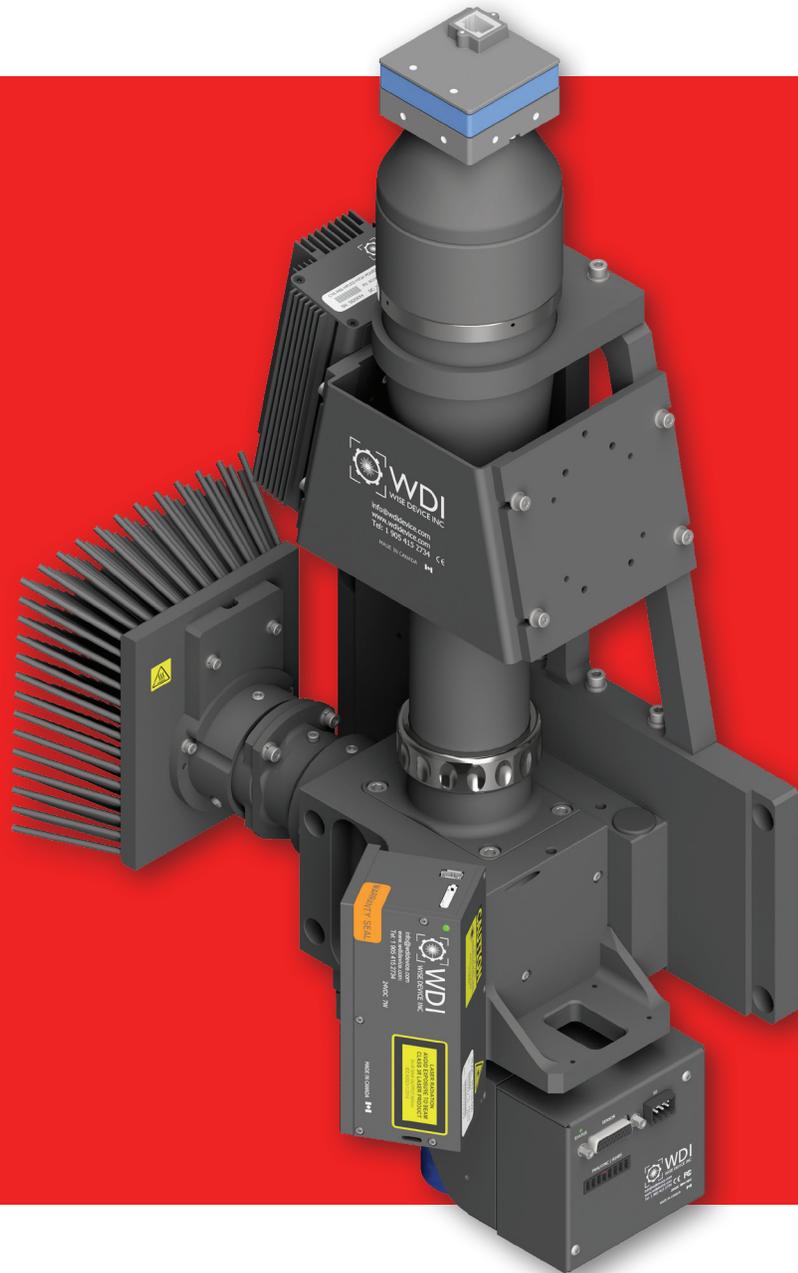


20 year
ANNIVERSARY

MMS LFOV mag.x

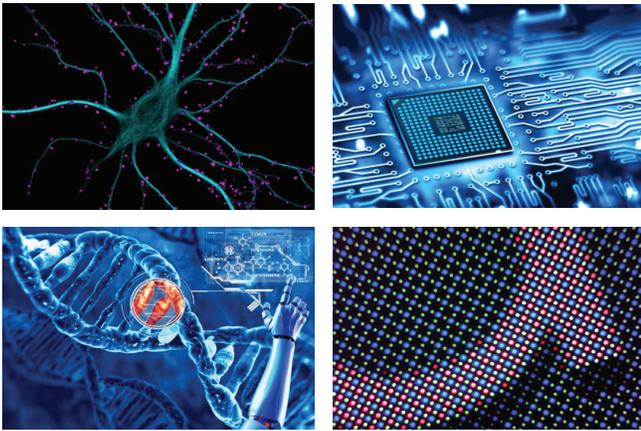
Large Field of View Modular Microscopy System



is a world leader in the design, manufacture and integration of OEM and complete microscopy automation solutions for the biomedical, metrology, electronics, semiconductor, and flat panel display markets.

