

Evolution™ VF

DIGITAL KIT

Evolution™ VF Digital Camera Kit

The High Performance Camera for Brightfield or Fluorescence Scientific and Industrial Applications

Overview

The Evolution VF digital camera offers a progressive scan interline CCD sensor with a resolution of 1.4 million pixels in a 12-bit digital output. High-speed low noise electronics provide linear digital data at frame rates of up to 110 fps in region of interest with binning. The IEEE 1394 FireWire™ digital interface allows ease of use and installation with a single wire requiring no frame-grabber or external power supply.



Available Camera Models:

- ▶ Evolution VF Monochrome Cooled
- ▶ Evolution VF Monochrome Non-cooled
- ▶ Evolution VF Color Cooled
- ▶ Evolution VF Color Non-cooled

Works Seamlessly with Image-Pro Software

The Evolution VF kit comes with an Image-Pro family driver that requires one of the following Image-Pro family applications:

■ Image-Pro® Express

Perfect for basic imaging, Image-Pro Express offers numerous capture and enhancement options. Includes an easy upgrade path to Image-Pro Discovery or Image-Pro Plus.

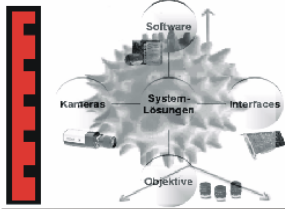


Image-Pro® Discovery

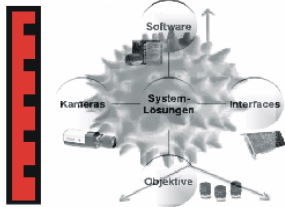
Image-Pro Discovery includes measurement and analysis capabilities and provides an easy upgrade path to the more powerful Image-Pro Plus.

Image-Pro® Plus

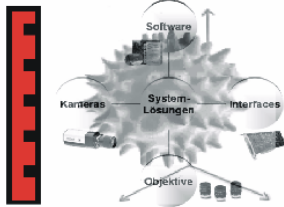
The ultimate imaging software package. Image-Pro Plus includes all of the functionality of Image-Pro Discovery along with added analysis tools and the ability to write customized macros.

Evolution VF Features and Benefits

Features	Benefits
High Resolution 1.4 Million pixel sensor	<ul style="list-style-type: none"> Highly detailed, sharp images
High Speed Readout	<ul style="list-style-type: none"> Previewing & focusing in real time 165fps maximum frame rate 110fps in 4x4 binning and ROI 10fps full resolution Ideal for automated imaging applications
Flexible Exposure Control from 12µs to 17.9min	<ul style="list-style-type: none"> Optimal integration over a wide range of light levels
12 bit digitization 36 bit color digitization	<ul style="list-style-type: none"> 4096 grey levels for precise light intensity discrimination 4096 levels per channel for superior color images
External Sync and Trigger	<ul style="list-style-type: none"> Tight synchronization with flashlamps, automated filters, shutters and microscope stages
Peltier Cooling	<ul style="list-style-type: none"> Minimize thermal noise during low light imaging
ROI (Region of Interest)	<ul style="list-style-type: none"> Higher frame-rates for precise analysis of rapidly changing specimens



<p>Binning</p>	<ul style="list-style-type: none"> ▪ Increased sensitivity for quantitation & imaging ▪ of very low light levels ▪ Increased frame rate
<p>IEEE 1394 FireWire™</p>	<ul style="list-style-type: none"> ▪ Simple connectivity ▪ Ease of use & installation ▪ Portability with laptop computer ▪ Simultaneous use of multiple cameras through a single port ▪ Single cable operation, no external power supply or control unit
<p>Fully Integrated Solution</p>	<ul style="list-style-type: none"> ▪ Offers out-of-the box image capture and analysis when combined with Image Pro Family image analysis software



Evolution VF Specifications

CCD Sensor	
Light Sensitive Pixels	1.4 million, 1392 x 1040
Binning Modes	2x2, 4x4, 8x8
ROI (Region Of Interest)	From 1x1 pixels up to full resolution, continuously variable in single pixel increments
Exposure/Integration Control	12µs to 17.9min. in 1µs increments
Sensor Type	Sony ICX205 Progressive Scan Interline CCD, Monochrome, or Color
Pixel Size	4.65µm x 4.65µm
Linear Full Well Capacity	10,000 e ⁻
Readout Noise	< 12 e ⁻
Cooling Available	Yes
Cooling Type	Peltier Thermoelectric cooling to 25 degrees Celsius below ambient
Digital Output	12-bit
Readout Frequency	20, 10, 5, 2.5MHz
Frame Rate	10fps full resolution @ 12-bits, 165fps maximum with binning and ROI
Camera	
Computer Platforms/Operating Systems	Microsoft® Windows
Digital Interface	IEEE 1394 FireWire™
Sustained Image Data Rate	40 MB/s
Shutter Control	Electronic shutter, no moving parts
External Trigger	TTL Input
Trigger Types	Internal, Software, External
External Sync	TTL Output
Gain Control	0.6 to 15 times
Offset Control	Controlled by Image-Pro software
Optical Interface	½", C-Mount optical format
Threadmount	¼" -20 mount
Power Requirements	6 watts non-cooled; 11 watts cooled; 8-24V
Weight	595g; cooled 865g
Warranty	2 years
Operating Environment	0 to 35 degrees Celsius (32 to 95F)
Humidity	Less than 80% at 35 degrees Celsius (95F)

Experience a Fully Integrated Solution

Don't risk valuable time and money by attempting to use poorly integrated software and hardware components. Evolution VF Digital Kits provide guaranteed compatibility from one source, at a price that is easy on your budget.