



Make inspection **“More Precise, Faster, and Brighter”** with iCore’s Products

icore



INNOVATION TO THE CORE

Innovation to the Core

iCore develops and manufactures high-end machine vision components and modules.

We seek to provide the best solutions used by customers with confidence by developing innovative products and technologies to meet the increasing demands.



Established
2019. 03



Location
South of Korea



Main Products
**Machine vision
Component & Module**



No. of MV Experts
21



No. of Patents
34

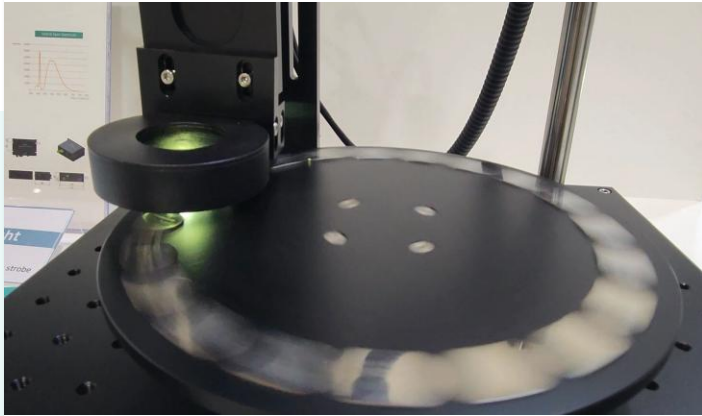


Funds Raised
USD 4M

Philosophy of iCore

Improve inspection capability and productivity via More Accurate, Brighter, and Faster

Strobe Controller (iPulse)



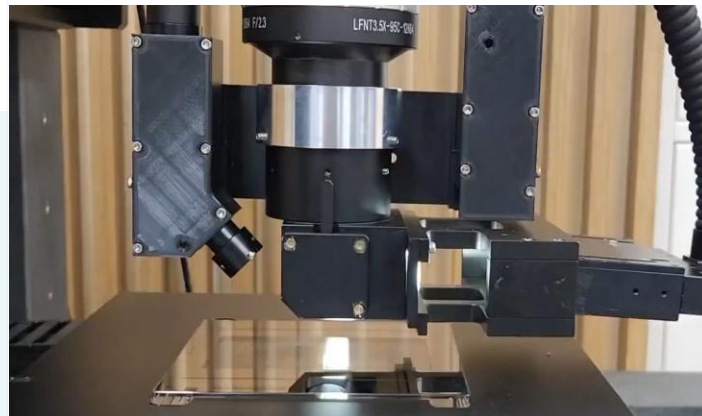
More Faster x4 Inspection Speed



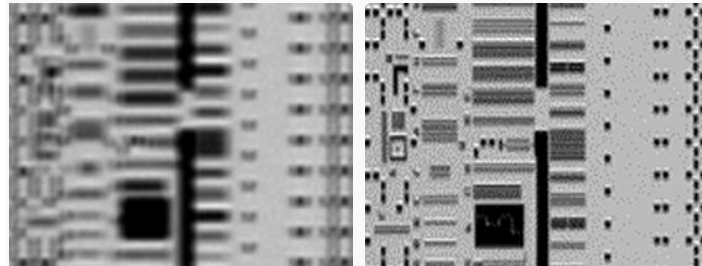
Flying Mode OFF

Flying Mode ON

Auto Focus Module (iFocus)



More Accurate Real Time Tracking



AF OFF

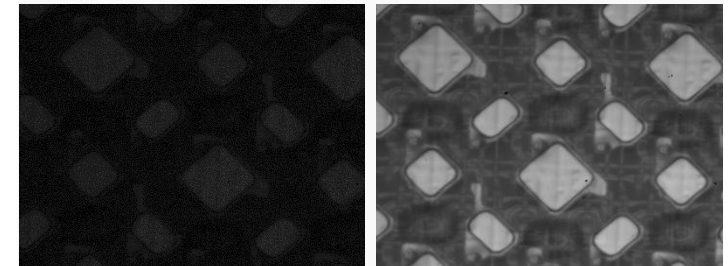
AF ON

Hybrid Spot Light (iLight)



LED ON, Laser OFF

More Brighter x30 than LED



LED ON, Laser OFF

LED ON, Laser ON

History of iCore

2019

- Established iCore Co., Ltd.
- Launched **iPlus**



2020

- Selected for Promising S&M Exporters
- Launched **iPulse**



2021

- First Penguin Company from (KODIT)
- Launched **iLight**

iFocus



2024

- Selected for the Si-Tech Innovation Award Program
- Korean Government R&D Project (US\$ 3M)

2023

- Korean Advanced startup 1000+
- Attract investment from VC(US\$ 4M)
- GSI ISO 9001/14001 certification

2022

- Selected for 100 Materials, Parts and Equipment Startups
- Received SPLASH Award, 2022
- Awarded a minister prize from the Ministry of Science and ICT(MSIT) Grand Prize
- Winner of K-Challenge Start up in 2022 (Best Prize)

Patents & Certifications

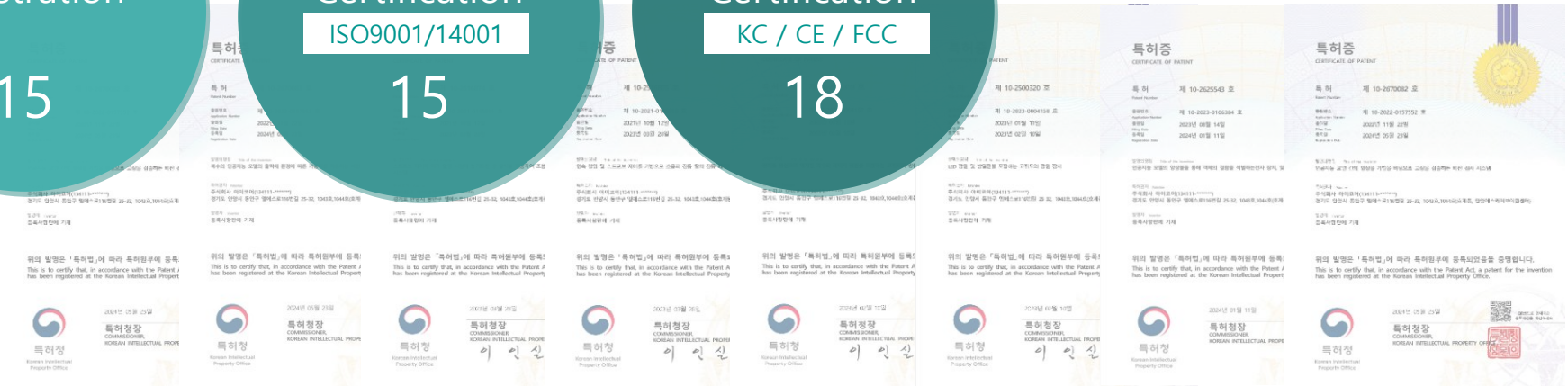
34 patent applications (15 registered), 18 product certifications and compliances

Patents Application
34

Patents Registration
15

Corporate Certification
ISO9001/14001
15

Product Certification
KC / CE / FCC
18



Supply's Declaration of Con

Product Description: Model/Brand Name: Variant Model: FCC Part 15 Subpart B Class 2 Part 15.005(a) A, Part 15.005(a) B

Applicant Name: iCore Co., Ltd. 141-18, Box 1043, 25-52, 1-6m, Jm. Anseong-gi, Chungcheong-do

Manufacturer Name: iCore Co., Ltd. 141-18, Box 1043, 25-52, 1-6m, Jm. Anseong-gi, Chungcheong-do

Test Report Reference No.: 829-24-011001

Customer's End Report: Model: IP49K-20A, has been tested in accordance with the provisions specified in FCC Part 15 Subpart B, Class 2, and has been shown to comply with the requirements of the FCC Rule Part 15.005(a) B, Class 2, and has been tested for the sample tested based on the reference test report, 829-24-011001

Responsible Party - U.S. Contact Information: Company Name: iCore Co., Ltd. Company Address: 140-70-7000-1431, 1-6m, Jm. Contact name: 1-6m Jm

Date of Issue: Dec. 15, 2020

Signature:

iCore Co., Ltd. 141-18, Box 1043, 25-52, 1-6m, Jm. Anseong-gi, Chungcheong-do, Korea

Supplier's Declaration of Co

Product Description: Model/Brand Name: Variant Model: FCC Part 15 Subpart B Class 2 Part 15.005(a) B, Part 15.005(a) A

Applicant Name: iCore Co., Ltd. 141-18, Box 1043, 25-52, 1-6m, Jm. Anseong-gi, Chungcheong-do

Manufacturer Name: iCore Co., Ltd. 141-18, Box 1043, 25-52, 1-6m, Jm. Anseong-gi, Chungcheong-do

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방송통신기자재등의 적합성
Registration of Broadcasting and Communication

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EU Declaration of Conformity

ATTESTA
According to
with European

Product Name: Model Name: Variant Model Name: Applicant: Address: Manufactured at:

The related sample of the above equipment has been tested in accordance with the provisions of the EMC Directive and related standards, and it has been shown to comply with the requirements of the EMC Directive and related standards.

EN IEC 61000-4 EN IEC 61000-6-4

EU Declaration of Conformity

ATTESTA
According to
with European

Product Name: Model Name: Variant Model Name: Applicant: Address: Manufactured at:

The related sample of the above equipment has been tested in accordance with the provisions of the EMC Directive and related standards, and it has been shown to comply with the requirements of the EMC Directive and related standards.

EN IEC 61000-4 EN IEC 61000-6-4

GSI Certify

ENVIRONMENTAL MANAGEMENT

iCore Co., Ltd.

ISO 14001:2015

Competence, Harmony, Innovation

GSI Certificate

QUALITY MANAGEMENT SYSTEM

iCore Co., Ltd.

ISO 9001:2015

Competence, Harmony, Innovation



inVISION NEWS

INVISION TOP INNOVATION 2025

Home » inVISION » High-Speed LED Controller

High-Speed LED Controller



Image: Rauscher GmbH Bildverarbeitung

The high-performance LED controllers iPulse from iCore (distributed by Rauscher) can provide currents of over 200A with a pulse duration of less than 0.5µs. The sequencer function enables multi-strobing, i.e. up to eight sequences can be assigned to control eight LEDs individually with a trigger signal.

[Reference : inVISION NEWS]

4 Product Lineups

iCore developed 4 types of key components and modules with world-class performance and has been mass-producing about 80 products.

Strobe Controller



iPulse

- High Current Driving Performance(World Best)
- Suitable for On-the-Fly Inspection
- Ultra-precision control (0.5us)

Auto-focus Module



iFocus

- Real-time Auto Focus
- Precision (below 1um)
- Wide range of detection
- Through The Lens (TTL) Type / External Laser Triangulation Type

High Brightness Lighting



iLight

- Laser+LED Technology with 1,600W Brightness
- 30 times brighter
- Ultra-precision control (0.25us)

Repeater & Splitter



iPlus

- Maximum transmission distance (more than 2 times)
- Maximum transmission speed
- Stable data transmission



Strobe Controller

iPulse

Strobe Controller - iPulse



- **High-power LED controller**

Designed for machine vision applications with iCore's unique expertise

- **High-speed, high-efficiency current control**

Generates ultra-precise pulses of 0.5µs at 200A current.

