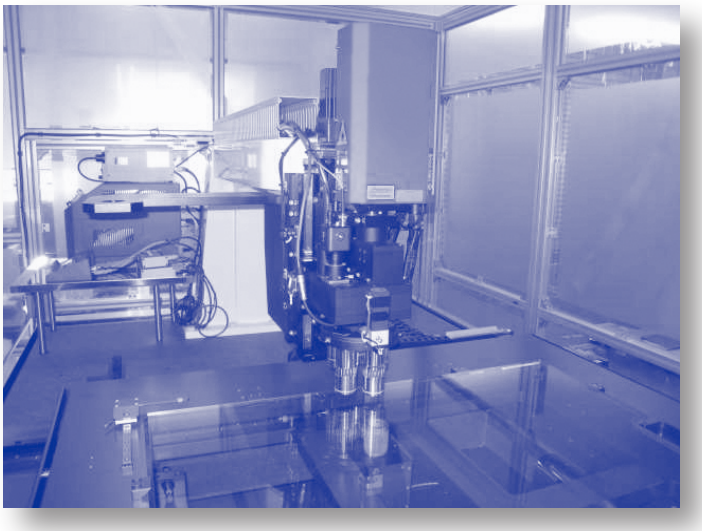
SEIWA Laser Autofocus System



Seiwa's laser autofocus system combines advanced optics and system customization to provide fast and accurate focusing of products for image processing and other vision applications. The laser autofocus system is a motorized vision stage control system that is integrated with through-the-lens measurement and a non-contact optical sensor for dynamic focusing, stepper motors for precision control, microscopic objective lenses for high resolution and a user interface application which offers options and control for the user. The laser autofocus is ideal for a wide range of applications such as semiconductor wafer and device inspection, flat panel display inspection, and many other automated inspection and vision based applications. Here are advantages in using Seiwa's laser autofocus:

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Advantages	**Features**
Faster autofocus and large improvement in productivity(sample rate max: 5kHz)	Sample rate is 10 times faster than conventional, video autofocus
Greater focus accuracy in a wide variety of samples	Users have option to select laser angle: 45 or 90 degree angle. 45 degree angle helps prevent laser line from falling into line of pattern.
High-definition image input in wide variety of sample colors	Users have option to select from two laser wavelengths (670nm and 785nm). Compatible with mono and color cameras as well as high definition line scan cameras.
Complete turnkey solution	Seiwa's complete turnkey solution includes all optics and operating software.

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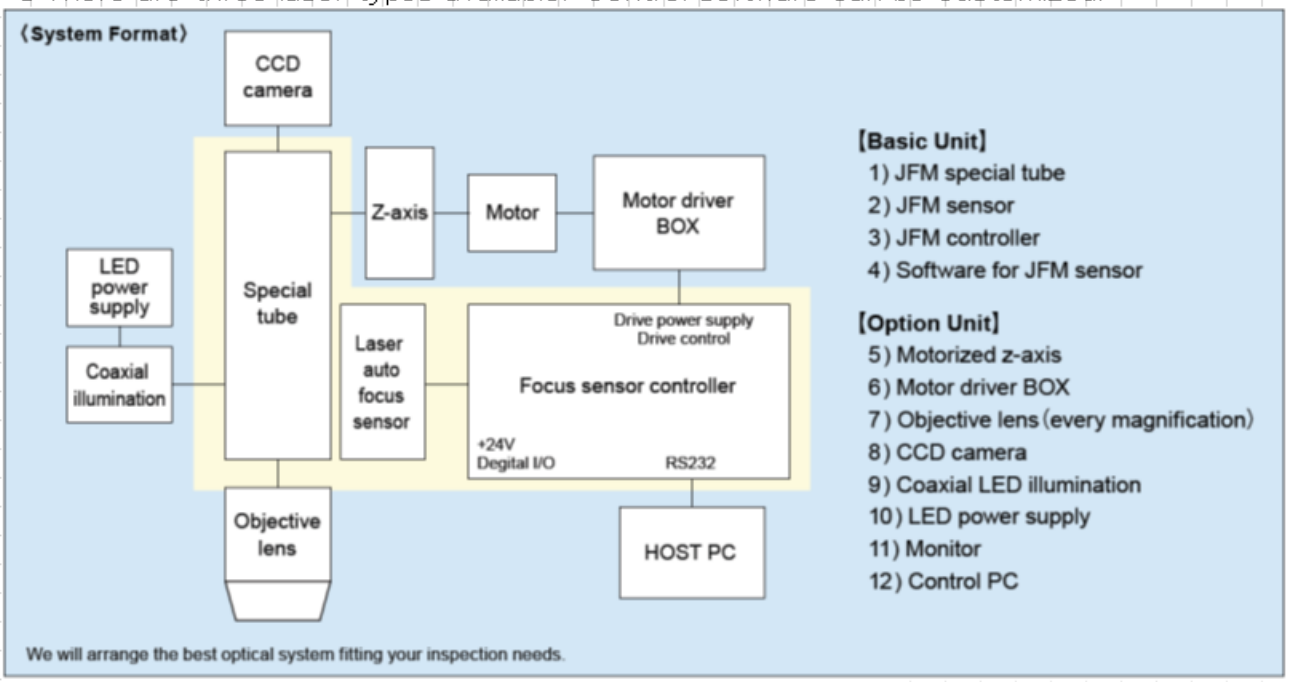
LAF

Basic Configuration

Laser autofocus unit with DIC systems

Specifications

○There are three laser types available. Control software can be customized.

