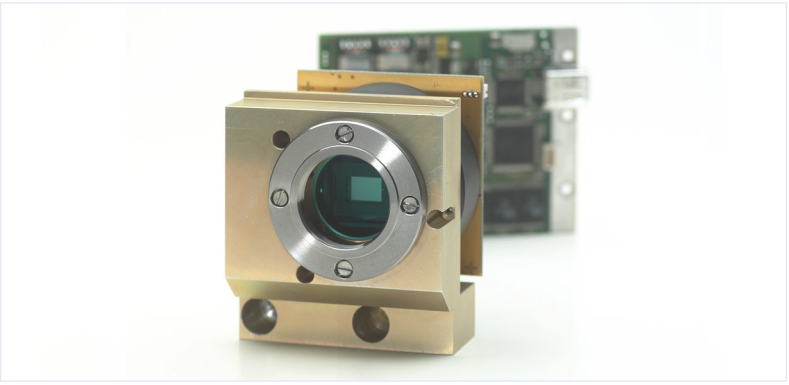
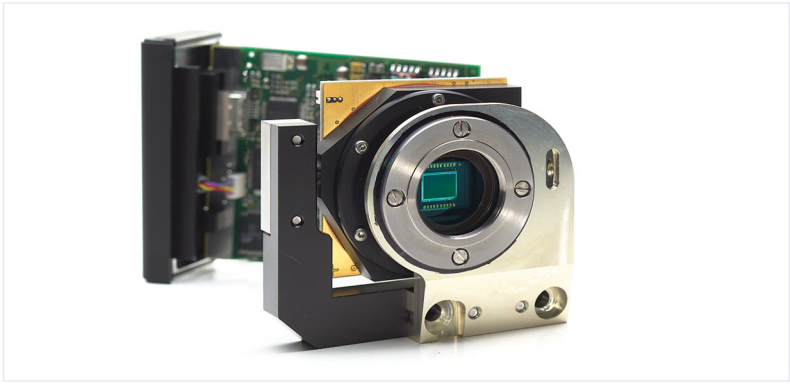
Imaging Modules 1.4

Digital Image Acquisition – for Reliability and High Quality



Imaging Module 1.4 M/C



Imaging Module 1.4 M/C cool

Superior Image Quality - for Pros by Pros

Jenoptik Imaging Modules 1.4 for digital image acquisition provide superior image quality and an excellent price-performance ratio. They combine many years of experience in the development, design and production of high-quality image acquisition systems for various branches of industry.
Integrated progressive scan CCD sensors are available as monochrome or RGB color sensors. Superb electronics including analog gain warrants high sensitivity and broad dynamic range, yielding great exposure latitude.
For cooling, each Imaging Module includes a Peltier cooler with heat sink. The sensor itself is enclosed by a nitrogen-flushed capsule. The result is perfect image quality for reliable image analysis.

Easy to integrate

An Imaging Module consists of two boards which are connected via a flat-ribbon cable. This yields better flexibility for use in system solutions with little integration space.

All modules include a powerful industrial IEEE1394a Firewire standard interface. Trigger inputs and outputs ensure fast communication with other system components.
For optical adaptation, a C-mount is provided. An IR-cut-off filter (optionally: clear glass) is integrated to protect the sensor from dust. Mechanical attachment via C-mount warrants simple and precise installation.

Easy to use

Imaging Modules can easily be operated using CapturePro image acquisition software with a graphical user interface or also via TWAIN driver. For integration with other software, an ActiveX Control and a Software Development Kit with C-interface are available to facilitate full access to image data and camera at any time.

Application Areas

- Life science, material science, and fluorescence
- Science, and industry
- Forensics, and security

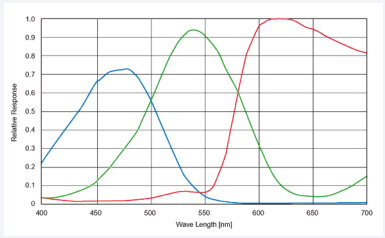
Excellence through light: Sensors

Imaging Modules 1.4

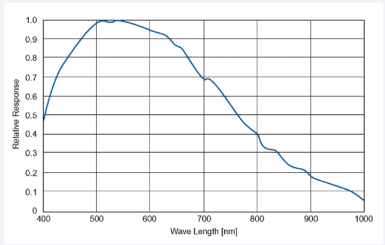
Digital Image Acquisition – for Reliability and High Quality