- **Advantages in High-speed Inspection**

Enables precise lighting control and clear imaging



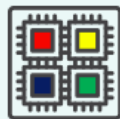
Over-driving

Over-driving to maximize LED performance



High capacity

High speed pulse generation of not longer than 0.5us at a current of up to 200A



Multi Sequence

Multi-strobing imaging function with the sequence function



< 0.5us

Fast Current Response

World's Highest Response Speed



Auto Voltage

Reduction of heat generation and Wide power supply selection



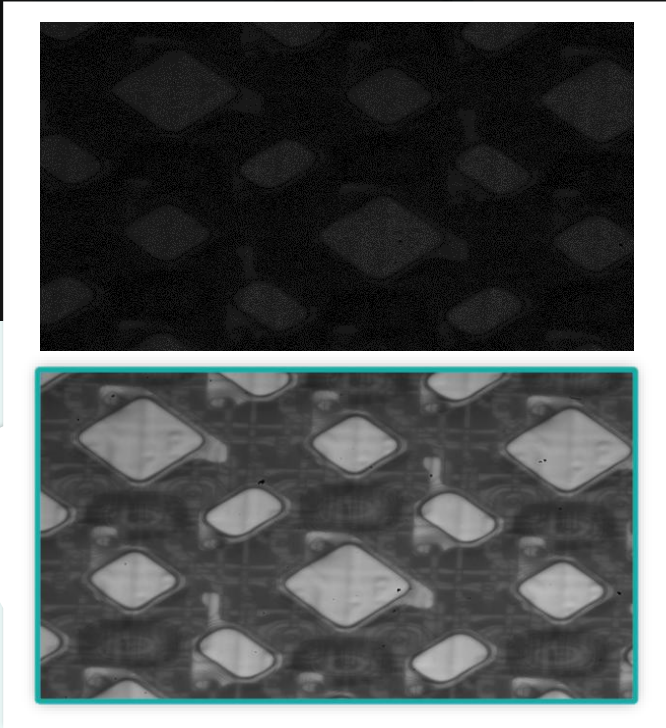
LED Protection

LED protection by automatically adjusting the current drive waveform

Strobe Controller - iPulse



- **High-power LED controller**
Designed for machine vision applications with iCore's unique expertise
- **High-speed, high-efficiency current control**
Generates ultra-precise pulses of $0.5\mu\text{s}$ at 200A current.
- **Advantages in High-speed Inspection**
Enables precise lighting control and clear imaging



Over-driving

Over-driving to maximize LED performance

Strobe Controller - iPulse

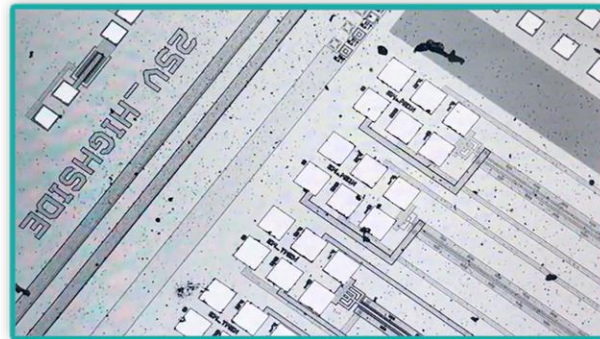


- High-power LED controller
Designed for machine vision applications with iCore's unique expertise
- High-speed, high-efficiency current control

precise pulses of 0.5µs at 200A current.

Applications in High-speed Inspection

Lighting control and clear imaging



MAX

200A

High capacity

High speed pulse generation of not longer than 0.5µs at a current of up to 200A

Strobe Controller - iPulse



- **High-power LED controller**

Designed for machine vision applications with iCore's unique expertise

- **High-speed, high-efficiency current control**

Generates ultra-precise pulses of 0.5µs at 200A current.

- **Advantages in High-speed Inspection**

Enables precise lighting control and clear imaging



Over-driving

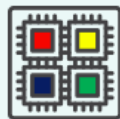
Over-driving to maximize LED performance

MAX



High Capacity

High speed pulse generation of not longer than 0.5us at a current of up to 200A



Multi Sequence

Multi-strobing imaging function with the sequence function



< 0.5us

Fast Current Response

World's Highest Response Speed



Auto Voltage

Reduction of heat generation and Wide power supply selection



LED Protection

LED protection by automatically adjusting the current drive waveform

iPulse - Performance Comparison

■ LineScan camera's Application – Maximum Frequency

iCore	
Model	Max. Frequency
IP-1P1S-20A	300kHz
IP-1P1S-50A	300kHz
IP-1P1S-100A	300kHz
IP-2P2S-20A	300kHz
IP-2P2S-50A	300kHz
IP-2P2S-100A	300kHz
IP-4P4S-20A	300kHz

Gardasoft	
Model	Max. Frequency
RCxxx	0.1kHz
RTxxx	1kHz
PP5xx	50kHz
PP4xx	50kHz
PP8xx	100kHz
PP16xx	100kHz
HT	100kHz

[Reference : Gardasoft Application Note]



300kHz	Max. Frequency	50-100kHz
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iPulse - Performance Comparison

■ Max Pulse Current and High Power LED

iCore	
Model	Max. Pulse Current
IP-1P1S-200A	200A
IP-2P2S-200A	200A
IP-2P2S-200B	200A

Gardasoft	
Model	Max. Pulse Current
HTxxx	50A
RTxxx / PP8xx / PP16xx	20A
PP4xx / PP5xx	10A

[Reference : Gardasoft Application Note]



200A	Max. Pulse Current	50A
80V	Max. LED Voltage	48V
9,600W	Max. Total Power	-

iPulse - Performance Comparison

■ Min. Pulse Width and Delay time

iCore	
Model	Min. Delay
All iPulse	0.5 μ s

Gardasoft	
Model	Min. Delay
RTxxxF	4 μ s to 10 μ s
PP8xx	4 μ s to 10 μ s
PP4xx / PP5xx	20 μ s
PP4xxF / PP5xxF	4 μ s to 10 μ s


[Reference : Gardasoft Application Note]



iPulse - Performance Comparison


■ Built In 'Sequence, Auto Voltage, LED Protection Function'

iCore



Multi Sequence


Multi-strobing imaging function



Fast Current Response


World's Highest Response Speed

Built-In on All iPulse



Led Protection

LED protection by automatically adjusting the current drive waveform



Auto Voltage

Reduction of heat generation and Wide power supply selection

Gardasoft

Model	SafeSense	SafePower
RC4xx	○	○
RT8xx	○	○
PP5xx	○	X
PP4xx	○	X
PP8xx	X	X
PP16xx	X	X
HTxxx	○	○

[Reference : Gardasoft Application Note]

iPulse - Line up

Offer a wide range of series to suit various applications

'A' Series



Short Pulse Width & Overdrive

1CH	2CH
1P1S-20A	2P2S-20A
1P1S-50A	2P2S-50A
1P1S-100A	2P2S-200A
	2P2S-200B
4CH	8CH
4P4S-20A	8P8S-20A
4P4S-50A	

'C' Series for Linescan



Strobe & Continuous Mode (No-Overdrive)