AUTOMATED HIGH RESOLUTION LARGE FOV

WDI's Modular Microscopy System (MMS) Large Field of View QiOptiq mag.x is the first automated high resolution microscope imaging system designed specifically for use with modern large imaging sensors. With an image circle of up to 57mm the system supports both 8K and larger line scan sensors as well as high resolution, large megapixel, array sensors. Laser autofocus, Z-axis actuation and coaxial brightfield illumination coupled with a full SDK create a turn key imaging platform easily integrated into machine vision and inspection environments.



Many applications benefit from the versatility, speed and high optical performance of the MMS LFOV. The large field of view, high resolution optics allow more object to be imaged at once reducing the time needed to acquire sub-micron data. Coupled with automation, including a choice of WDI's autofocus solutions, demanding high speed inspection routines associated with FPD, semiconductor, PCB and many other industries become much easier.



Static or Dynamic Focus

WDI's PFA-DT/LN sensors are all-in-one autonomous autofocus solutions that focus easily on static stationary surfaces and those that are moving dynamically. Supporting this is decades of experience working with customers to solve real-world applications and industry challenges.



High Speed and Accuracy

PFA-DT/LN sensors quickly determine both the distance and direction to focus and output the information with a sensor sample rate of up to 8 kHz. Auto adjustment, advanced processing, and onboard algorithms permit the autofocus sensor to maintain this focus even on complex surfaces moving at high speed.



Easy Integration and Implementation

Easy integration and implementation are key features of all systems. The MMS LFOV comes complete as a turn key imaging platform including CAD/STP drawings, full software and a SDK. Backing the MMS is WDI's "Applications" team who provide integration, implementation and technical support.



Maximum Flexibility

WDI's MMS LFOV works on many surfaces including un-patterned, patterned, specular and diffusing. The system is available in both a single and multiple objective version and supports a variety of line scan and area scan cameras. A customizable high power LED illuminator provides bright uniform illumination.

KEY FEATURES

Object Space Telecentricity

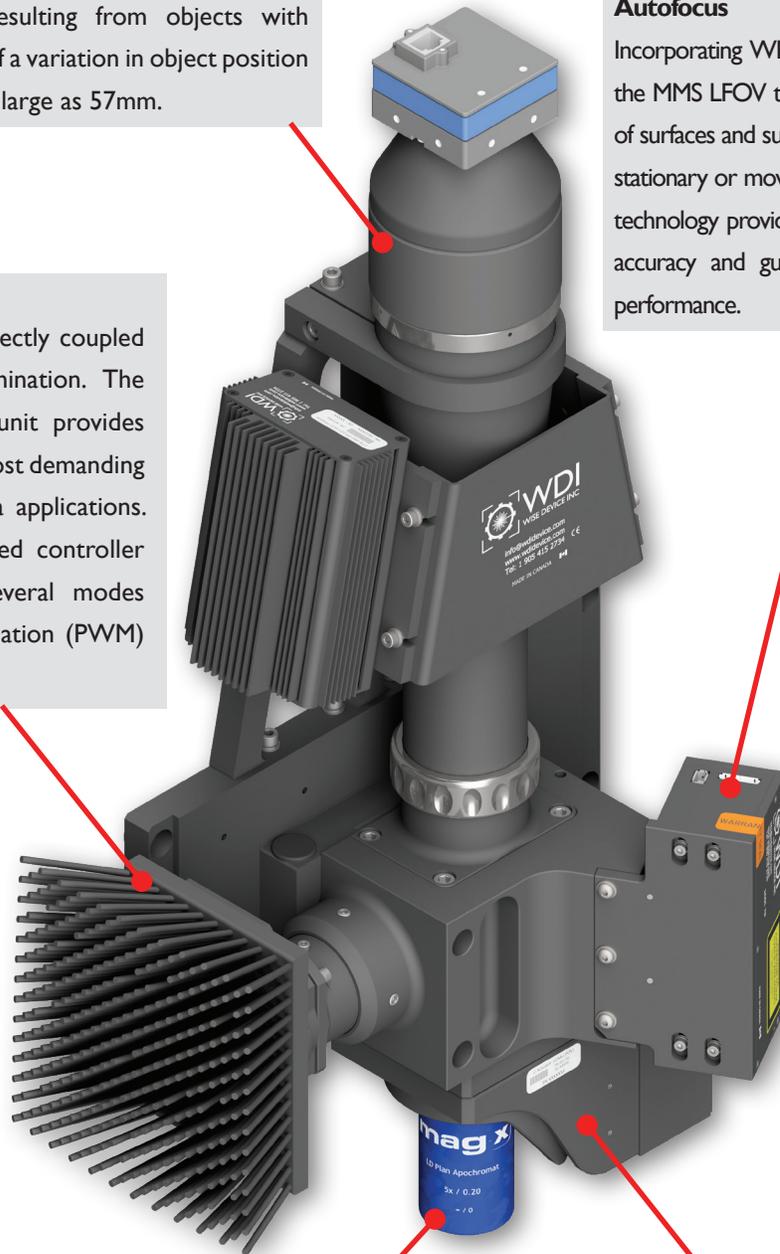
By designing 1X, 1.73X and 2.25X tube lens options which are matched to the objective lenses, exact object space telecentricity is precisely maintained. This prevents inaccurate measurements resulting from objects with height variations or because of a variation in object position even across image sensors as large as 57mm.

