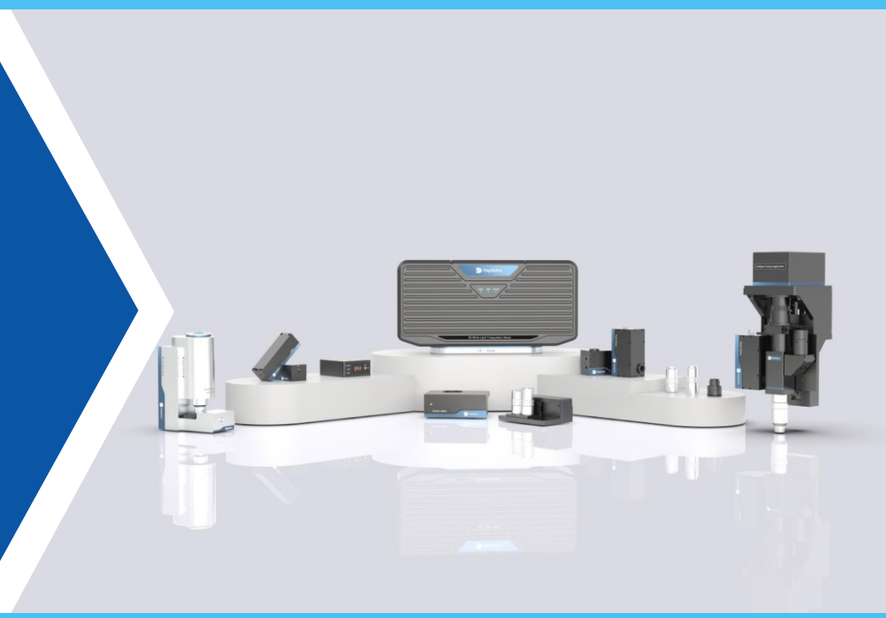
DayOptics



Intelligent AOI Sensor Service Provider

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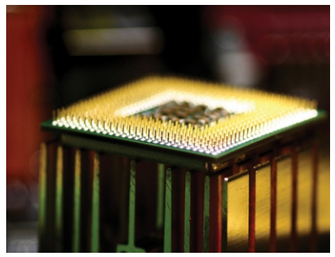
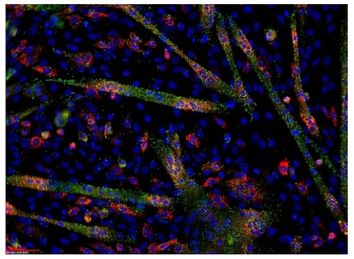
About DayOptics





DayOptics was founded in 2005, has consistently focused on the research, development, and manufacturing in the field of optoelectronic technology. Its core products encompass optical systems, optical module , optical device , optical components and assemblies , high precision optics

Founded in 2005
Nearly 20 Years of Experience in the Optical Industry

Provider of Intelligent AOI Optical Modules
Customized Optical Solutions

DayOptics Philosophy
To Simplify and Beautify Optical Making

Product Vision

Continuously uncover technical demands, delve into module applications, and accumulate industry experience. Optimize and iterate universal technologies while focusing on providing customers with one-stop "Optics, Mechanics, Electronics, Computing, and Software" solutions. Dedicated to becoming a cost-effective core module provider.

ISO 45001

ISO 14001

IATF 16949

ISO 9001

Strategic Layout

Business coverage operations span

50+ countries and regions worldwide

3D White Light Triangulation Sensor

Product Features

3D White Light Triangulation Sensor is designed to address real-time online inspection during semiconductor production processes. It employs the white light triangulation method to measure bumps, micro-bumps, RDLs, laser-cut grooves, through-silicon vias (TSVs), probe marks, and other 3D components, providing optoelectronic solutions. It offers a hardware platform for fast sampling, high precision, and sub-micron height and depth measurements.

