC
	OPERATING CURRENT	3.0A
	SENSOR	1.3 MP, 1/3" CCD, Area Scan Mono Camera
	PIXEL SIZE	3.75 $\mu\text{m}$ * 3.75 $\mu\text{m}$
	RESOLUTION	1280 * 960 pixel
	MAX. FRAME RATE	30 frame per second (fps)
CAMERA	EXPOSURE TIME	10 $\mu\text{s}$ to 1 s
	WORKING TEMPERATURE	Working temperature: 0 °C to 50 °C
	HUMIDITY	20% to 80% RH, without condensation

Simple and ease setup with user configurable tolerance for the inspected parts. Automatically count objects within seconds and the overall results are available in a glance.

## SYSTEM CONFIGURATION

Area Scan 1.3MP Mono Camera



6mm f/2.8-16 Prime Lens



Robust Camera Fixture



Embedded System & Software



# REALIZE THE SMART FACTORY TRANSFORMATION

Adoption of Digital Transformation in IR 4.0 with Smart AI Vision Inspection

## S3100 SMART AIV OFFSET MEASUREMENT

The best solution for defect detection and quality control validation.  
Minimize human error and maximize production yield while preserving the best quality.

### CONFIGURABLE TOLERANCE



High precision offset measurement with user configurable tolerance

### INCREASE PRODUCTIVITY



High throughput & automated process with convincing result

### CONSISTENT RESULTS



100% QC Check  
Eliminate human errors.



Simple and ease setup with user configurable tolerance for the inspected parts. Offset measurement up to 0.01mm within seconds and the overall results are available in a glance.

## PRODUCT SPECIFICATIONS

GENERAL	CLIENT SOFTWARE	Smart Offset Measurement 2021
	OPERATING SYSTEM	LINUX
	DIMENSIONS & WEIGHT	260 (L) * 200 (W) * 392(H) mm & 8 kg
	REGION OF INTEREST	80 (L) * 80 * (W) * 40 (H) mm
	OPERATING VOLTAGE	5.1V
	OPERATING CURRENT	3.0A
CAMERA	SENSOR	1.3 MP, 1/3" CCD, Area Scan Mono Camera
	PIXEL SIZE	3.75 $\mu$ m * 3.75 $\mu$ m
	RESOLUTION	1280 * 960 pixel
	MAX. FRAME RATE	30 frame per second (fps)
	EXPOSURE TIME	10 $\mu$ s to 1 s
	WORKING TEMPERATURE	Working temperature: 0 $^{\circ}$ C to 50 $^{\circ}$ C
	HUMIDITY	20% to 80% RH, without condensation

## SYSTEM CONFIGURATION

### Area Scan 1.3MP Mono Camera



+

### 16mm f/1.6-16 Prime Lens



+

### Robust Camera Fixture



+

### Embedded System & Software



# REALIZE THE SMART FACTORY TRANSFORMATION

Adoption of Digital Transformation in IR 4.0 with Smart AI Vision Inspection

## S3200 SMART AIV TEMPLATE MATCHING

The best solution for defect detection and quality control validation.  
Minimize human error and maximize production yield while preserving the best quality.

### GOLDEN SAMPLE MATCHING



High precision template matching  
with golden sample for  
defect detection

### INCREASE PRODUCTIVITY



High throughput & automated  
process with convincing result

### CONSISTENT RESULTS



100% QC Check  
Eliminate human errors.



An efficient solution for QC test with the capability of setting  
golden sample for similarity comparison within seconds.

The system equipped with easy to read **PASS & FAIL**  
indication, clear, message for process owner to judge.

## PRODUCT SPECIFICATIONS

GENERAL	CLIENT SOFTWARE	iSense Template Matching 2021
	OPERATING SYSTEM	LINUX
	DIMENSIONS & WEIGHT	260 (L) * 200 (W) * 392(H) mm & 8 kg
	REGION OF INTEREST	80 (L) * 80 * (W) * 120 (H) mm
	OPERATING VOLTAGE	5.1V
	OPERATING CURRENT	3.0A
	SENSOR	1.3 MP, 1/3" CCD, Area Scan Mono Camera
	PIXEL SIZE	3.75 $\mu$ m * 3.75 $\mu$ m
	RESOLUTION	1280 * 960 pixel
	MAX. FRAME RATE	30 frame per second (fps)
CAMERA	EXPOSURE TIME	10 $\mu$ s to 1 s
	WORKING TEMPERATURE	Working temperature: 0 °C to 50 °C
	HUMIDITY	20% to 80% RH, without condensation

## SYSTEM CONFIGURATION

### Area Scan 1.3MP Mono Camera



### 16mm f/1.6-16 Prime Lens



### Robust Camera Fixture



### Embedded System & Software





# REALIZE THE SMART FACTORY TRANSFORMATION

Adoption of Digital Transformation in IR 4.0 with Smart AI Vision Inspection

## S3300 SMART AIV ADVANCED DEFECT DETECTION

The best solution for defect detection and quality control validation.  
Minimize human error and maximize production yield while preserving the best quality.



Simple and east setup with user configurable tolerance for the inspected parts. Capable of detecting defects that are complex in nature. within seconds and the overall results are available in a glance.

### MACHINE LEARNING



Detecting defects that are complex in nature

### INCREASE PRODUCTIVITY



High throughput & automated process with convincing result

### CONSISTENT RESULTS



100% QC Check  
Eliminate human errors.

## PRODUCT SPECIFICATIONS

C A M E R A	CLIENT SOFTWARE	Smart Defect Detection 2021
	OPERATING SYSTEM	LINUX
	DIMENSIONS & WEIGHT	260 (L) * 200 (W) * 392(H) mm & 8 kg
	REGION OF INTEREST	80 (L) * 80 * (W) * 100 (H) mm
	OPERATING VOLTAGE	5.1V
	OPERATING CURRENT	3.0A
	SENSOR	5.0 MP 2/3" CMOS USB 3.0 Mono Camera
	PIXEL SIZE	3.45 μm * 3.45 μm
	RESOLUTION	2448 * 2048 pixel
	MAX. FRAME RATE	35 frame per second (fps)
G E N E R A L	EXPOSURE TIME	50 μs to 10 s
	WORKING TEMPERATURE	Working temperature: 0 °C to 50 °C
	HUMIDITY	20% to 80% RH, without condensation

## SYSTEM CONFIGURATION

### Area Scan 5.0MP Mono Camera



### 110mm 0.5X Telecentric Lens



### Robust Camera Fixture



### AI Workstation System & Software



# HIGHLY EFFICIENT VISION INSPECTION SYSTEM POWERED BY AI & MACHINE LEARNING ALGORITHMS

The best solutions for product validation, minimum human error invention that meet the specification & requirements as desired.

## SMART AIV OPTIONAL ACCESSORIES

### Camera Fixture Customization



### Sample Jig Customization



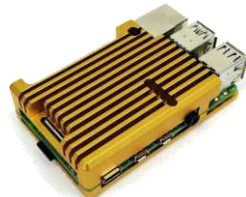
### Visual Inspection Workstation



### Embedded System



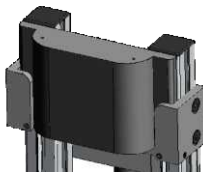
### Fanless Embedded System



### Embedded System 7" Touch Screen



### Embedded System Holder



### 6" LED Fill Light with Fixture



### 60cm \* 60cm Lighting Tent



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