Integrated Illumination

The MMS LFOV includes directly coupled LED coaxial bright field illumination. The high power 18 Amp LED unit provides sufficient light for even the most demanding high speed line scan camera applications. The unit includes a dedicated controller capable of operating in several modes including Pulse Width Modulation (PWM) and External Trigger.

Autofocus

Incorporating WDI's autofocus sensor allows the MMS LFOV to maintain focus on a variety of surfaces and substrates regardless if they are stationary or moving in real time. PFA-DT/LN technology provides both high speed and high accuracy and guarantees reliable, repeatable performance.



High NA, Low Magnification & Long WD

The QiOptiq mag.x 2X and 5X objectives stand apart from conventional objectives by virtue of their low overall magnification, large numerical aperture (NA) and long working distance. These qualities along with excellent chromatic correction and flatness ensure high resolution and optical quality is maintained over the entire FOV.

Industrial Automation

The MMS LFOV is built on a rugged base unit designed to meet the demands of the harshest industrial environments. The unit features an objective actuator with the speed, accuracy and repeatability required for many applications. The MMS LFOV may also be configured with an optional Linear Lens Changer when more than a single objective is required.

OBJECTIVE SPECIFICATIONS

Objective & Tube Lens Specifications			Mag		1X	1.73X	2.25X			
			Focal Length mm		250	432.5	563			
			Image FOV mm		25	43.3	57			
Mag	NA	WD mm	DOF at 546nm, μm	RES 546nm, μm	Total Mag	Object FOV mm	Total Mag	Object FOV mm	Total Mag	Object FOV mm
2X	0.08	24.8	± 42.7	3.4	2X	12.5	3.5X	12.5	4.5X	12.5
5X	0.2	13	± 6.8	1.4	5X	5	8.7X	5	11.25X	5

MMS COMPONENT SPECIFICATIONS

Z Actuator Options & Specifications	Version	iZAA-LFOV	ZPS-MMSQ + CTR-AFML
	Objectives	Single	iLLC-LG or sLLC-LG (3 Lens)
	Motion Type	Stepper	Stepper
	Travel	8 mm (± 4 mm)	10 mm (± 5 mm)
	Resolution	39 nm/step (1/64 μstep)	47 nm/step (1/64 μstep)
	Maximum Speed, Acceleration	10 mm/s, 350 mm/s ²	10 mm/s, 100 mm/s ²
	Compliance	Clean Room Class 1000 (ISO 6)	

Lens Changer Options & Specifications	Version	iLLC-LG or sLLC-LG
	Maximum # of Objectives	3
	Objectives Supported	2X and 5X
	Motion Type	Linear Shaft Motor with Fixed Forcer
	Encoder	Linear Incremental Encoder
	Positioning Repeatability	$\pm 0.16 \mu\text{m}$
	Bearings	High Precision Cross-Roller with Anti-Creep
	Compliance	Clean Room Class 1000 (ISO 6)

Illuminator Options & Specifications	Version	ILL-PBS-HPLEDQ18	ILL-PBS-BHPLEDQ18
	Colors	White	Blue
	Operating Modes	DC, PWM, Pulse Follow, Pulse Trigger	
	Input Voltage	24V $\pm 10\%$	
	Output Current	18 A	
	Compliance	Clean Room Class 1000 (ISO 6)	



WDI is a world leader in the design, manufacture, and integration of OEM and complete microscopy automation solutions for the biomedical, metrology, electronics, semiconductor, and flat panel display markets. WDI's success lies in an innovative culture and ability to optimize and adapt our technology to customers' specific requirements by listening to their needs and gaining a deep understanding of their processes, applications and goals. WDI employs over 70 optical, electrical, mechanical and software engineers, as well as scientists, who are dedicated to servicing our customers. Contact WDI today to see how we can help solve your microscopy automation needs.



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