1CH	2CH
1P1S-2C	2P2S-2C
1P1S-5C	2P2S-5C
4CH	8CH
4P4S-3C	8P8S-3C

Low Speed Series



Long Pulse Width & Overdrive

1CH	4CH
1P1S-200A	1P4S-20A
	1P4S-50A
	1P4S-100A

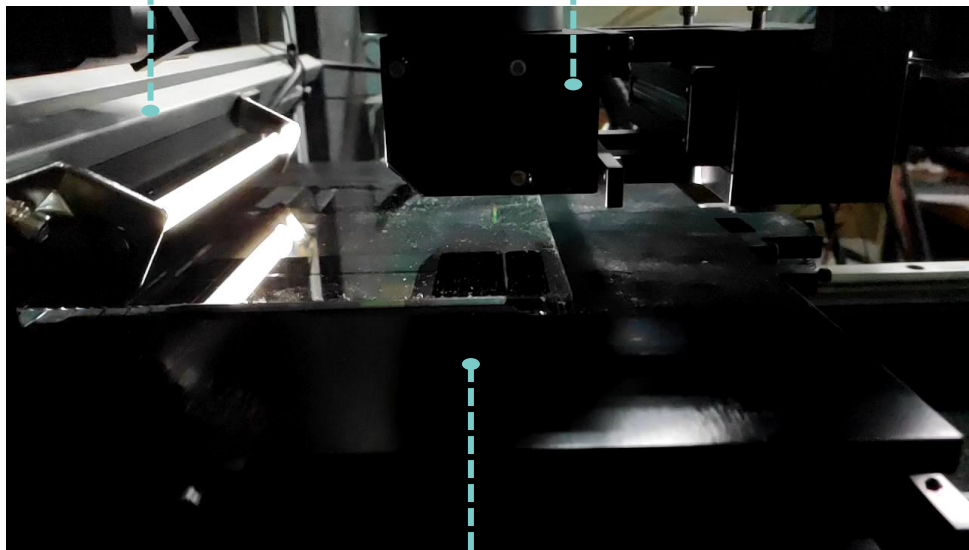
iPulse - Demonstration

Multistrobing Demonstration

Multi strobing using 3 lights

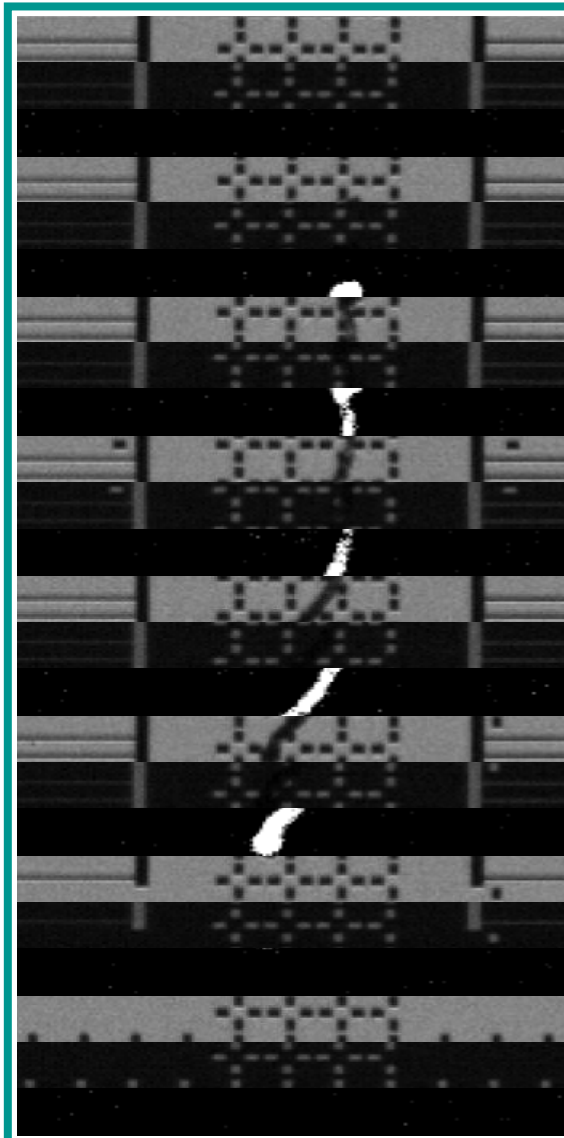
Side light

Coaxial light



Back light

Image Buffer



Back Light

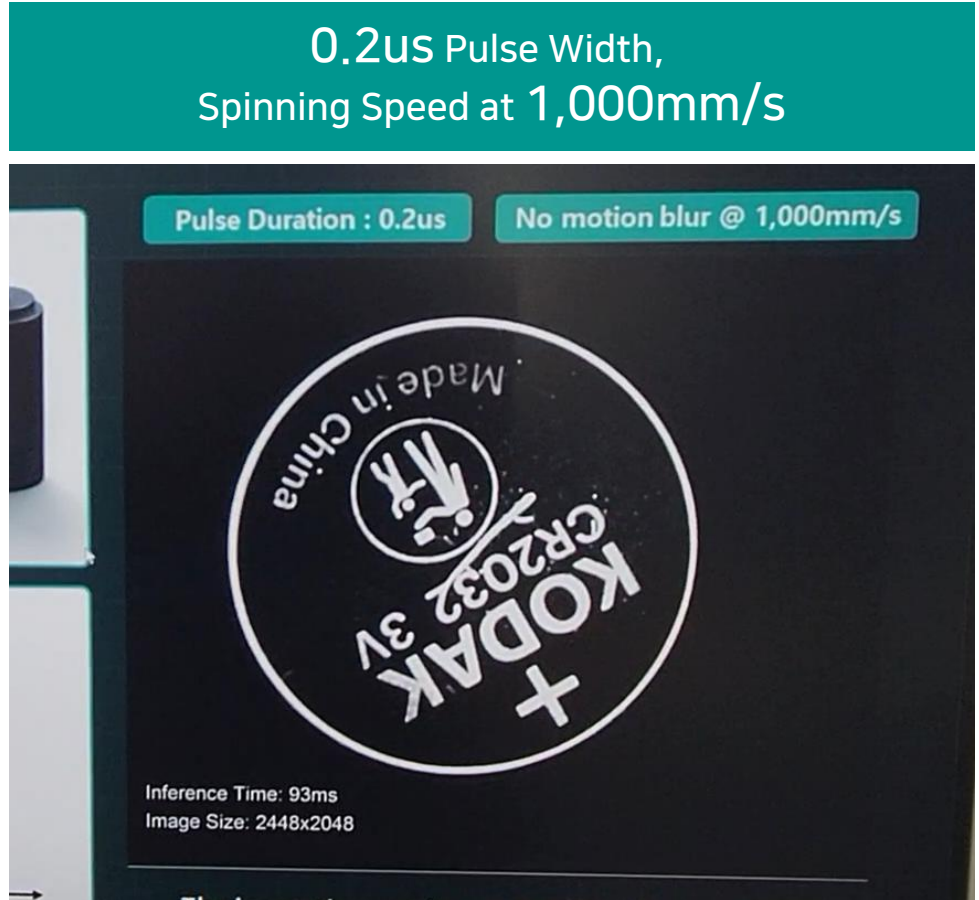
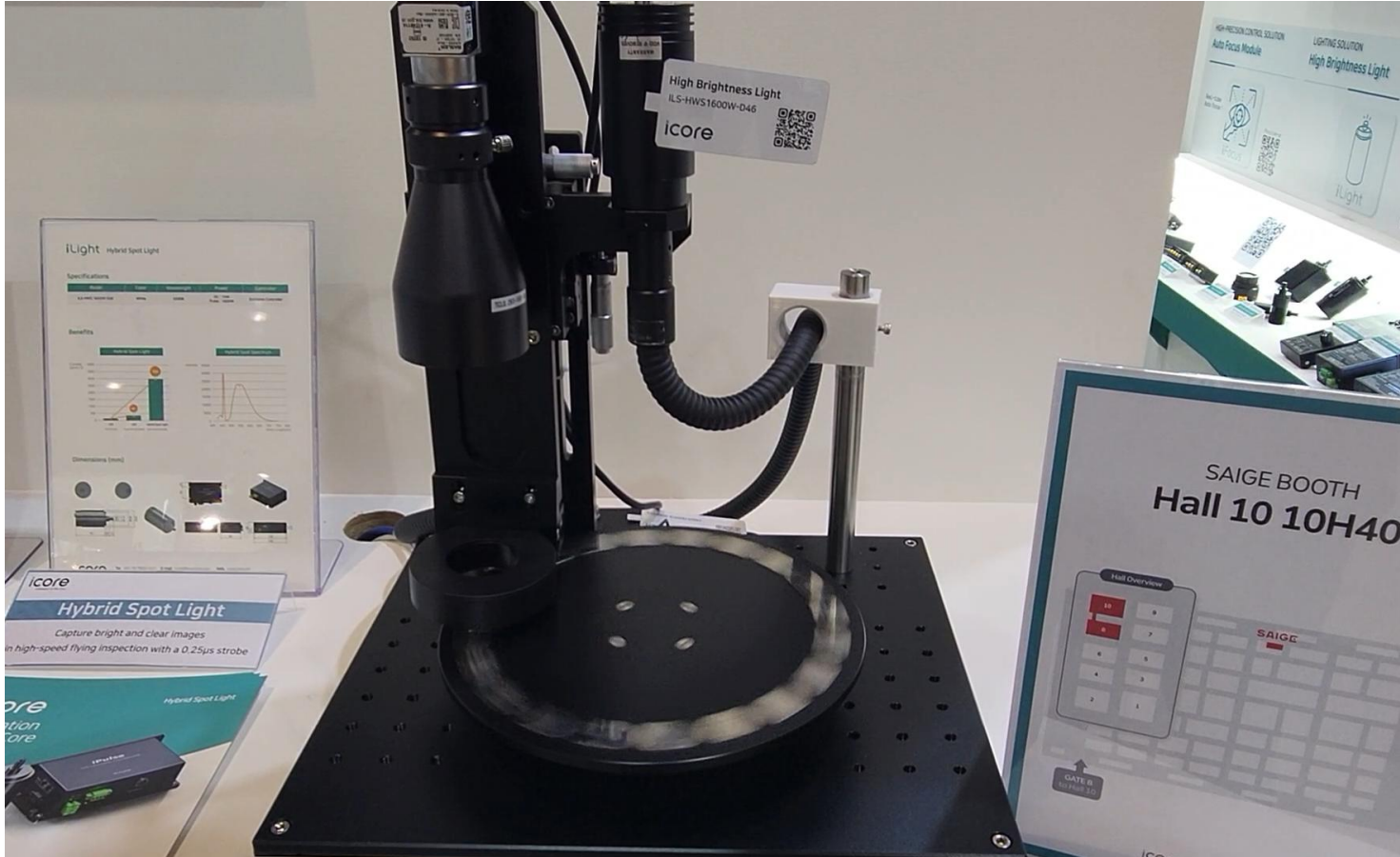
Coaxial Light

Side Light



iPulse - Demonstration

On The Fly applications, providing a complete image at travel speeds up to 1000 mm/s.



iPulse - COM Series (TBD)

Powerful, cost-effective products



Feature

- 0.5 μ s high-speed response
- Up to 10 \times overdrive
- Cost-effective product
- Min. Pulse Width 4 μ s
- Max. Frequency 70kHz
- individual channel triggering

Sample will be available within 2Q 2025

Lineup

2CH	4CH	8CH	16CH
IP-COM0202	IP-COM0402	IP-COM0802	IP-COM1602
IP-COM0210	IP-COM0410	IP-COM0810	IP-COM1610
IP-COM0220	IP-COM0420	IP-COM0820	IP-COM1620

PERFORMANCE



iPulse - Performance Comparison

Powerful Performance at a Competitive Price Compared to Other Brands

iCore (COM Series)



Min. Pulse Width	4 μ s
Max. Current	20A
Delay Time	0.5 μ s
Max. Frequency	70kHz

Gardasoft (PPXXX)



Min. Pulse Width	4 μ s
Max. Current	20A
Delay Time	8 μ s
Max. Frequency	70kHz

Min. Pulse Width
Max. Current
Delay Time
Max. Frequency



High Brightness Light

iLight

High Brightness Light - iLight



- **Ultra-High-Brightness Lighting Solution**

An alternative to standard LED and xenon lamps

- **The optimal solution for high-speed, high-magnification inspection when paired with iPulse (strobe controller)**

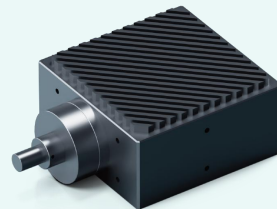
- **Offers a diverse lineup of high-brightness lighting solutions**

Includes Hybrid Spot Light with Laser and LED technology and high-brightness Spot Lights with a 0.5µs response time.

Line up



Hybrid Spot Light



RGB Spot Light



LED Spot Light
(29mm)



High Power LED Spot Light
(45mm)

iLight - Hybrid Spot Light (M1)

Hybrid Spot Light combining Laser and LED, offering an alternative to standard LED and xenon lamps



Feature

- **Hybrid Spot Light with Laser and LED**
An alternative to standard LED and xenon lamps
- **Superior Brightness and Long Lifespan**
30 times brighter than standard LEDs with a stable 10,000-hours lifespan
- **Advantages in High-speed, High-magnification Inspection**
Enables precise lighting control and clear imaging

Line up

Model	Color	Wavelength	Power	Controller
ILS-HWS1600G-D46	Green	540nm	DC : 10W Pulse : 1600W	IP-HYBRID-M1
ILS-HWS1600W-D46	White	5500K	DC : 10W Pulse : 1600W	IP-HYBRID-M1



iLight - Performance Comparison

iCore (Hybrid Spot M1)



XENON (NP-3/NPL-180)



Not required	
	Good
	Good
	Good
	Mid
10,000 ~ 30,000H	

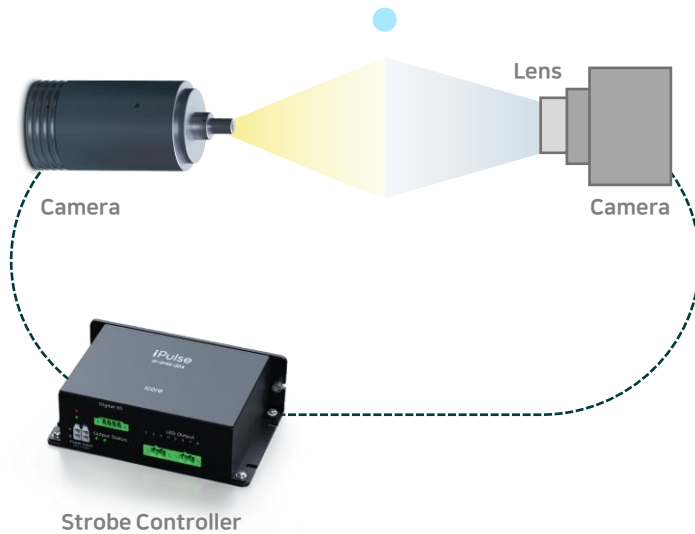
Charging
 Brightness
 Modularization
 Power Consumption
 Cost
 Lifespan

Required	
Good	
NG	
NG	
High	
1,000~3,000H	

iLight - Application

Drop Watcher - iCore's lighting solutions are optimized for high-speed, high-precision inspection.

[Drop Watcher Application]




Ultra-bright and ultra-short pulsed illumination


Dong-Youn Shin@PKNU 10/32

- Ultra-bright and ultra-short pulsed LED and LEP (Laser Excited Phosphor) strobe and controller
 - Light source: ILS-HWS1600W-D46 (DC 10 W, pulse 1600 W)
 - Controller: M1 strobe controller

Color	White(5500K)
Max. Continuous Power	10W
Max. Pulsed Peak Power	1600W
Pulse Width Range	250 ns ~ 1 sec
Max. Switching Frequency	300 kHz
Brightness Continuous	0 ~ 100% adjustable
Brightness Pulsed	0 ~ 1000% adjustable
Head diameter	8 mm
Output Spot Size	3.5 X 3.5 mm
Output Angle (with polishing Rod lens)	30°
Output Angle (with non-polishing Rod lens)	40°
Input Voltage	12 ~ 48V



Source: https://icorecorp.com/page/sub_03_04.php



International Printing Technology Association
New Technology Registration

Presentation at APT 2024
(Advances in Printing Technology)



iLight - Hybrid Spot Light (M2)

PRELIMINARY

NEW



Feature

3X brighter than Hybrid Spot light M1

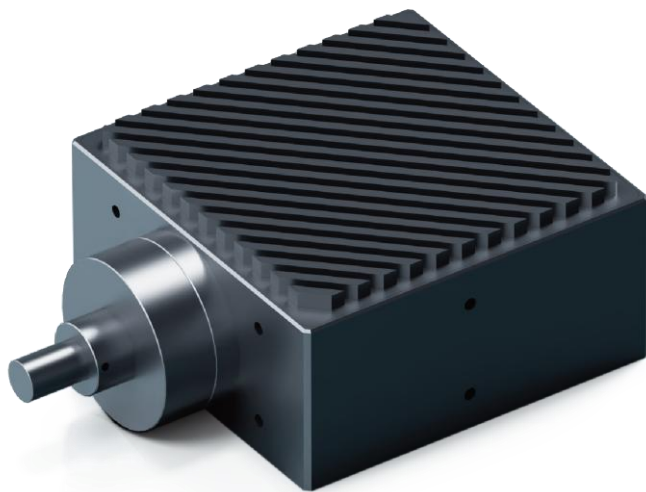
Sample will be available within 2Q 2025

Line up

Model	Color	Wavelength	Power	Controller
ILS-HWS4800W-S46	White	5500K	4800W@Pulsed	IP-HYBRID-M2

iLight - RGB Spot Light Coaxial

High Brightness Spot Light with Independent RGB Control



Feature

- **Various Color Output**

Generates diverse light colors through individual or combined RGB control
Capable of detecting various defects

- **Compact Design**

With its compact product size, it can be combined with iPulse for stable use

Line up

Model	Color	Wavelength	Power	Controller
ILS-RGB80A-COA	RGB	613(R) / 555(G) / 455(B)	20W x 3	4A(R) / 5A(G) / 5A(B)

iLight - Line up

Offering a range of series to suit diverse needs.

