



Mvotem Optics®
慕藤光



Line Laser AutoFocus Sensor MLAF-6V

Redefining Creating Miracles

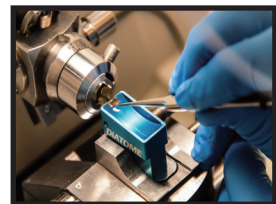
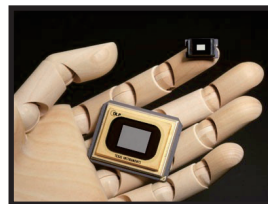
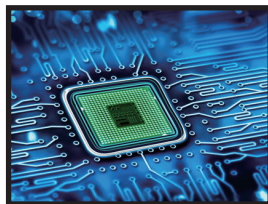
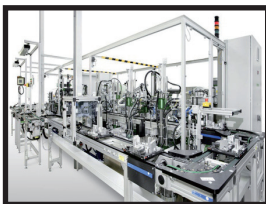
About Mvotem

Established in 2011, Mvotem Optics is a leader in intelligent imaging optical systems. Our product range spans seven major categories, including optical lenses, industrial light sources, sensors, cameras, imaging software, and intelligent imaging optical systems. We have provided unprecedented intelligent products for downstream applications, helping domestic intelligent equipment to move from low to high-end competition.

With over a decade of industry experience, driven by technology and product-centric approach, Mvotem Optics has established deep business cooperation with companies such as ASM, Hexagon, HOSON, HGLaser, Huawei, DelphiLaser, Sidea Semiconductor, GKG, Hisense, and many more, serving over 3000+ enterprises.

Our headquarters is located in Kunshan, Jiangsu, with branches in Shenzhen and Taipei. Our products serve markets in China, the United States, Germany, France, the United Kingdom, Italy, Japan, South Korea, and other countries, covering Asia, Europe, and America.

Industrial Robots	Aviation and Electronics	Traffic and Safety	Life Sciences
Precision Automation Precision Distance Detection Speed Control Robot Identification	Guide Rail Monitoring Image Alignment Semiconductor Circuits Fine Laser	Virtual Control Railway Monitoring Elevator Operation Blind Spot Assist System	Immune Analysis Atmospheric Detection Medical Imaging Blood Detection



Corporate Vision and Mission



Mission

Building the Beauty of the Microscopic World

To tirelessly explore and shape the beauty of the microscopic world. To develop optical technology with professional wisdom for the benefit of societal development.



Vision

Leader in Intelligent Imaging Optical Systems

To strive for progress, lead the industry, and always break through with technological innovation, living up to expectations.