- Non-contact, non-destructive measurement;
- High precision, high-resolution 3D reconstruction;
- Self-developed high-uniformity illumination and microscopic imaging system, supporting full hardware platform customization;
- 5x to 20x 3D measurement, with switchable magnification;
- Multi-scenario applications, suitable for complex surfaces (rough, highly reflective, or transparent materials);

System Components

- Projection System: Emits a narrow white-light stripe for object illumination. Includes high-power linear light sources, focusing optics, and adjustable brightness. Light stripe length >20 mm, width ⩽50 μm.

- Imaging System: Captures height information via long-working-distance microscope objectives, low-magnification tube lenses, and high-speed line-scan cameras. Optional beam-splitting optics for multi-height data acquisition.

Applications

3D defect detection in semiconductors, precision machining, optical components, etc.

Rapid detection system for semiconductor chip contact height or similar micro-structure height.

Standard Product Code

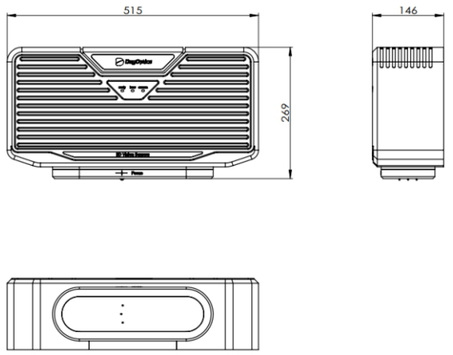
	3D White Light Triangulation Sensor				
DS-	3D-				
Prefix	Type	Light Strip Length	Light Strip Width	Light Source Power	Imaging Objective Lens (Supports dual-lens configuration)	Matching Camera
		Custom=0	Custom=0	Custom=0	Custom=00	Not required = 0
		5mm=1	5um=1	50W=1	2x=1	Single camera = 1
		10nm=2	10um=2	100W=2	5x=2	Dual cameras = 2
		20mm=3	15um=3	150W=3	10x=3	
		30mm=4	20um=4	200W=4	20x=4	
		50mm=5		300W=5	50x=5	
					100X=6	
					2x HR=7	
					5x HR=8	For user-provided cameras, please submit camera brand and model for compatibility verification
					10x HR=9	
					20x HR=A	
					50x HR=B	
					100x HR=C	

Product Parameters

Projection System	Specifications
Light stripe length	5mm
Light stripe width	10μm
Uniformity	⩾85%

Imaging System	Specifications
Magnification	4x/8x
Resolution	2μm/1.5μm
Height Resolution	10× 0.77um 5×objective 1.09um

Typical Package Schematic (mm)



Intelligent Focusing Imaging Sensor

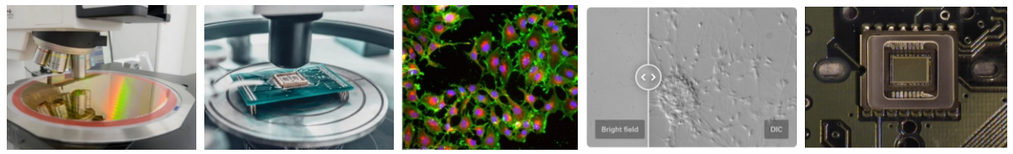
Product Features

Intelligent Focusing Image Sensor is applied in semiconductor production or other fields where detection and identification of micro-defects are required. It integrates a laser coaxial auto-focus module and a coaxial Köhler illumination microscopic imaging module, enabling fully automatic, fast, and clear imaging.

- Large field-of-view microscopic imaging with a ⩾30mm target surface;
- Long working distance objectives support clear imaging over a larger height range;
- High uniformity ⩾0.9 coaxial Köhler illumination system, Michelson contrast <0.2;
- Supports integration with laser coaxial auto-focus modules;
- 5x to 50x 2D measurement, with switchable magnification;
- Supports extended polarized light microscopic imaging or differential interference contrast (DIC) microscopy;

Applications

Widely applicable in semiconductor inspection, biomedical fields, machine vision, and other automatic imaging scenarios.