LED Spot Light (29mm)



- 29mm Spot Light with higher brightness and uniformity
- Enhanced performance over typical spot lights
- Compatible with iPulse for reliable overdrive

High Power LED Spot Light (45mm)



- High Power Spot Light with excellent light concentration and uniform output
- AR-coated optical system for high efficiency
- Condenser & focusing lens for precise focus adjustment
- Wide wavelength range from UV to NIR



iLight - Performance Comparison

■ Stroboscopic Light Levels

Hybrid Spot VS 20W Spot Light

Test Conditions

Light (Strobe Controller)

: Hybrid Spot Light - ILS-HWS1600W-D46 (IP-HYBRID-M1)

: LED Spot Light - ILS-W20A-D29 (IP-1P1S-50A)

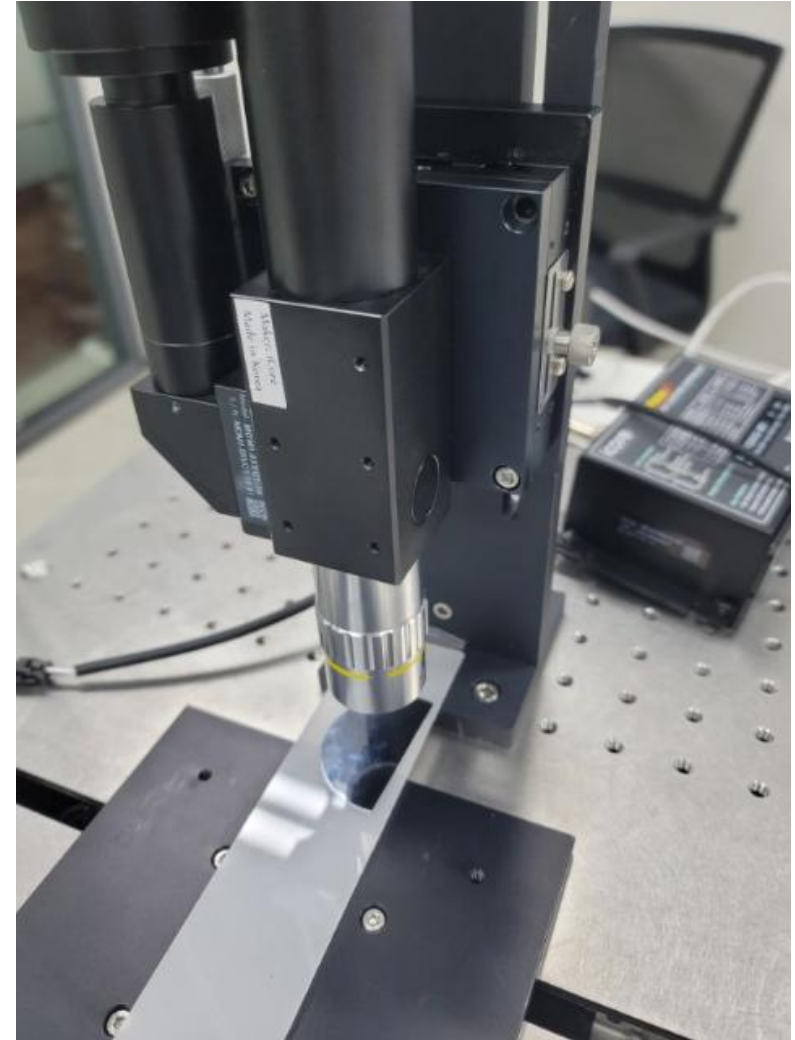
Camera : Aca2500-60um (Basler)

Lens : M Plan Apo 10x (Siwon)

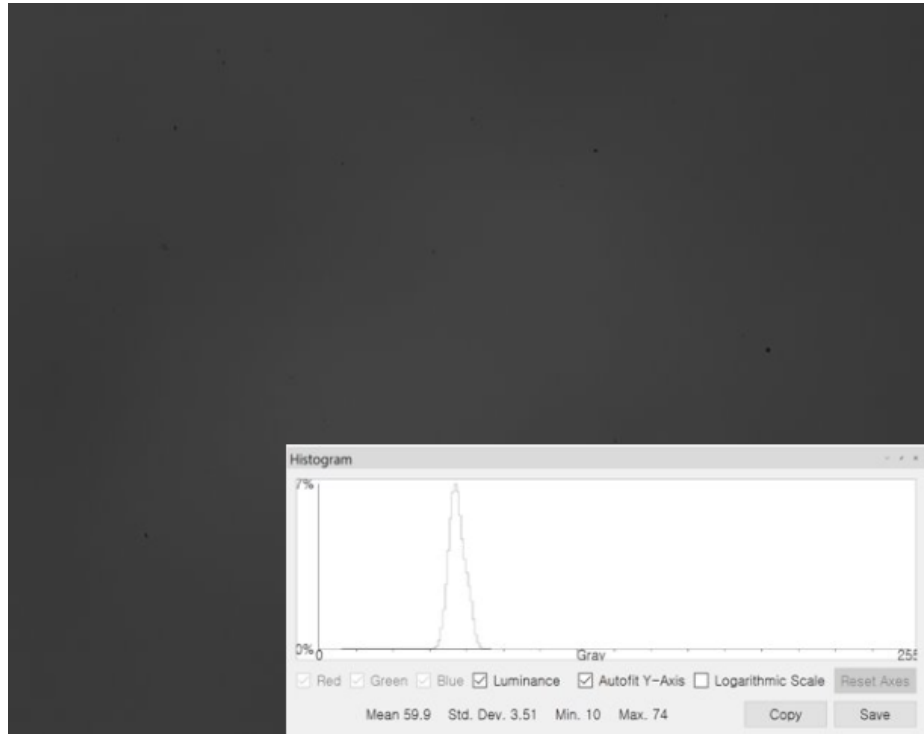
Resolution : 0.48um

Acquisition : 20fps, free-run

Pulse Duration : 0.3 / 1us - 1000% Overdrive

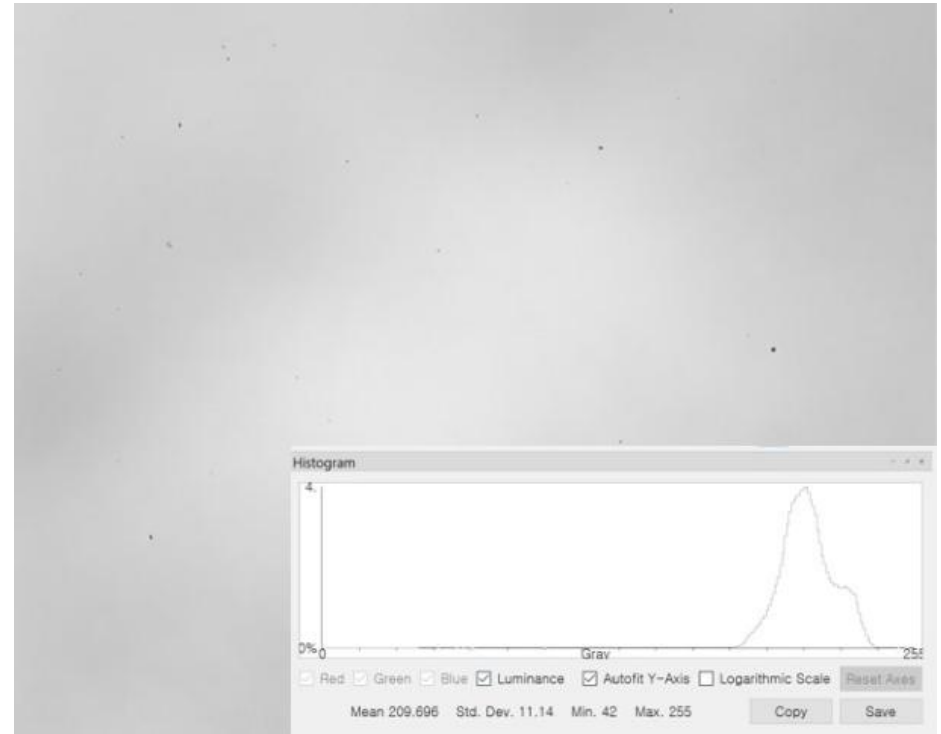


□ Test Result @ 1us



1us LED GL : 59.9

x 3.5 →



1us Hybrid GL : 209.7

The Hybrid Spot Light is 3.5~3.7 times brighter than the LED Spot Light



iLight - Performance Comparison

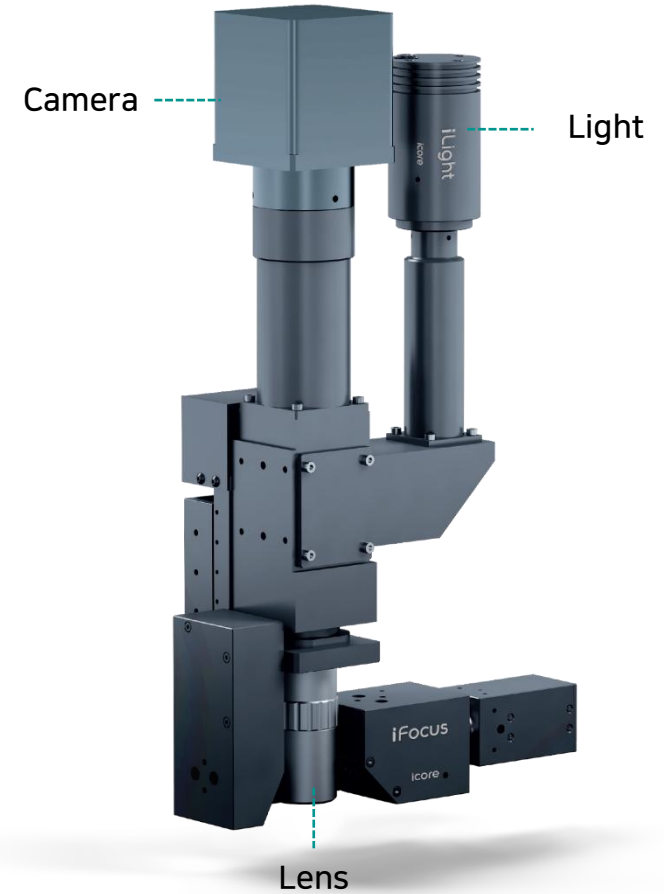
■ Stroboscopic Light Levels

Hybrid Spot VS R company's 600W light source



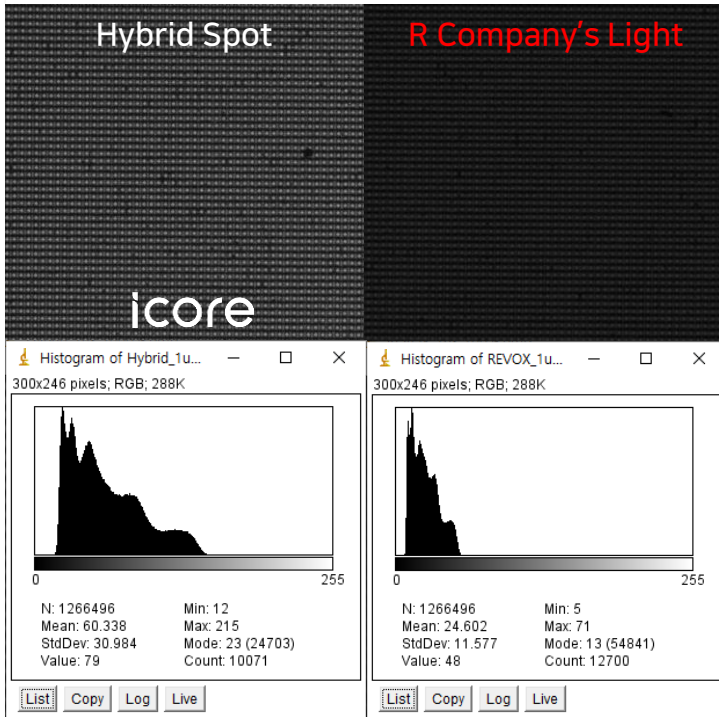
Test Conditions

Light (Strobe Controller) : Hybrid Spot Light - ILS-HWS160W-D46 : SLG-600V2(φ8mm Fiber)	
Camera : STC-MBS122BU3V (Omron Sentech)	Lens : M Plan Apo 5x, 10x 20x (Mitutoyo)
Camera Exposure : 12μs	Pulse Duration : 1μs / 2μs
Pulse Brightness : 1000% (Overdrive) SLG-600V2 (Light Value : 1,023)	