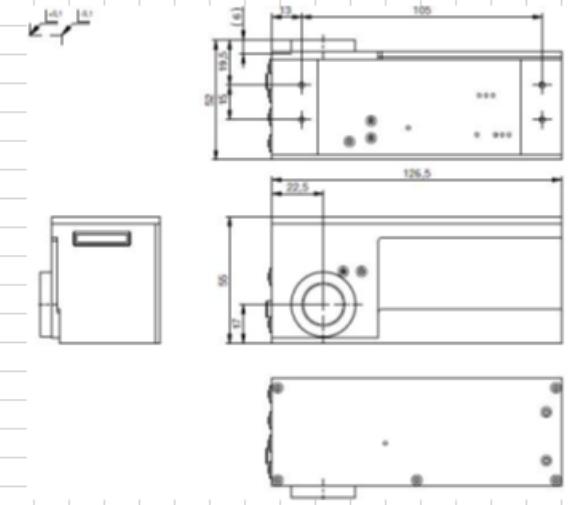


＜Laser Specification＞

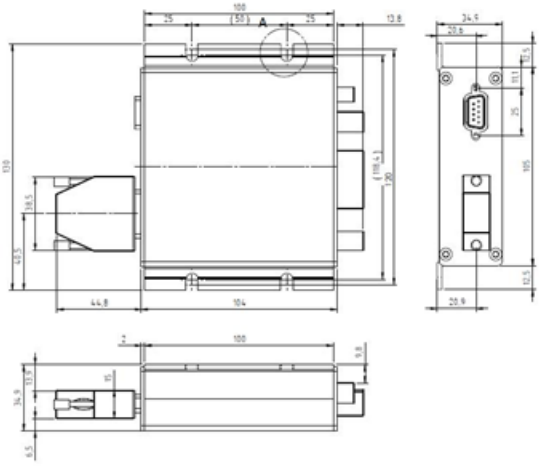
Model No.	LAF3-C, LAF4-C, LAF4-C785
Laser Type	Semiconductor Laser
Output wavelength	670nm (LAF3-C, LAF4-C)、785nm(LAF4-C785)
Safety Design	Class 3B
Sample rate	5kHz at maximum
Focus positioning time	External trigger type: 0.2 sec
	Tracking Type : 0 sec

Model	Wave length	Laser beam shape
LAF3-C	670nm	Straight
LAF4-C	670nm	45 degree
LAF4-C785	785nm	45 degree

＊Auto Focus Sensor



＊Focus Sensor Controller



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Software

Laser auto focus unit with DIC systems

LAF Software

Main screen consists of the following parts:

A:Software Version
B:Communication settings
C:Communication connection status
D:Lens selection
E:Status displaying
F:Motor settings
G:Movement and Operation
H:Measurement and Diagnostics
J:Coordinate Positioning
K:Origin Return
L:Multi Surface
M:Sensor Photo
N:Scan Line Display (horizontal/vertical scanline)

PC Requirements

OS	Windows XP Windows 7(32bit & 64bit) Windows 8(64bit)
CPU	Intel Core i5 or better
Memory	More than 2GB
HDD	More than 120GB
Interface	RS232C port or Converter using IC manufactured by FDTI Recommended: LINEEYE Co., Ltd LE-US232B

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LAF

System Diagram

Camera

C-mount
F-mount
M72 mount

Color device

Area sensor

Image board

Image Autofocus is compatible only with CAMERA LINK

Laser type

LAF3-C
Wave length 670nm
Laser shape straight

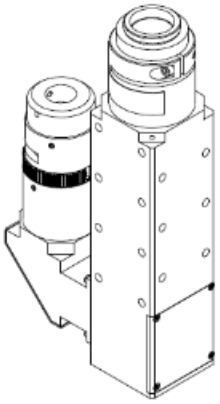
LAF4-C
Wave length 670nm
Laser shape 45°

LAF4-C785
Wave length 785nm
Laser shape 45°

Filter

Color Filter

DIC filter



Illumination

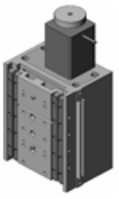
Halogen illumination

LED illumination

Z axis

Small motorized

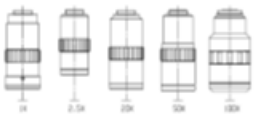
Standard motorized



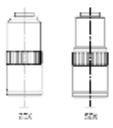
Objective lens

Visible

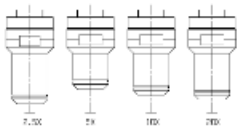
IR



UV



DIC

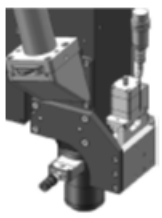


Objective attached

Manual revolver

Motorized revolver

Small Z axis



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