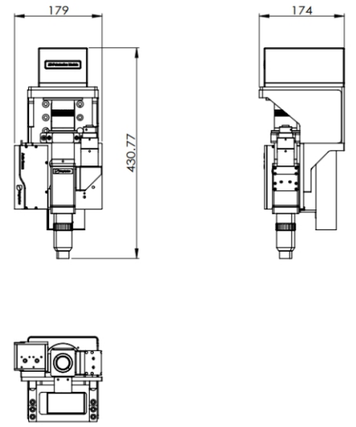
Standard Product Code

Intelligent Focusing Imaging Sensor									
DS-	2D-								
Prefix	Type	Tube Length	Sensor Size	Objective Turret	Compatible Objectives (Reference: Mitutoyo) Custom=00000 (Matching Hole)		Focusing Method	Matching Camera	Polarization Function	DIC Function
		Custom=0	Custom=0	Custom=0			Not Required=0	Not Required=0	Not Required=0	Not Required=0
		180mm=1	1/1.7 inch=1	1-hole=1	2x=1	.50W=1	Image Focusing=1	Single Camera=1	Required=1	Required=1
		200mm=2	1/1.8 inch=2	2-hole=2	5x=2	100W=2	Laser Focusing=2	Dual Camera=2		
			1/2.3 inch=3	3-hole=3	10x=3	150W=3				
			1/3 inch=4	4-hole=4	20x=4	200W=4				
			1/4 inch=5	5-hole=5	50x=5	300W=5				
			4/3 inch=6		100X=6	400W=6				
			APS-C=7		2x HR=7	500W=7	Focusing systems: Image autofocus: Includes motion control unit (default) Laser autofocus: Includes laser focus sensor only (motion control unit excluded)	For user-provided cameras, please submit camera brand and model for compatibility verification.		
			2 inch=8		5x HR=8	Light source: White light (default) Note: Systems above 50W require independent light housing				
					10x HR=9					
					20x HR=A					
					50x HR=B					
					100x HR=C					

Product Parameters

Model		Intelligent Focusing Image Sensor
Tube mirror	Magnification	1X
	Wavelength	Visible (430–656 nm)
	Polarization Unit	Installable
	DIC Unit	Installable
	Interface Options	M-mount, F-mount, EF-mount, C-mount
Compatible Objectives		M Plan APO Series, M Plan APO HR Series
Camera Compatibility		APS-C or smaller (⩽ϕ30 mm)
Illumination System		Coaxial Köhler Brightfield
Light Source		Fiber-guided, NA >0.3

Typical Package Schematic (mm)



Laser Auto-Focus Sensor

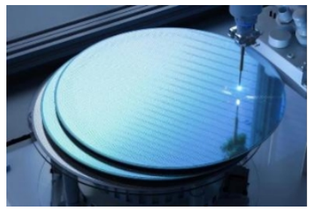
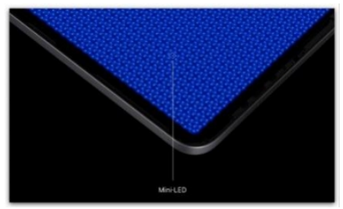
Product Features

The Laser Auto-Focus Sensor is a high-speed, high-precision auto-focus decision sensor based on SOC. It integrates a laser, CMOS image sensor, SOC, motor driver, and other modules. By projecting a laser onto the sample and processing the reflected image, it quickly and accurately provides the direction and distance of the focus, driving and controlling the motor to move rapidly to the optimal focus position.