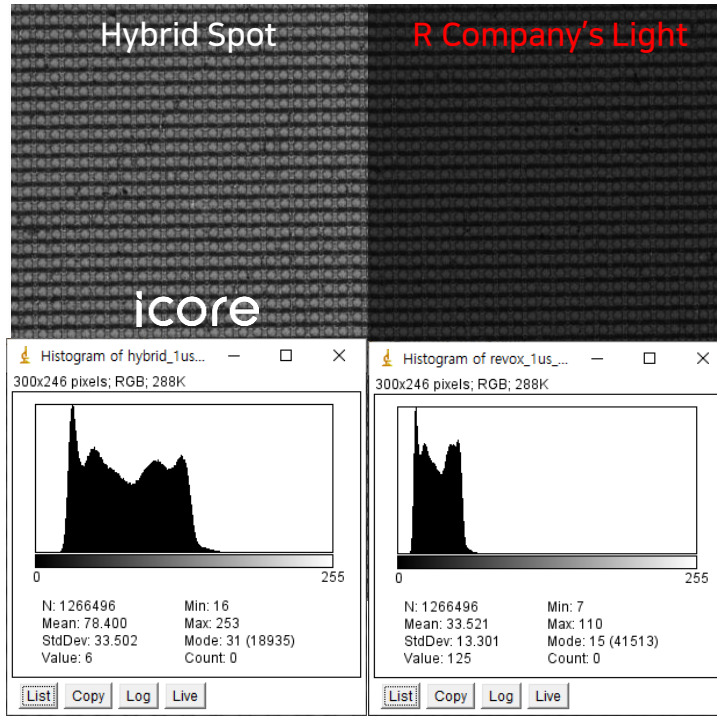
☐ Test Result @ Hybrid spot lights are twice as bright as light sources at strobe pulse widths below 50us

**Lens : 5x
 Duration : 1usec**



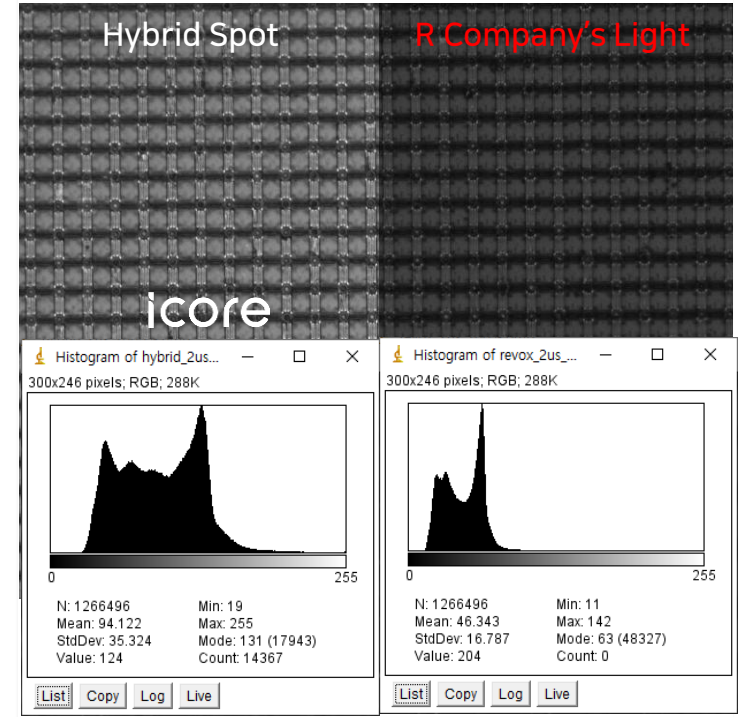
60.388 **24.6032**

**Lens : 10x
 Duration : 1usec**



78.400 **33.521**

**Lens : 20x
 Duration : 2usec**



94.122 **46.343**

iLight - Performance Comparison

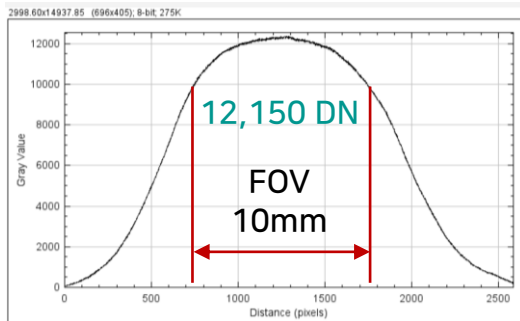
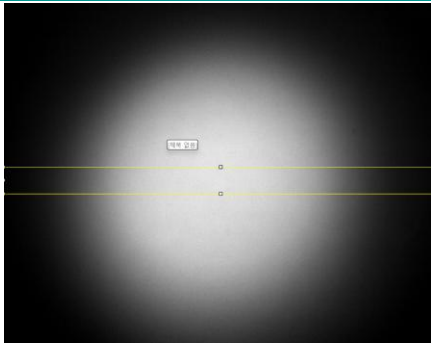
■ Hybrid Spot Light can be connected fiber with small FOV for high speed inspection



iLight - Performance Comparison

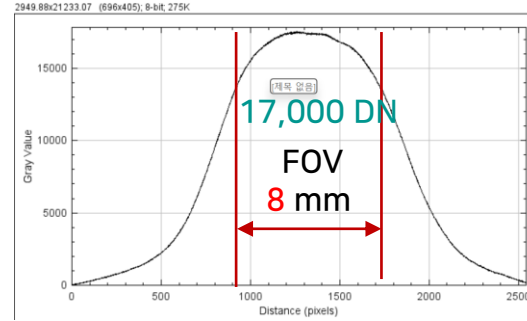
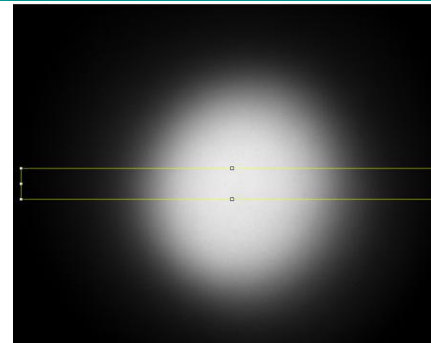
☐ Test Result @ Brightness comparison

R社 600W2



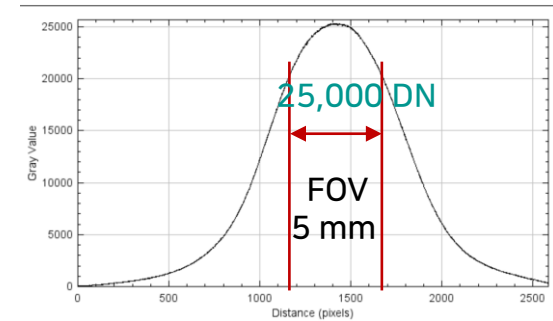
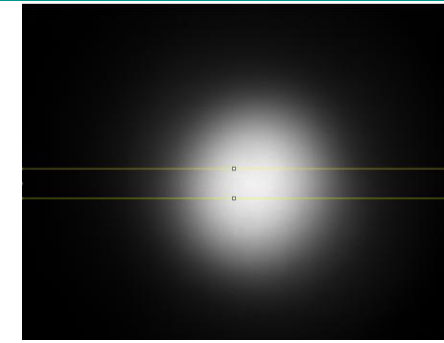
Brightness of Center	FOV Size **2)
12150 DN	10 mm

iCore Hybrid 1600W



Brightness of Center	FOV Size
17000 DN	9 mm

iCore Hybrid 1600W + (Beam Adjustment) **1)



Brightness of Center	FOV Size
25000 DN	5 mm

**1) The fiber incident angle is adjusted to increase the amount of light in the center.

**2) In the measured image, the illumination FOV based on center brightness and 80% uniformity is measured by measuring the profile of the Horizontal Box in the yellow area.

iLight - Performance Comparison

☐ Test Result @ Brightness comparison in the 30us On-Time interval based on maximum output

	R社 600W V2	Hybrid 1600W + Fiber	iCore LED 250W (Over-Driving)
Total amount of light [mV] **1)	536	406	548
Total amount of light after passing through 5mm fiber [mV] **1)	138	216	66
Brightness in Fiber Output [cd/mm ²] **2)	1180	2400	486

**1) The total amount of light is measured by measuring the total amount of light emitted from all angles measured through the integrated sphere and measuring the voltage measured by the Lumen Meter.

**2) The measured value is measured using a high speed luminance meter. As a result of measuring the brightness output at a unit radiation angle in an area of 1 mm², the higher the luminance, the more advantageous it is to concentrate light in a small FOV area such as a microscope.



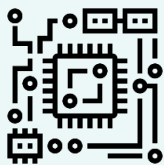
Auto Focus Module

iFocus

Auto Focus Module - iFocus



- **FPGA-Based Real-Time Autofocus Module**
Using [Through The Lens \(TTL\) Type](#) / [Optical Triangulation Type](#)
- **High-Precision Defect Detection in automatic optical inspection (AOI)**
Applied in high-magnification optical systems for real-time detection of defects smaller than 1µm.
- **Customization Optimized for Inspection Environments**
Enhanced precision through the selection of optical lenses, autofocus sensors, and Z-axis actuators



FPGA

High-speed FPGA-based



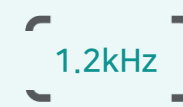
Real Time

Real-time location measurement



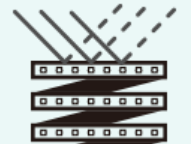
Capture Range

Capture Range :
± 1500µm



Focus Update Rate

Focus Update Rate
Max. 1KHz



Multi Layer

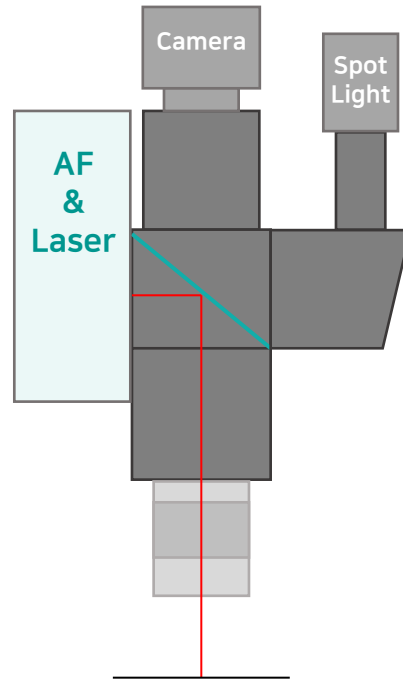
Available Multi Layer
(Max. 5)

Auto Focus Module - iFocus

iFocus using Through The Lens (TTL) Type / Optical Triangulation Type

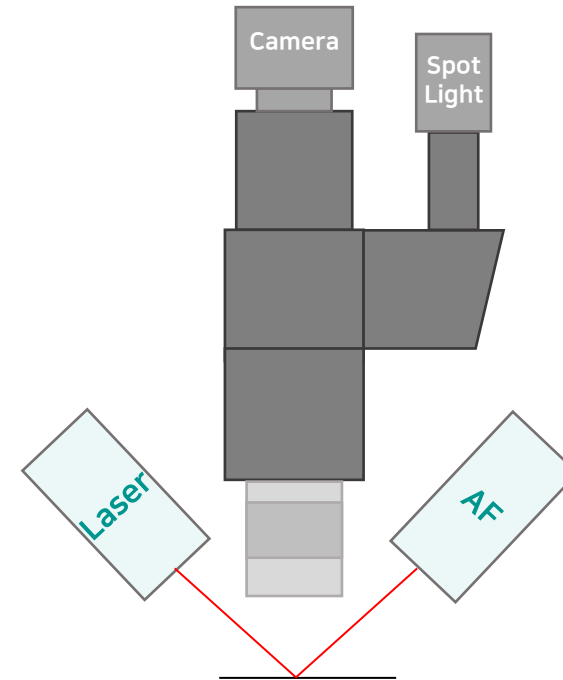


Through The Lens (TTL)