Core Values

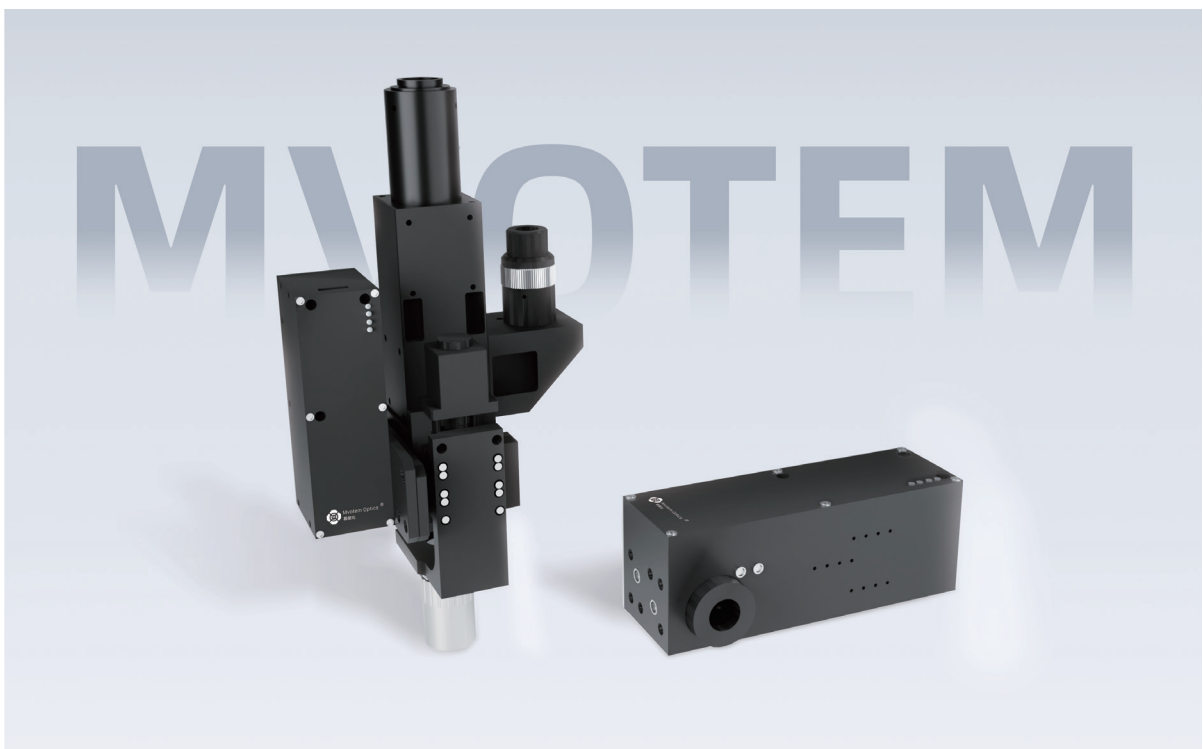
Professionalism Innovation Efficiency Proactivity

Creating value with a craftsman's spirit and professional methods. Having the courage and determination to explore new possibilities. Focusing on results, starting with the end in mind, seizing development opportunities. Not stopping at achievements and responsibilities, but practicing a glorious mission.

**New**

Line Laser AutoFocus Sensor

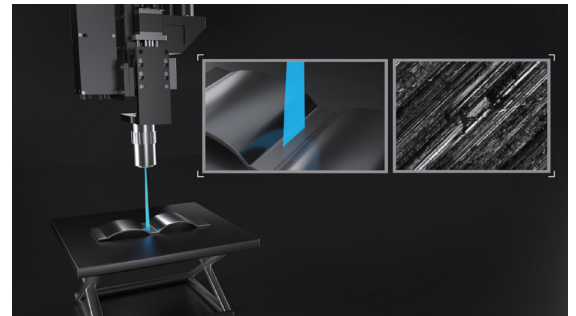
The MLAF-6V is an active line laser focus sensor that integrates an optical system and a micro-processing system internally. It can monitor and provide feedback on the focus clarity of the target object in real time, which is used to control the motor system to adjust the distance between the main optical axis and the target surface, maintaining focus.



Product Features

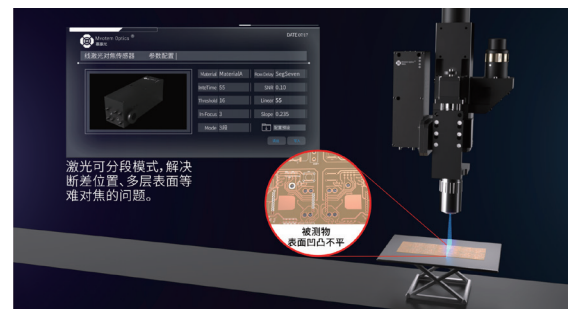
Real-time focusing

It follows the movement of the object being measured, with a quick response to adjust the focal length within 400ms, achieving high-speed focusing and maintaining high focus clarity in real-time. The center of the field of view and the focus point are coaxially aligned without deviation.



Segmented measurement

It can be set to 1-segment, 3-segment, or 7-segment modes, offering a larger focus marking range, which This addresses issues where traditional single-point focusing fails in uneven conditions, such as when encountering pits or depressions.



