PFA-LN

20 year ANNIVERSARY

Precision Focus Automation - Line

The PFA-LN sensor is WDI's next-generation autofocus solution. Designed to meet new demands for higher speed, greater accuracy, integration flexibility and continuous focus on complex surfaces, the PFA-LN sensor is the ideal solution for semiconductor, flat panel display, biomedical and optical metrology microscopy imaging.

NEW Multi Segment Processing ensures autofocus performance for complex, patterned and multi surface applications by continuously adapting and optimizing focus parameters automatically

NEW 30-degree line rotation solves problems with rectilinear patterned surfaces without requiring external mechanical rotation

Major improvements in memory, processing power, and programmability, along with a high update rate and fast measurements, enhance high-speed tracking performance

Gigabit Ethernet communication provides greater reliability and enhanced capabilities such as diagnostic and performance reporting provides real- time analytic and statistical metrics

Flexibility

PFA-LN can interface with many different types of Z motion systems including; Piezo actuators, Dover Motion's DOF-5, WDI's new integrated Z stages, and other third-party Z axis stages. The sensor features a configurable output supporting both analog output and digital step and direction making it a universal solution.

Integration

A small footprint, simple optical alignment features, higher power, and enhanced laser shaping make PFA-LN easier to integrate optically and mechanically. An easy-to-use software application and SDK make integration straight forward. The majority of SDK function calls remain unchanged and compatible.

Accuracy

A new imaging sensor, a powerful processor, and sophisticated algorithms provide autofocus accuracy to less than 0.25 of the objective DOF.

Speed

Up to 3 KHz sample rate and improved processing power, coupled with Gigabit Ethernet communication create the fastest autofocus solution available today.
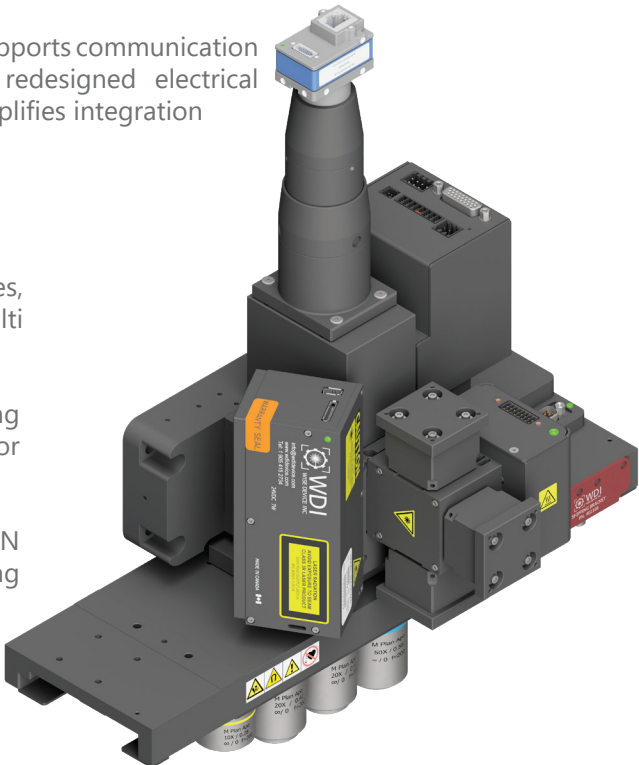
WDI WISE DEVICE INC

PRECISION • FOCUS • AUTOMATION

PFA-LN INTEGRATION WITH NEW MMS COMPONENTS

The new PFA-LN sensor couples the world's fastest, most advanced autofocus technology with enhanced support for WDI's new cost-effective, high-performance Z-stages, Linear Lens Changers, Illuminators and controllers

A single Ethernet connection from the PFA-LN sensor to the PC supports communication to all WDI MMS components. Integrated electronics and redesigned electrical interfacing improves performance, reduces system cost and simplifies integration

PFA-LN FEATURES

Advanced surface recognition functionality analyzes, differentiates, and permits continuous focus on a specified surface in multi surface and multilayer samples

Capable of both laser and video autofocus for demanding applications with a mixture of substrates, patterned surfaces or varying reflectivity

Using WDI's familiar Console SW for configuration, the PFA-LN sensor is backwards compatible with the majority of WDI's existing ATF Library

PFA-LN SPECIFICATIONS

Feature					Feature	
Structured Light Pattern	Line				IEC Certification	61326-1, 61010-1 and 60825-1
Laser Wavelengths Available	450 nm	660 nm	785 nm	850 nm	PC Communication	Gigabit Ethernet, RS485
Typical Output Power	1.1 mW	1.1 mW	0.9 mW	1.1 mW	Sampling Rate	Up to 3kHz (SWIFT 5 kHz)
Laser Classification	Class 3R				Static Autofocus Repeatability	± 0.25 Objective DOF or better
Standoff Distance	300 mm maximum				Tracking Autofocus Repeatability	± 0.33 Objective DOF or better

Objective	Numerical Aperture (NA)	DOF (µm)	Linear Range (µm)*	Capture Range (µm)*
5X	0.14	± 14	± 660	More than ± 4500
10X	0.28	± 3.5	± 170	More than ± 4500
20X	0.42	± 1.6	± 160	± 4300
50X	0.55	± 0.9	± 30	± 1000

* Measured for 660 nm

* Target specifications, final specifications subject to change

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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