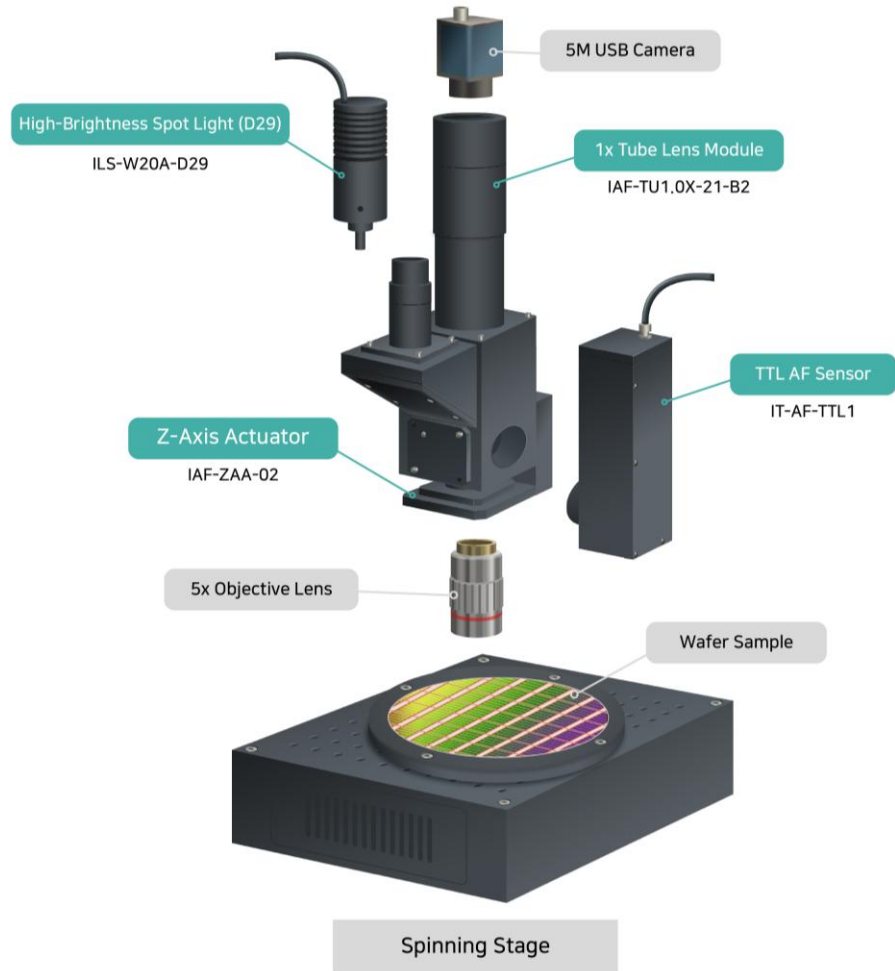
Measures the distance to the sample based on **laser light entering through the internal path of the lens** to adjust the focus.

Optical Triangulation

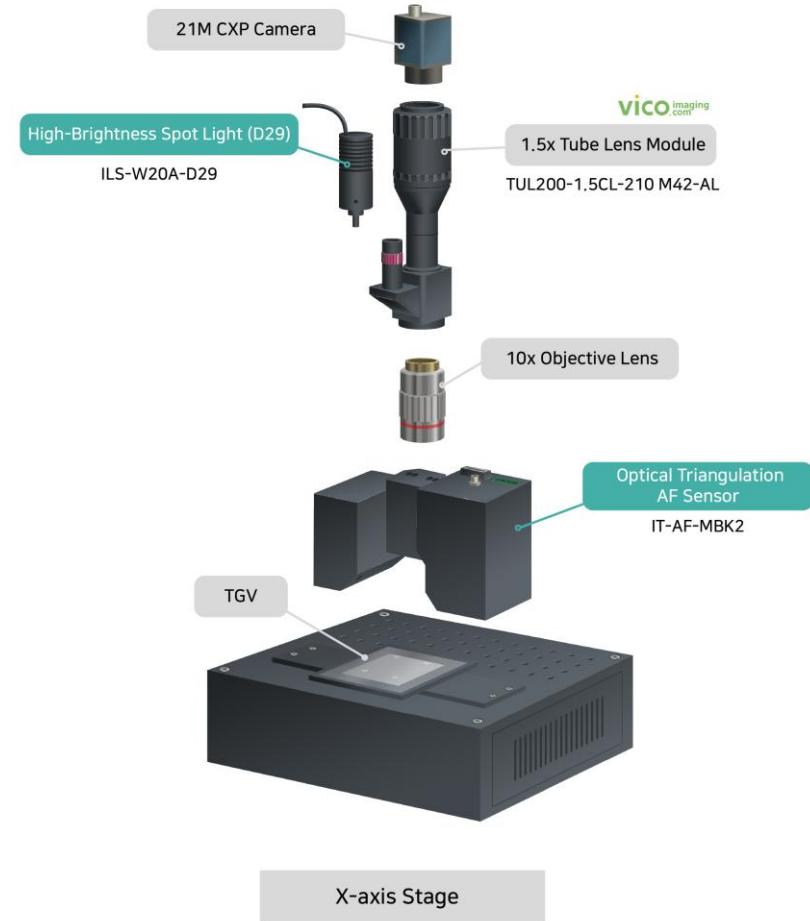


Measures distance by **detecting laser beam displacement** and adjusts focus in real time using **optical triangulation**

Auto Focus Module - iFocus



Through The Lens (TTL)



Optical Triangulation

iFocus – Through The Lens



Feature

- Wide-range lighting can be used without laser interference
- Specialized for high-magnification optical systems of 20x or higher

* Requires a custom-designed tube lens and Z-axis control



Specification

Focus Update Rate	1.2kHz
Sensing Type	Through The Lens
Interface	RS485 (9,600bps~921,600bps)
Input Voltage	24V, 0.5A
Function	Auto Exposure / Auto Laser Control / Laser Brightness Control by PD Feedback

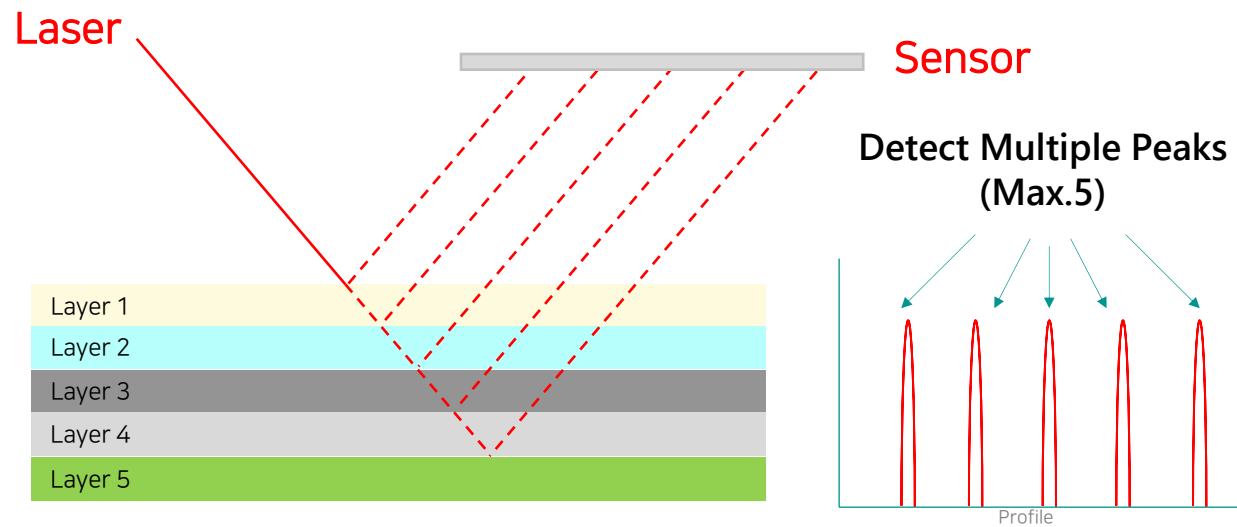
iFocus – Triangulation Type



Feature

- $\pm 1,500\mu\text{m}$ Wide Capture Range
- Supports Up to 5 Multi-Layer Measurements

Multi Layer Tracking



iFocus – Auto Focus Sensor for Triangulation Type

IT-AF-MBK2

NEW



- Optimized for objective lenses
- An integrated unit of AF sensor and laser module
- Compact size that wraps around the tube lens

IT-AF-M1



- Auto Exposure / Auto Laser Control
- Combines displacement, motion, and laser control for auto focus
- Multiple Layer Detection (Max.5)

IP-AF1



- Outputs height values as analog data
- Fast sampling speed of 50kHz
- Output Gain / Offset Control

iFocus – Tube Optic & Z-Axis

IAF-TU Series Lens

It can be customized to meet customer needs, including changes to the magnification of the tube lens, adding a beam splitter for coaxial lighting, and further configurations for TTL Autofocus.

[IT-AF-TTL1](#)[IT-AF-MBK2](#)

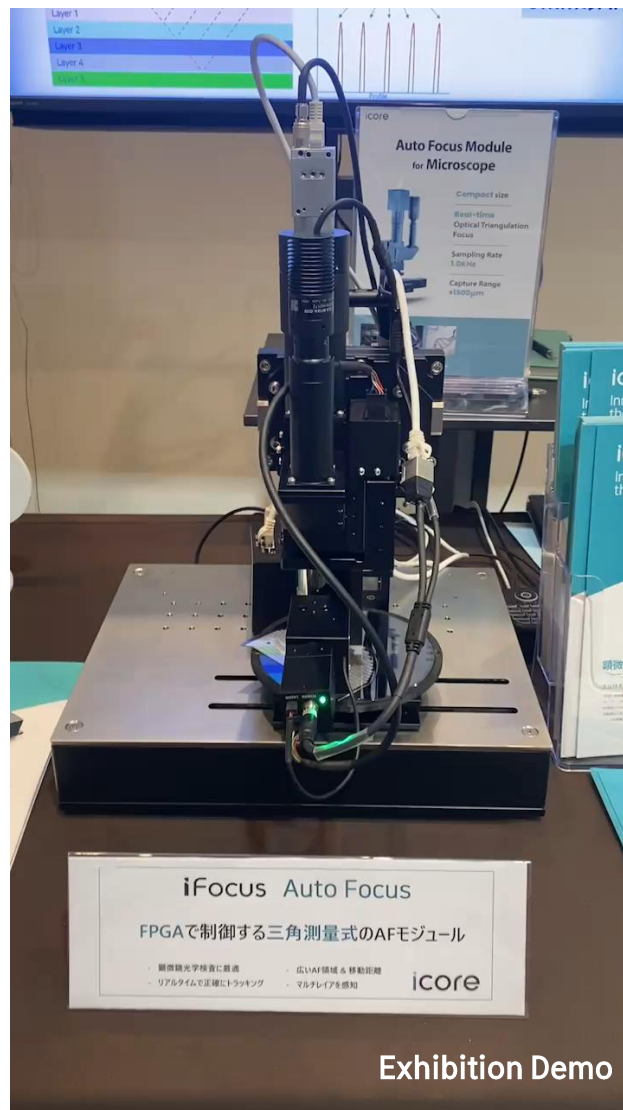
IAF-ZAA-01 Z-axis Actuator

Z-Axis Actuator for Entire Optical System Movement
This universal Z-Axis Actuator is suitable for a wide range of lenses, including general FA lenses, large-diameter lenses, and microscope lenses.

