OMRON

Camera & Software Vision Package

PC VISION SYSTEM FJ SERIES

Create your ideal system

» Flexible vision system

» Easy customization

» Highly robust cutting-edge algorithms

reali**zing**

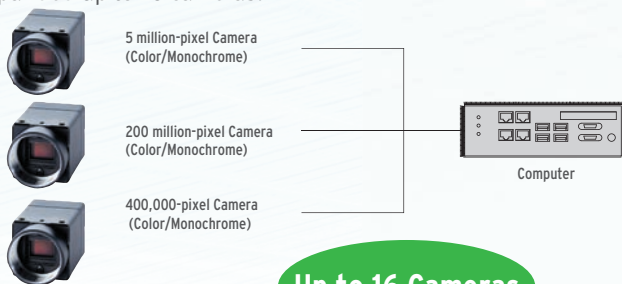# Quick Installation on Your PC-based Systems

Omron now provides our machine vision solution developed for the manufacturing floor as a package that can be installed on PC-based systems.

Cameras

Connect quickly and Expand easily

GigE Cameras

Six different GigE cameras which has compatibility with FJ software are available. They can realize quick connectivity and stable working. It can be expanded up to 16 cameras.

5 million-pixel Camera
(Color/Monochrome)

200 million-pixel Camera
(Color/Monochrome)

400,000-pixel Camera
(Color/Monochrome)

Computer

Up to 16 Cameras.

Measurement Controls

Simple programming and quick testing

Menu driven Software

More than 100 proven processing items from OMRON, have a GUI developed for the manufacturing floor in a long factory automation experiences.
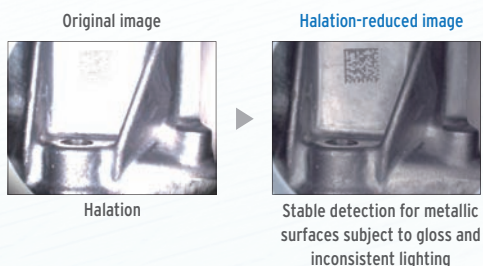This greatly reduces program development work in comparison with library based programming.

Drag & Drop

Computer
with Application
Software installed.

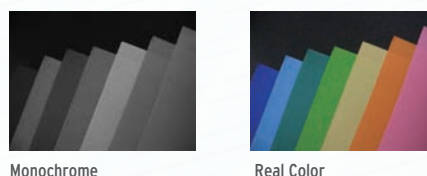## Algorithms

Highly robust measurement algorithms.

HDR Sensing

The dynamic range has been increased by up to 5,000 times to enable clear imaging of inspection objects that was previous not possible due to lighting inconsistencies or halation.

Original image

Halation-reduced image

Halation

Stable detection for metallic surfaces subject to gloss and inconsistent lighting
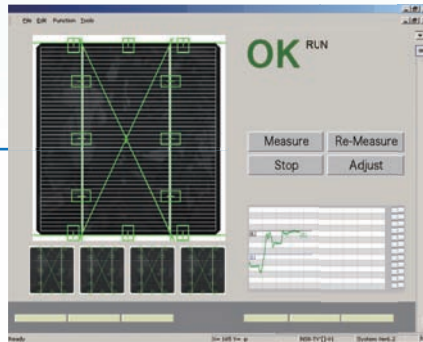
Real Color Sensing

Inspecting real color data enables detecting minute differences in colors that are difficult to detect with color gray conversion or filtering.

Monochrome

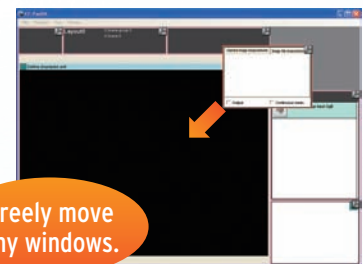Real Color

Quick development original GUIs

Operation GUI Example

(This example was created with FJ's Application Producer and Visual Studio®.)
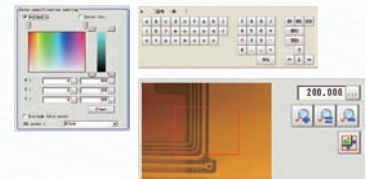
Layout Editor

You can easily customize the positions, sizes, and functions of windows and buttons based on OMRON's GUIs, which are highly appraised for being easy to use and easy to understand.

Freely move any windows.

Wide Range of GUI Modules

You can use a lot of custom controls and sample codes implemented in Application Producer to create your own GUIs easily.
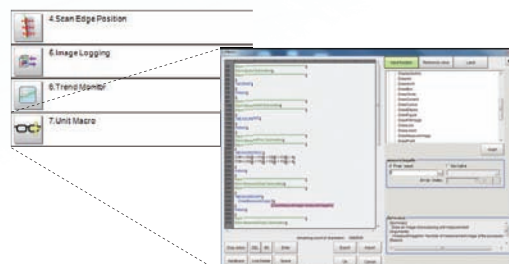
Implement own program