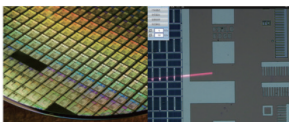
Free configuration

Based on the characteristics of the object being measured, the current material's configuration parameters can be saved, facilitating quick use for the next measurement.

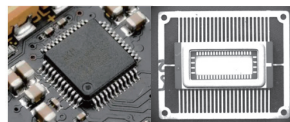


Adaptability to various materials

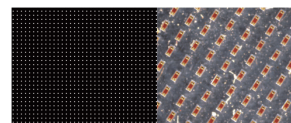
It provides comprehensive coverage for the inspection of both high-reflectivity and low-reflectivity surfaces, meeting more stringent inspection requirements.



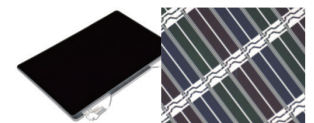
Wafer detection



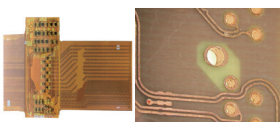
Semiconductor chip pin detection



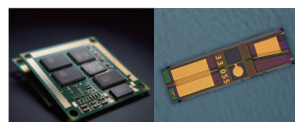
MicroLED detection



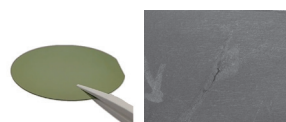
Display panel detection



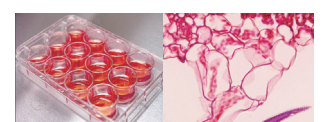
Precision PCB flexible board detection



Optical communication chip detection



Detection of surface cracks and defects of silicon carbide



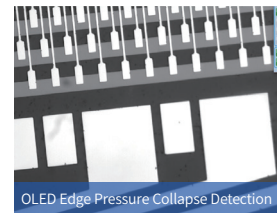
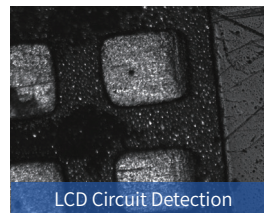
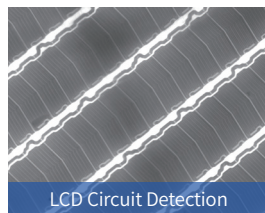
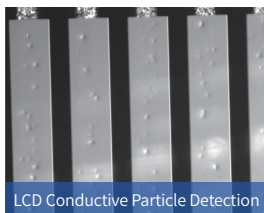
pathological section detection

Industry Applications

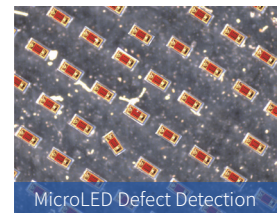
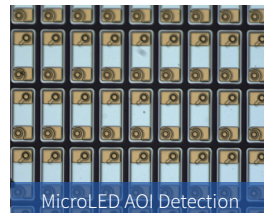
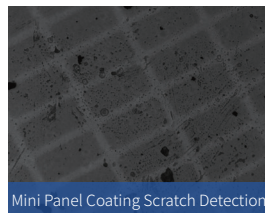
This product is suitable for use in a variety of industries including precision PCB, display panel, semiconductor and industrial inspection. It can be used in a wide variety of microscopic inspection scenarios and is able to achieve fast focusing even at extremely high magnifications!

► THE LINE LASER AUTOFOCUS SENSOR IS DEMONSTRATED ON THE TESTED SAMPLE WITH THE FOLLOWING APPLICATIONS:

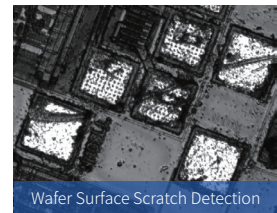
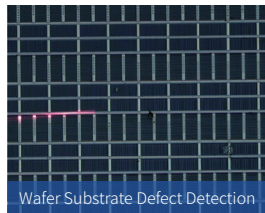
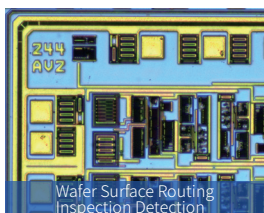
1.Traditional Display :LCD/LED/OLED