[IT-AF-MBK1](#)[IT-AF-MBK2](#)[IT-AF-M1](#)



iFocus – Demonstration of Triangulation Type

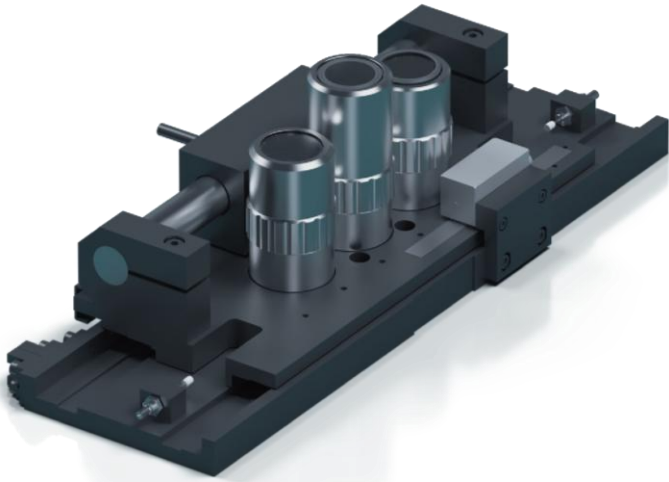


Exhibition Demo



iFocus – Linear Lens Changer

An Objective Lens Changer based on a high-speed Linear Shaft motor



Feature

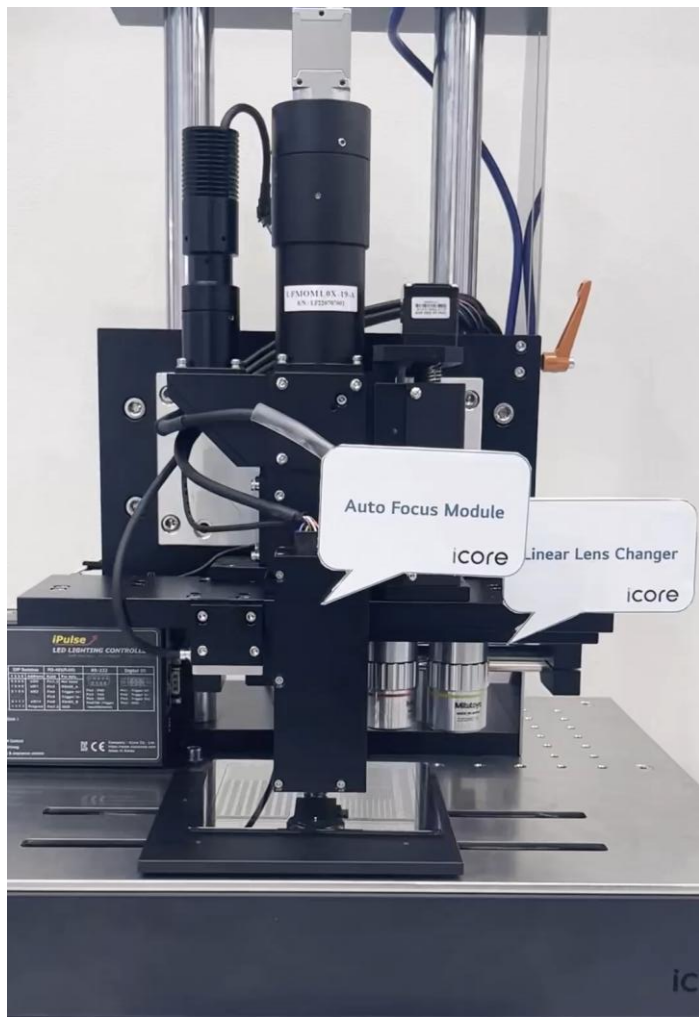
- Shift the adjacent lenses within 0.2 seconds, ensuring $\pm 1\mu\text{m}$ accuracy
- Supports mounting from 3 up to 5 lenses.

Specification

# of Lens port	3 - 5
Lens Spacing Center to Center	38mm
Lens Changing Time	0.2s
Linear Scale Encoder Resolution	0.1 μm
Accuracy	$\pm 1\mu\text{m}$



iFocus - Linear Lens Changer



Magnification @ 5x, 10x, 20x

Linear Lens Changer IAF-LLC-03

icore Linear Lens Changer LIVE

다양한 렌즈 교체 (최대 5개)
빠른 렌즈 교체 속도 0.2sec

Lens change time: 0.2s

CAM

AF ON 20x

아이코어 AF 솔루션과 최상의 궁합

AF ON 20x

AF ON 20x

Pixel Size : 2.5 μ m \times 2.5 μ m
Magnification : 5x, 10x, 20x
Resolution : 0.5 μ m, 0.25 μ m, 0.125 μ m
Lens change time : 1s

iFocus - How to choose RIGHT auto focus module?

Customized Selection of Optical Lens, Autofocus Sensor, and Z-Axis Control

01 Optical Lenses



Microscope Lens

Outstanding Resolution at High Magnification



FA Lens

Compatible with Large-Diameter Cameras



02 AutoFocus Sensors



IT-AF-MBK

Optimized for Objective Lenses



IT-AF-M

Suitable for Large-Diameter FA Lenses



IT-AF-S

Outputs Displacement Values via RS232 Only



03 Z-axis actuators



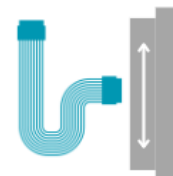
IAF-ZAA

Controls Only the Z-Axis of the Objective Lens



IAF-XXX

Controls the Z-Axis of the Entire Optical System



IAF-XXX

Based on Customer's Motor Driver



Repeater & Splitter

iPlus

Repeater & Splitter - iPlus



Camera Link Repeater

Increases the transmission distance between the camera and the frame grabber without data loss



Camera Link Splitter

Splits data captured by the Camera and transmits it to two or more Frame Grabbers



CXP12 Repeater - iPlus

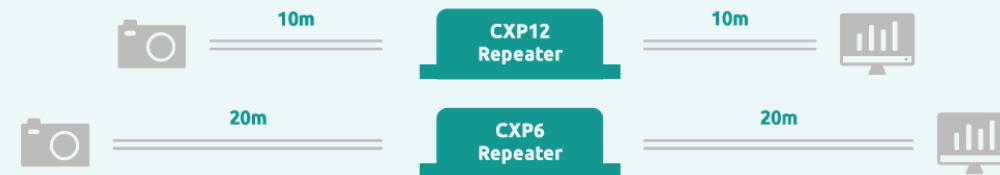
CXP12 repeater guarantees transmission distances up to 10m + 10m



CXP 12 Repeater			
Model	IPULS-CXPR-HDB1	IPULS-CXPR-HDB2	IPULS-CXPR-HDB4
Channel	1CH	2CH	4CH
Downlink Data Rate	CXP-1 / CXP-2 / CXP-3 / CXP-5 / CXP-6 / CXP-10 / CXP-12		
Uplink Data Rate	20.83Mb/s / 41.66Mb/s		
Connector Type	Micro BNC (HD BNC)		
Operating Temperature	0°C - 50°C		
Power Requirements	PoCXP 8 -30V DC		
Power Supply	Power adapter (not included) or PoCXP compliant		
Power Consumption	Typ. 0.3W	Typ. 0.5W	Typ. 0.8W
Dimension (W x H x L)	54.4 x 27.8 x 29.5 (mm)		104.4 x 28.3 x 29.5 (mm)

The Maximum Allowed Cable Length

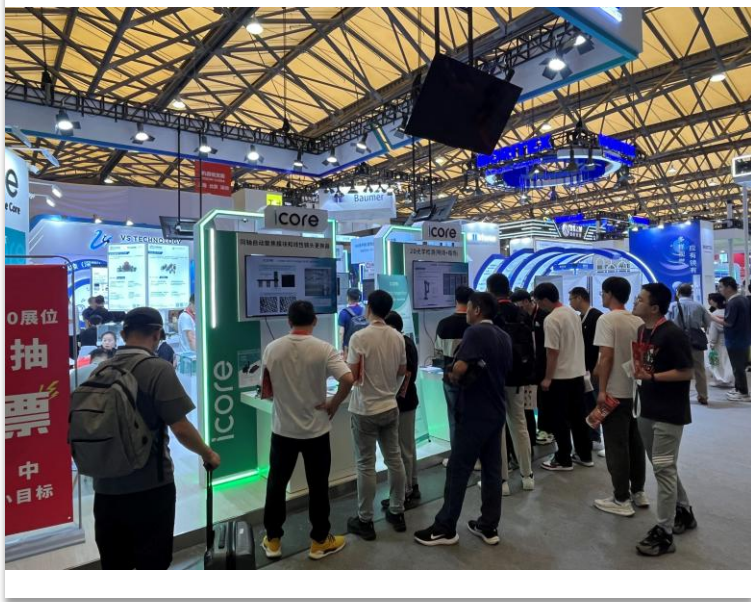
Model	CXP-6	CXP-12
Length between Camera and Repeater	20m	10m
Length between Camera and Grabber	20m	10m



Global Activities

We participate in global vision exhibitions to establish partnerships with global customer

- In 2024, Participated in 9 exhibitions across 7 countries



Vision China 2024
(China)



Vision 2024
(Germany)



ITE 2024 in YOKOHAMA
(Japan)

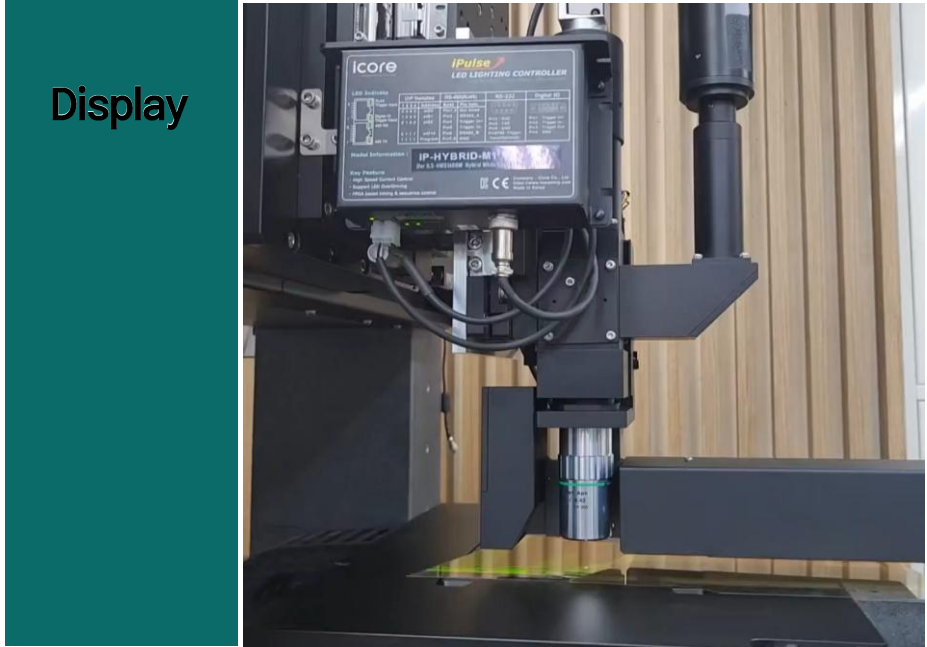
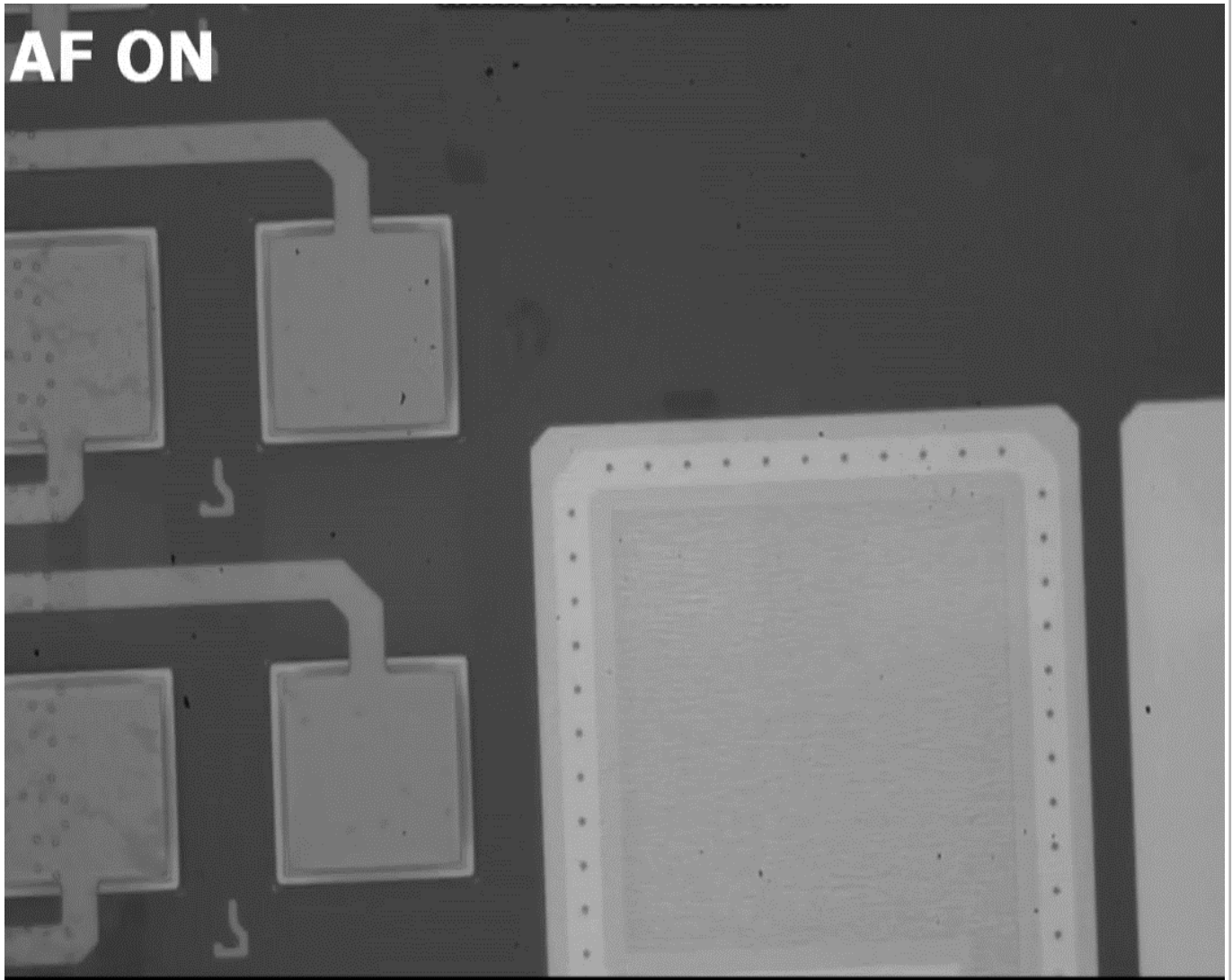
Pattern Glass