- High precision, sub-micron focus accuracy, static performance better than 1/4 of the objective depth of field, dynamic performance better than 1/2 of the objective depth of field;
- High-speed real-time focusing, single focus time less than 100ms;
- Built-in stepper motor driver for direct control of the stepper motor;
- Adaptable to multiple scenarios, compatible with most infinity-corrected objectives;

Applications

Industrial automation, precision manufacturing, medical and biotechnology, scientific research, and other fields requiring high-precision measurement and automatic adaptation to complex surfaces.

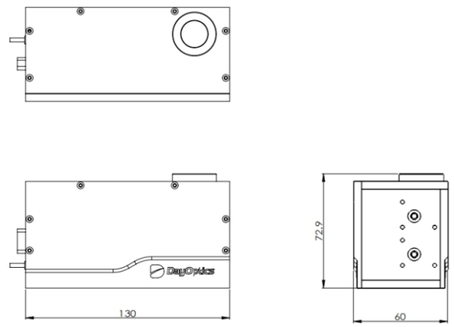
Product Parameters

Dimensions	130mm×73mm×60mm				
Objective Magnification	5X	10X	20X	50X	100X
Depth of Field (DoF)	14μm	3.5μm	1.6μm	0.9μm	0.6μm
Focus Range	±12000μm	±4000μm	±1500μm	±500μm	±150μm
Focus Accuracy	Static: <1/4 DoF; Dynamic: <1/2 DoF				
Laser Wavelength	650nm/780nm				
Laser Power	10mW				
Focus Speed	Single focus: 100 ms; Real-time tracking				
Power Supply	12V~24V DC				
Operating Temperature	10°C~35°C				

Standard Product Code

Laser Auto-Focus Sensor			
DS-	AF-		
Prefix	Type	Excitation Wavelength	External Drive
		Custom=0	Custom=0
		660nm=1	With Motor Drive=1
		785nm=2	Sensor Only=2

Typical Package Schematic (mm)



Laser Light Source

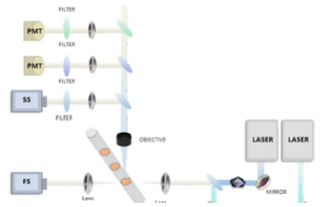
Product Features

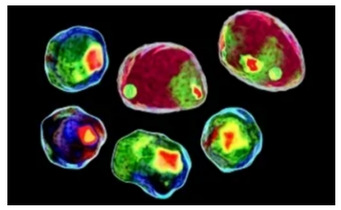
The Laser Light Source is based on the principle of stimulated emission, producing high-coherence beams through semiconductor media. Its core features include: narrow linewidth (<1nm) for precise multi-photon excitation; high beam quality (M^2<1.2), with high-precision closed-loop temperature control and wavelength locking technology ensuring stable output.

- Low noise optical output, excellent beam quality, enabling flat-top beam shaping;
- Provides outstanding output stability and fast modulation capabilities;
- Customizable according to requirements;

Applications

Applied in fluorescence microscopy, super-resolution imaging, confocal microscopy, flow cytometry, DNA sequencing, optogenetics, and other products.





Product Parameters

Wavelength	405nm/488nm/561nm/638nm
Output Power	20mW/50mW/80mW/100mW/150mW/200mW
Beam Profile Mode	TEM00
Beam Quality (M^2 Factor)	⩽1.2
Beam Ellipticity	⩽1:1.2
Beam Diameter ($1/e^2$)	0.7±0.1mm
Beam Divergence Angle	<1.2 mrad
Long-term Power Stability (8h, ±3°C)	2%
RMS Noise (20Hz-20MHz)	<0.2%
Polarization Ratio	100:1
Beam Pointing Stability (after 2h warm-up, ±3°C)	<30μrad
Warm-up Time	<5min

Standard Product Code

Laser Light Source			
DS-	LA-		
Prefix	Type	Wavelength	Power
		Custom=0	Custom=0
		405nm=1	20mW=1
		488nm=2	50mW=2
		561nm=3	80mW=3
		638nm=4	100mW=4
			150mW=5
			200mW=6

Typical Package Schematic (mm)