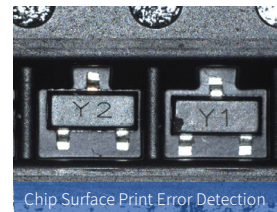
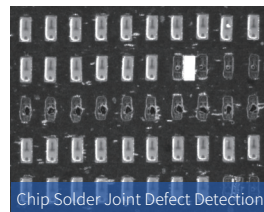
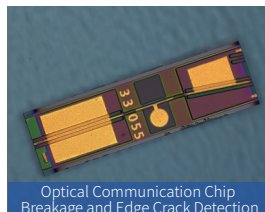
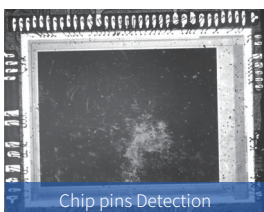
2.New Display: MicroLED/MiniOLED



3.Silicon-based Si: wafer / Patternless wafer / Photomask



4.Semiconductor

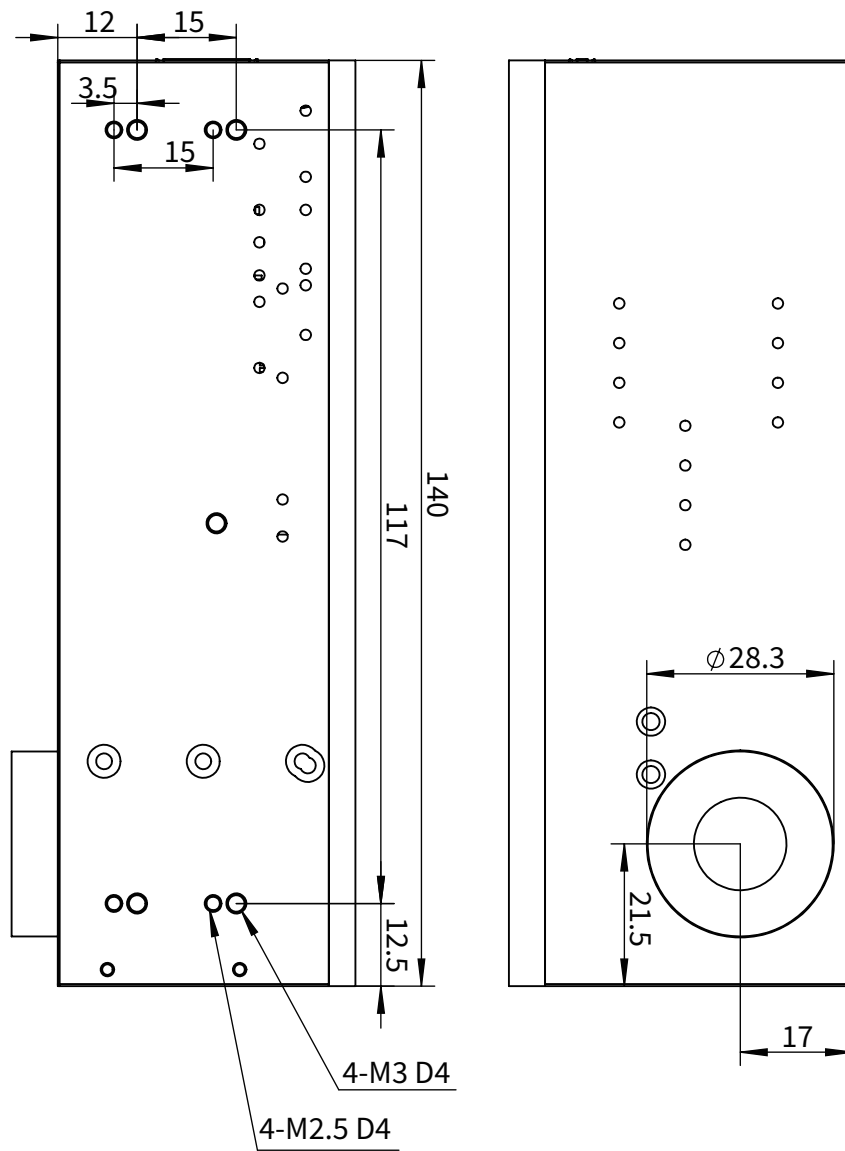


Product Parameters

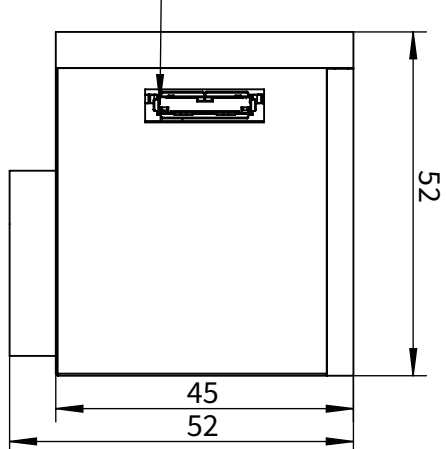
Product Model	MLAF-6V
Product Size(mm;L*W*H)	140 x 52 x 52
Product New Weight(kg)	0.5
Product Dimensions (nm)	660/785/850
Typical Power Output(mW)	10
Sensor Sample Rate	最大5KHz
Fastest single focusing speed	<100
Autofocus Repeatability(um)	1/3物镜景深
Maximum Objective(X)	100
Power Supply	DC 24V/1A
Communication Interface	SPI接口
Configuration Cable Length(m)	1
Capture Range	5X Objective (0.14): +/-8000um
	10X Objective (0.28): +/-5000um
	20X Objective (0.42): +/-1500um
	50X Objective (0.55): +/-750um
Operating Temperature	5°C ~45°C
Storage Temperature	10°C~45°C