- Auto Focus Module : IT-AFM-V1
- Camera : VC-65MX- M35
- Image Sensor : Gpixel社 GMAX 3265
(Pixel Size: $3.2 \mu\text{m} \times 3.2 \mu\text{m}$)
- Lens : 10X (Mitutoyo Plan Apo)
- Tube Lens : 1x (Chiopt)
- Stage Speed : 200mm/s
- Warpage : $500 \mu\text{m}$



Auto Focus Module - iFocus

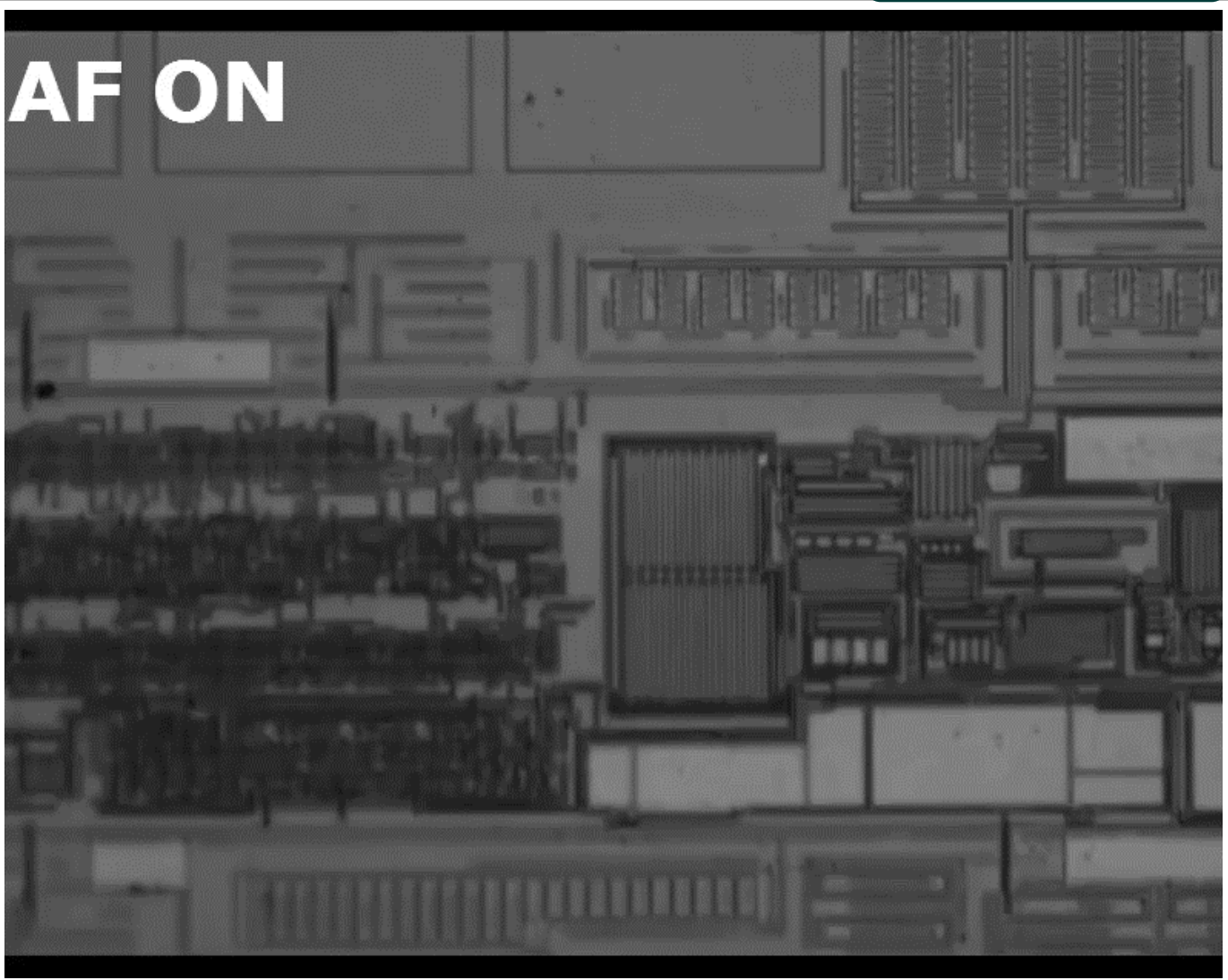
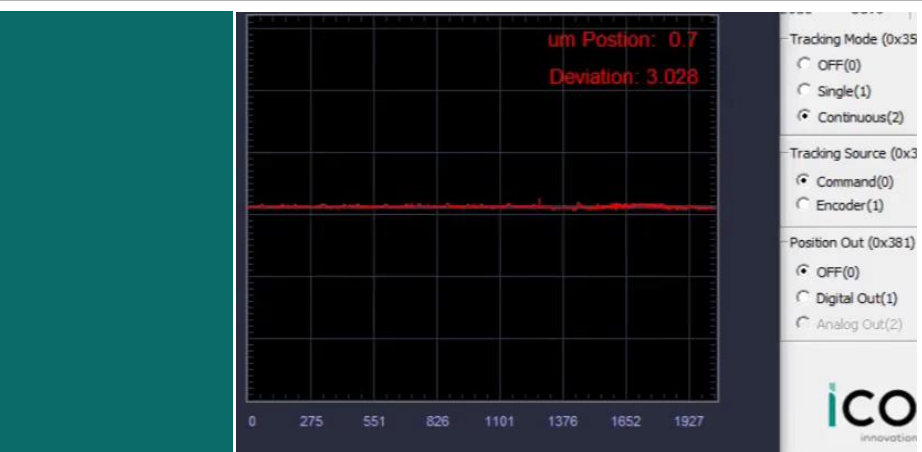
Microscopy



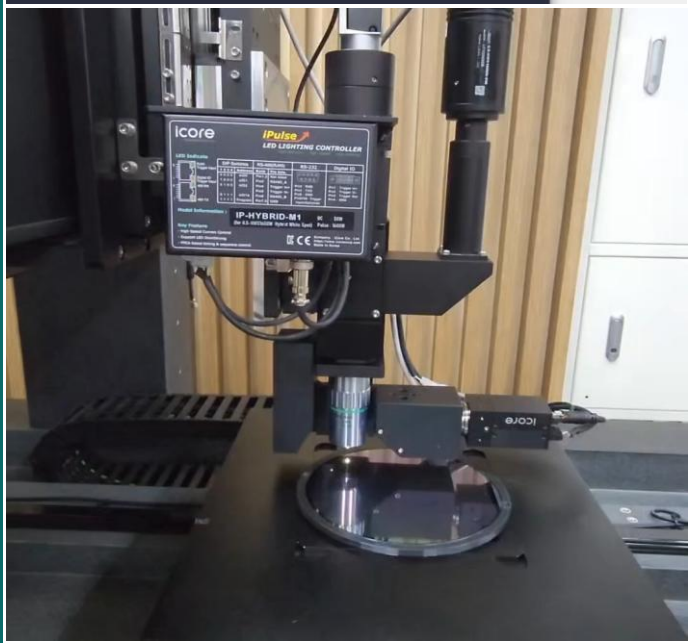
Display

Auto Focus Module - iFocus

Microscopy



Wafer (Patterned)

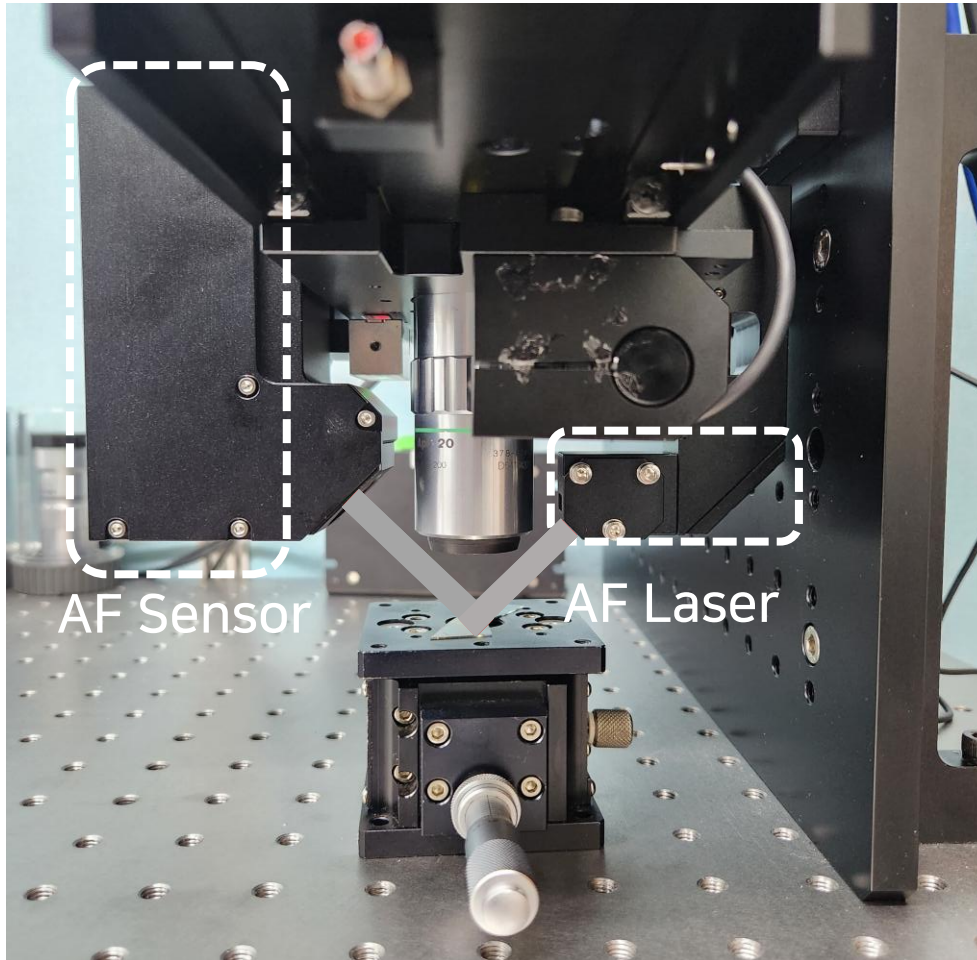


Larger Format Line Scan Inspection with IT-AFM-V1 Demonstration



Large Format Line Scan

Auto Focus Module with Lens Changer



Model	IT-AFM-V1
Focus Update Rate	1kHz
Sensing Type	Optical triangulation
Tube Module	1.0X Mag, 21 mm Image Circle
Resolution	0.05 μ m/pulse
Tracking Mode	OFF / Single / Continuous
Motion Control	Support Jog / Absolute / Incremental Move Support HW Limit & SW Limit Auto Calibration
Interface	RS-485(Up to 921,600bps)
Linearity Error	0.1% (Varies Depending on the Optic Performance)
Repeatability	< 0.2 μ m(Varies Depending on the Optic Performance)
AF Sensor	Auto Exposure / Auto Laser Control Laser Brightness Control by PD Feedback Multiple Layer Detection (Max.5) Support Real-time Graph Display

Leading the Global Machine Vision Industry, iCore continues to create “Innovative Products”

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