You can implement your own program as original processing item with using Visual Studio® and Application Producer easily.
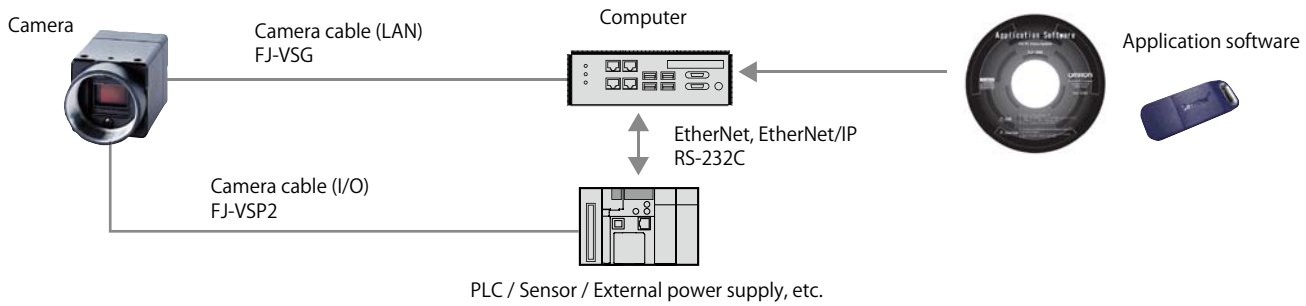
Macro Processing Items

You can implement even advanced calculations on the processing flow as a Macro processing items easily.
It allow you to edit the program on the controller and the compiling is not necessary. So you can develop and adjust the system quickly.

System configuration

Camera — Camera cable (LAN) FJ-VSG — Computer — EtherNet, EtherNet/IP RS-232C — Application software

Camera cable (I/O) FJ-VSP2

PLC / Sensor / External power supply, etc.

Ordering Information

Type				Model	Operating environment

Camera & Software Vision Package
• Application software × 1 license
  (CD-ROM × 1, Dongle key × 1)
• Camera × 1 unit
		400,000 pixels	Monochrome	**FJ-SG2-S**	• CPU: Intel Pentium Processor (SSE2 or higher)
					• OS: Windows7 Professional (32/64bit)
					  or Enterprise (32/64bit) or Ultimate (32/64bit),
					  Windows 10 Pro (32/64bit) or Enterprise (32/64bit)
					• .NET Framework: .NET Framework 3.5 or higher
					• Memory: At least 2 GB RAM
					  Available disk space: At least 2 GB
					• Camera interface: Ethernet 1000BASE-T
					• Display: XGA (1024 × 768), True Color (32-bit) or higher
					• Optical drive: CD/DVD drive

		400,000 pixels	Color	**FJ-SCG2-S**	
		2 million pixels	Monochrome	**FJ-S2MG2-S**	
		2 million pixels	Color	**FJ-SC2MG2-S**	
		5 million pixels	Monochrome	**FJ-S5MG2-S**	
		5 million pixels	Color	**FJ-SC5MG2-S**	
Camera (Single unit)		400,000 pixels	Monochrome	**FJ-SG2**	——
		400,000 pixels	Color	**FJ-SCG2**	
		2 million pixels	Monochrome	**FJ-S2MG2**	
		2 million pixels	Color	**FJ-SC2MG2**	
		5 million pixels	Monochrome	**FJ-S5MG2**	
		5 million pixels	Color	**FJ-SC5MG2**	
Tripod Mount (Optional adapter for fastening the camera with tripod screws)		——		**TP-KWA**	
Camera cable (LAN)		Cable length: 3 m, 5 m, 10 m, 20 m, 40 m		**FJ-VSG □M**	
Camera cable (Power, I/O)		Cable length: 3 m, 5 m, 10 m		**FJ-VSP2 □M**	

Development environment
Application Producer
(Version 6.31)
	Media only	CD-ROM		**FH-AP1**	• CPU: Intel Pentium Processor (SSE2 or higher)
					• OS: Windows 7 Professional (32/64bit) or
					  Enterprise (32/64bit) or Ultimate (32/64bit),
					  Windows 8 Pro (32/64bit) or Enterprise (32/64bit),
					  Windows 8.1 Pro (32/64bit) or Enterprise (32/64bit),
					  Windows 10 Pro (32/64bit) or Enterprise (32/64bit)W
					The following operating environment is required to use the
					camera FJ-S□□□G2.
					Windows 7 Professional (32/64bit) or Enterprise (32/64bit)
					or Ultimate (32/64bit), Windows 10 (32/64bit)
					• .NET Framework: .NET Framework 3.5 SP1 or higher
					• Memory: At least 2 GB RAM
					Available disk space: At least 2 GB
					• Browser: Microsoft® Internet Explorer 6.0 or later
					• Display: XGA (1024 × 768), True Color (32-bit) or higher
					• Optical drive: CD/DVD drive
					• The following operating environment is required to use the
					  Camera FJ-S□□□G2.
					  Camera interface: Ethernet 1000BASE-T
					• The following software is required to customize the software:
					Microsoft® Visual Studio® 2008 Professional, or
					Microsoft® Visual Studio® 2010 Professional, or
					Microsoft® Visual Studio® 2010 Professional

	1 license	——		**FH-AP1L**	

Ratings and Performance

Camera

	FJ-SCG2/SG2	FJ-SC2MG2/S2MG2	FJ-SC5MG2/S5MG2
Imaging element	Progressive scan 1/2.9" CMOS	Progressive scan 1/1.7" CMOS	Progressive scan 2/3" CMOS
Effective pixels	720 (H) × 540 (V)	1,624 (H) × 1,240 (V)	2,448 (H) × 2,048 (V)
Frame rate	282.8 fps	54.6 fps	21.9 fps
I/F	Gigabit Ethernet (1 Gbit/s)		
Lens mount	C mount		

Refer to the datasheet for details.

Note: Do not use this document to operate the Unit.

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