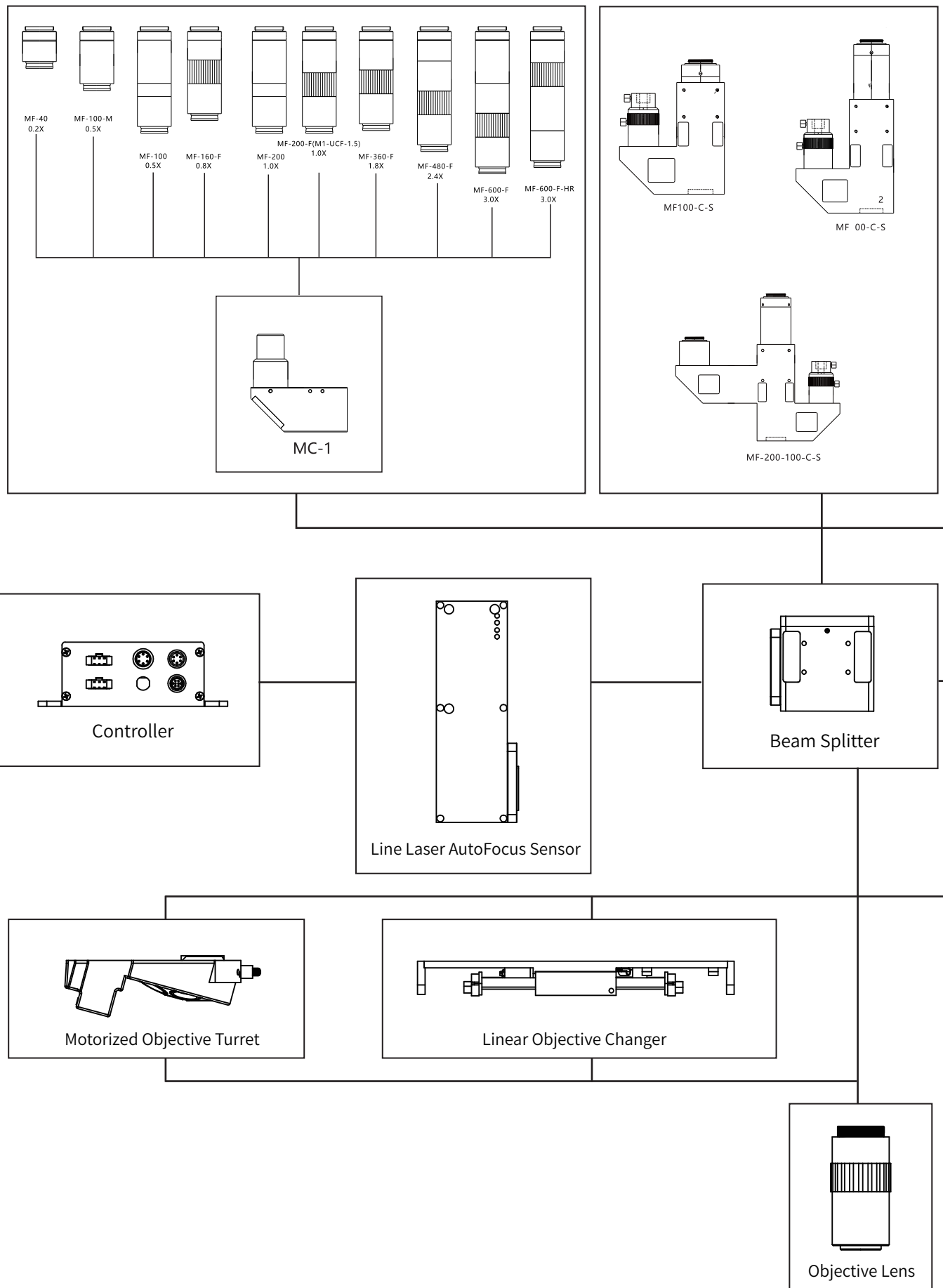
Product Drawing