Specifications

Imaging Module	*1.4M*	*1.4C*	*1.4M cool*	*1.4C cool*
Image sensor	ICX285AL (monochrome)	ICX285AQ (RGB)	ICX285AL (monochrome)	ICX285AQ (RGB)
Sensor type	Progressive Scan Interline Transfer CCD			
Sensor size	8.8 mm × 6.6 mm (2/3")			
Active pixels (spacing)	1360 × 1024 (6.45 µm)			
Digitization	12 bit		14 bit	
Analog gain	1× ... 8×			
CCD clocking	12 MHz / 24 MHz			
Frame rate	10 fps (full frame) up to 38 fps (HFRM)			
Binning	1×1 ... 5×5			
ROI	Arbitrary position and size			
Exposure times	0.2 ms ... 180 s		0.2 ms ... 300 s	
Dynamic range (typical)	approx. 66 dB			
Cooling	-		Peltier, heat sink and nitrogen-flushed sensor capsule	
Data interface	IEEE1394a Firewire			
Optical interface	C-mount			
Trigger-In	2.4 V ... 14 V, max. 20 mA, min. 10 µs switching time			
Trigger-Out	0 V (LOW) ... 5 V (HIGH), max. 20 mA			
Control software	Microsoft Windows: SDK, TWAIN, ActiveX, CapturePro Apple Macintosh: SDK, CapturePro			
Voltage supply	8 ... 33 VDC (via IEEE1394a)			
Power consumption	7 W			
IR cut-off-filter	Standard			
Dimensions sensor board	72 mm × 62.3 mm		78 mm × 72 mm	
Dimensions interface board	85 mm × 70 mm			
Cable length sensor-interface board	8 cm			
Ambient operating temperature	+5 °C ... +35 °C			
Humidity	5% ... 80% (not condensing)			
Computer requirements	Pentium IV, 1,6 GHz, 512 MB RAM, IEEE1394a MS Windows 2000 / XP / Vista or Apple Macintosh OS X 10.4			



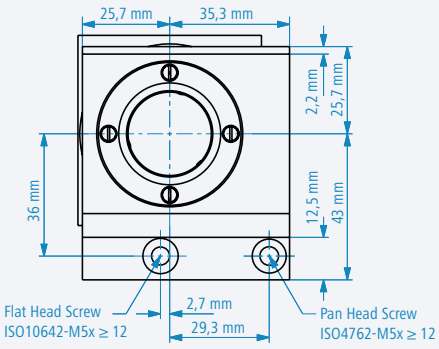
SONY ICX285AQ:
Relative spectral sensitivity
(CCD, without optics and IR cut-off-filter)



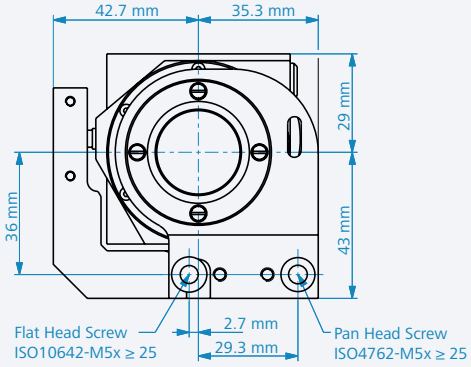
SONY ICX285AL:
Relative spectral sensitivity
(CCD, without optics and IR cut-off-filter)

IR-cut-off filter alternative option:

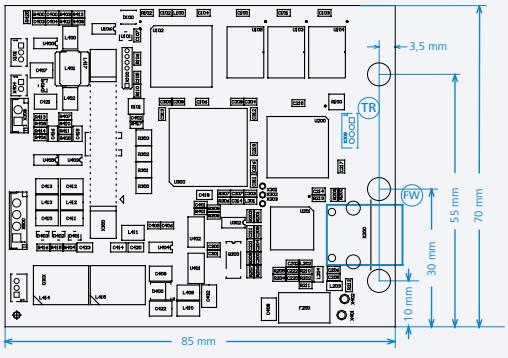
On request, modules can be equipped with a clear-glass filter to replace the IR cut-off filter for better sensitivity in special applications involving the IR spectral range.



Sensor board IM 1.4 CM (no cooling) mounted on C-mount body



Sensor capsule IM 1.4 CM (cooled version) mounted on C-mount body



Interfaceboard showing dimensions and connectors for trigger (TR) and IEEE1394a Firewire (FW)

It is our policy to constantly improve the design and specifications. Accordingly, the details represented herein cannot be regarded as final and binding.

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