

MMS LFOVQ

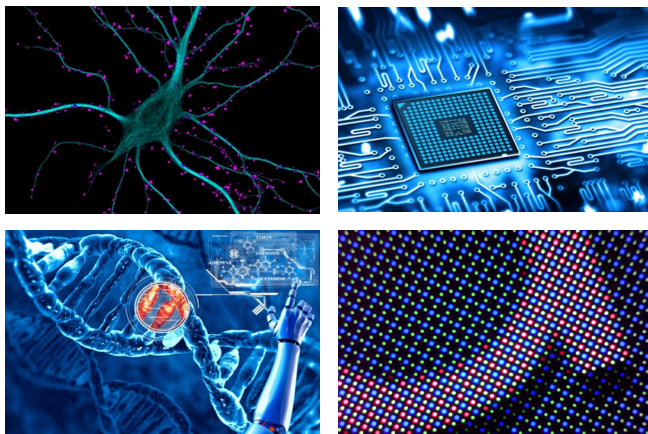
Large Field of View Modular Microscopy System



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 ofView QiOptiq (LFOVQ) 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 a 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 LFOVQ. 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

The combination of laser optics and an integrated microprocessor allow WDI's ATF sensors to focus equally on both static stationary surfaces and those that are moving dynamically. Supporting this is more than a decade of experience working with customers to solve real world application challenges.



High Speed and Accuracy

ATF sensors quickly determine both the distance and direction to focus and output the information at a rate of up to 6.5kHz. Auto adjustment, advanced processing, and on board algorithms permit the ATF 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 LFOVQ 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 LFOVQ includes directly coupled LED coaxial bright field illumination. The high power 18Amp LED unit provides enough 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

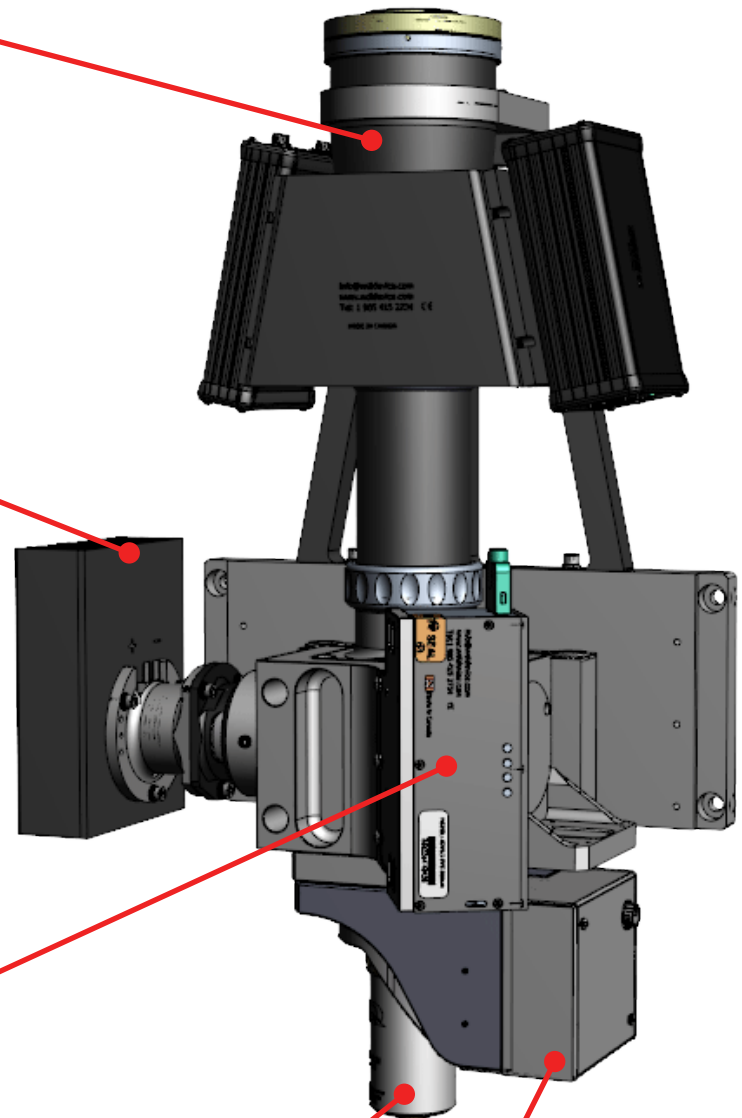
Incorporating WDI's autonomous digital autofocus sensor (ATF) allows the MMS LFOVQ to maintain focus on a variety of surfaces and substrates regardless if they are stationary or moving in real time. ATF technology provides both high speed and high accuracy and guarantees reliable, repeatable performance.

High NA, Low Magnification & Long WD

The QiOptiq mag.x 2X, 5X and 8X 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 LFOVQ 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 LFOVQ may also be configured with an optional Linear Lens Changer when more than a single objective is required.



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 546 nm μ m	RES 546nm μ m	Total Mag	Object FOV mm	Total Mag	Object FOV mm	Total Mag	Object FOV mm
2X	0.08	24.8	\pm 42.7	3.4	2X	12.5	3.5X	12.5	4.5X	12.5
5X	0.2	13	\pm 6.8	1.4	5X	5	8.7X	5	11.25X	5
8X	0.32	23	\pm 2.7	0.9	8X	3.1	13.8X	3.1	18X	3.1

Z Actuator Options & Specifications	Version	ZAA-LFOVQS	ZPS-MMSQ
	Objectives	Single	LLC-LG (3 Lens)
	Motion Type	Stepper	Stepper
	Travel	8mm (\pm 4mm)	10mm (\pm 5mm)
	Resolution	0.156 μ m/step	0.188 μ m/step
	Speed	10 mm/s	10 mm/s
	Compliance	Clean Room Class 100 SEMI and CE	

Lens Changer Options & Specifications	Version	LLC-LG
	Maximum # of Objectives	3
	Objectives Supported	2X, 5X, 8X
	Motion Type	Shaft Linear Motor with Fixed Forcer
	Encoder	Linear Encoder
	Positioning Accuracy	\pm 0.2 μ m
	Positioning Repeatability	\pm 0.2 μ m
	Bearings	High Precision Cross-Roller with Anti-Creep
	Compliance	Clean Room Class 100 SEMI and CE

Illuminator Options & Specifications	Version	ILL-HPLEDQ18
	Colours	White or Blue
	Operating Modes	DC, PWM, Pulse Follow, Pulse Trigger
	Input Voltage	24V \pm 10 %
	Output Current	18Amp
	Compliance	Clean Room Class 100 SEMI and CE



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 30 optical, electrical, mechanical and software engineers, as well as scientists, who are dedicated to servicing our customers. We have locations in Canada and Poland, with service centers in Taiwan and South Korea. Contact WDI today to see how we can help solve your microscopy automation needs.



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