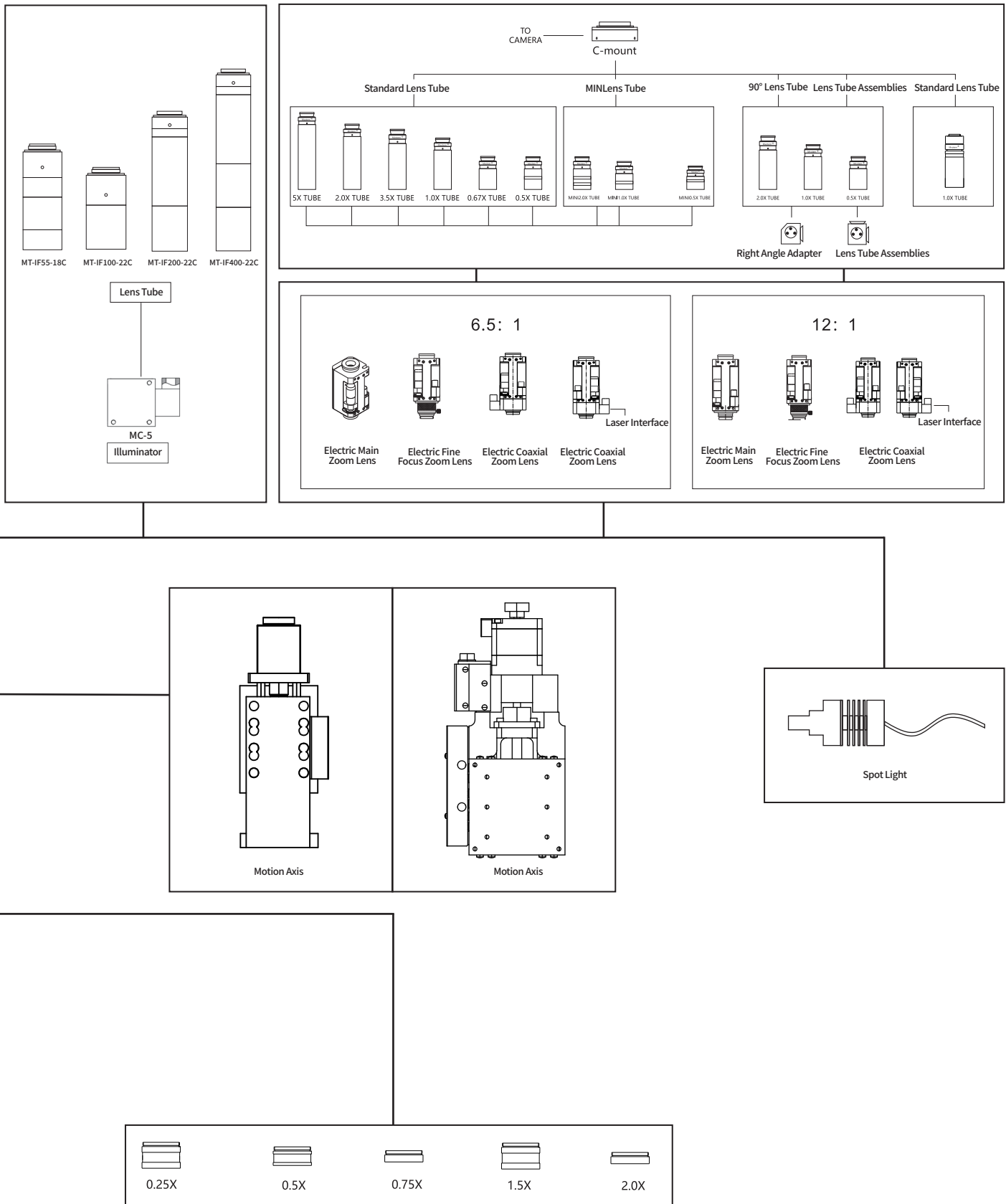


Outlet hole for wires (or cable exit hole)

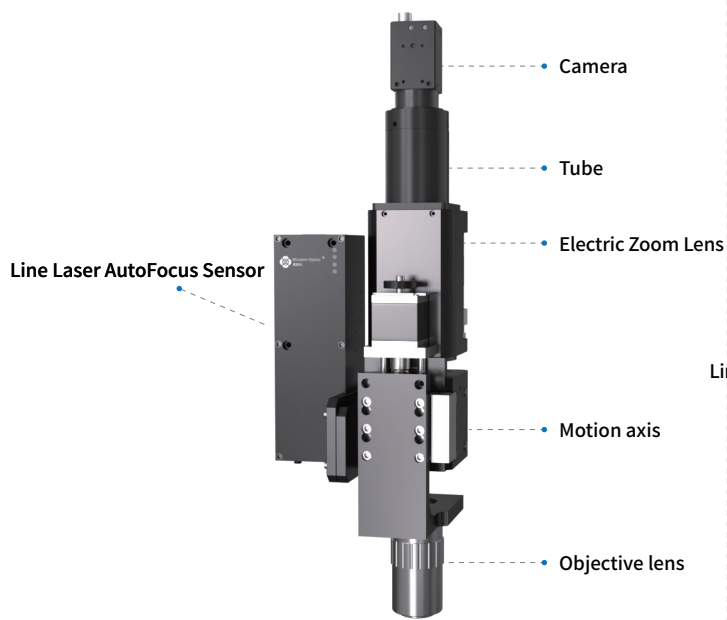


系统框图

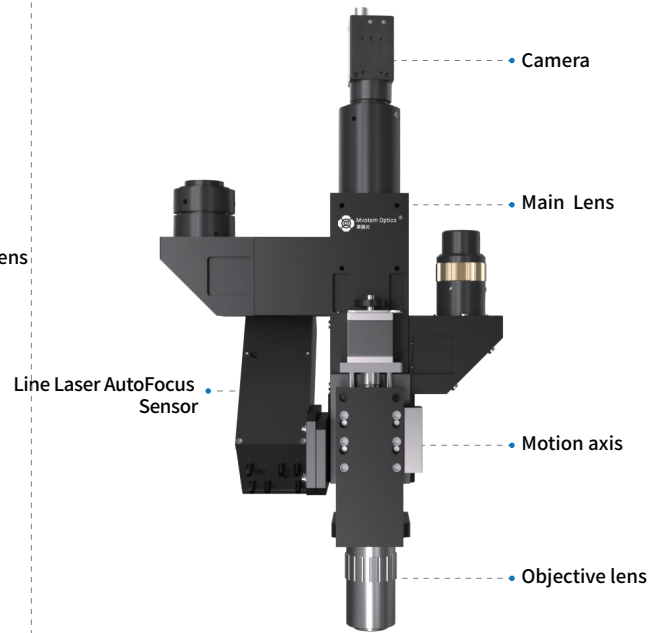




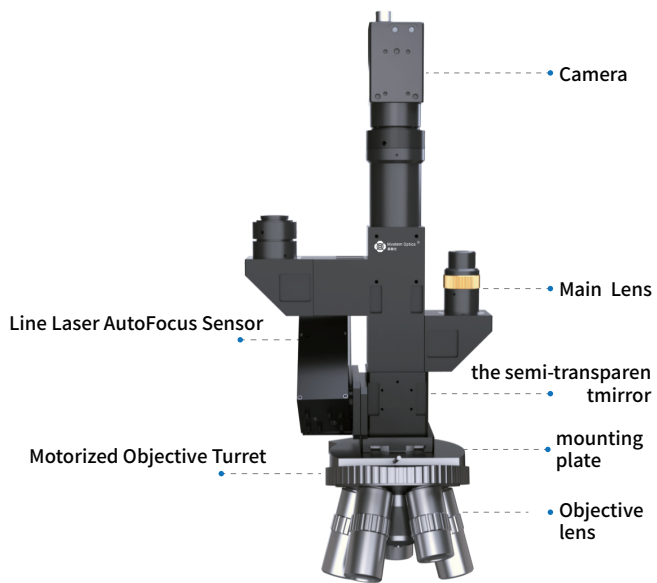
Schematic Diagram



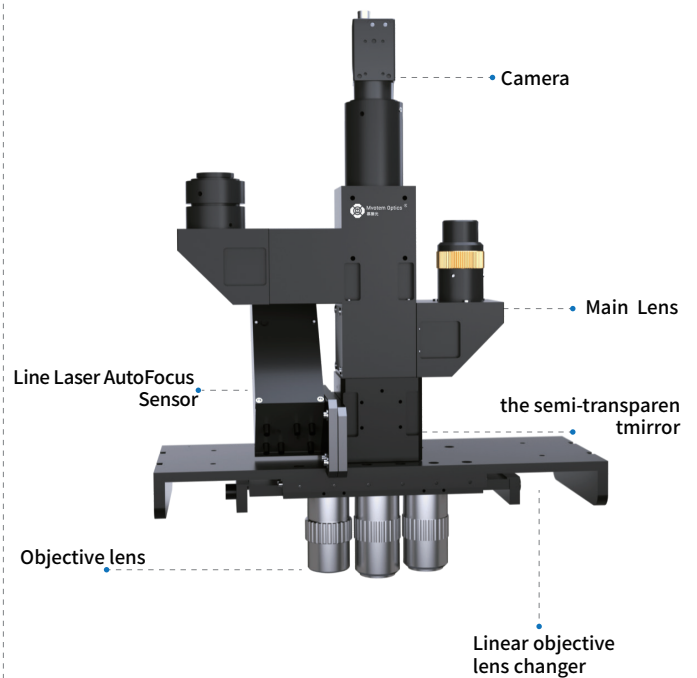
• Schematic Diagram 1



• Schematic Diagram 2



• Schematic Diagram 3



• Schematic Diagram 4



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