Leica DFC425 / DFC425 C

Digital Microscope cameras for Analysis and Documentation

Living up to Life

Leica
MICROSYSTEMS

Fast and Easy Analysis and

DFC425 / DFC425 C Highlights

- Live image control provides fast focusing and positioning of the sample.
- Quickly transfer images with standard FireWire 1394b interface for PCs.
- XGA (1024×768) progressive scan preview with up to 20 frames per second
- 5-megapixel CCD Bayer Array RGB filter produces brilliant pictures.
- Exposure times range from 1 msec to 60 sec (DFC425 C: to 600 sec).
- Features 36-bit RGB color depth
- Partial scan mode offers the fastest scanning of a freely defined area at full resolution
- Easily and quickly connects to all microscopes via a c-mount interface
- An intuitive user interface offers convenient image capture and processing functions
- Two-color LED displays operational status
- Ultra compact housing saves space.

DFC425 C Highlights

- Peltier cooling for high dynamic range and minimum noise under low light
- 2×2 binning mode for increased brightness and faster frame rate in low light situations

Stunning, High-Resolution Details
Excellent picture quality is essential for precise image analysis, documentation, and reporting. The Leica DFC425 and DFC425 C Digital Microscope Cameras provide detailed high-resolution pictures with outstanding accuracy and brilliant color reproduction. The exceptional picture quality and ease of use, makes these cameras the perfect choice for all analysis and documentation needs.

Excellent Picture Quality
These cameras digitize the image information from the CCD chip directly in the camera head, which leads to excellent noise suppression and perfect acquisition of the unprocessed CCD signal. Digitization takes place with a resolution of 12 bits and Leica's true color calibration takes care of the natural color reproduction, which produces excellent picture quality.

Compact Design
The camera's compact housing, specifically designed for microscopy applications, is easy to attach to the microscope. The camera is not much larger than a computer mouse and does not require an external power supply, which reduces workstation clutter.

Easy to Use
Leica's digital technology simplifies all operations, from image capture through image archiving, and allows digital retouching and analysis. In addition, intelligent camera options allow you to conveniently set up the camera parameters. Leica cameras have automatic white balance and advanced illumination control and are thus ready to produce perfect images in seconds.

Documentation

High-performance Leica LAS software
The Leica Application Suite (LAS) software included in the scope of supply offers numerous functions for recording and retouching images. Beginners as well as experienced users can thus use the full potential of the digital technology. The captured images can be edited, analysed, archived and reproduced as often as you wish without any loss in quality. The TWAIN driver included in the delivery can be used to transfer photographs to other image editing programs without any problems.

DFC425 C for Low-Light Applications
The DFC425 C allows crisp, sharp images to be created without noise, even under low illumination. Interfering thermal noise is effectively reduced with active cooling by means of a Peltier element. With the innovative, fast readout procedure, even high-resolution low light recording is now a reality.

COOLED

Leica M125 with Leica DFC425 C Digital Microscope Camera, LED Illumination, Trinocular Tube, SmartTouch™ and PC System with Leica LAS Software

Leica DFC425 / DFC425 C – Technical Data

Digital Camera	**Leica DFC425 / DFC425 C**	
Camera type	Digital camera for microscopy with control software	
Sensor	Interline transfer frame readout CCD – ICX452	
Sensor Grade/Size	Grade Zero / 8.10 mm × 6.64 mm, Diagonal 8.93 mm (Type 1/1.8")	
Color Filter	RGB Bayer Mosaic	
Protective color Filter	Hoya CM500 S (IR cut off 650 nm), removable	
Shutter control	Electronic global shutter / 3 frames interlaced readout	
Number of pixels / pixel size	5 Megapixel, 2592 × 1944 / 2.78 µm × 2.78 µm	
Color depth	36 Bit	
A/D converter	14 Bit	
Dynamic range	DFC425: > 57 dB / > 700:1 dB	DFC425 C: > 58 dB / > 800:1 dB
Exposure time	DFC425: 1 msec – 60 sec	DFC425 C: 1msec – 600 sec
Readout noise	σ < 6 LSB (12 Bit) typical	
Gain control/Offset control	10× / 0.. 255 LSB (12 Bit)	
Shading correction	Yes, stored for all formats	
Cooling	DFC425: not available	DFC425 C: Δ –20° compared to ambient
Region of interest	Freely adjustable in 2 pixels steps from 2 × 2 up to full resolution	

Image Formats	**Pixels**	**Speed f.p.s., Fast / HQ**
Interlaced large	2592 × 1944	6/3
Interlaced medium	1728 × 1296	9/4.5
Progressive large	1024 × 768	18/9
Progressive medium	864 × 648	20/10
Progressive small	576 × 432	40/20
Modes	Formats in Fast (40MHz) or High Quality (20MHz) modes	

Computer	**Hardware**	**Software**
Min. computer configuration	Pentium 4, 2.5 GHz, 1 GB RAM 24 bit graphics, 1024 × 768, 6-pin or 9-pin FireWire OHCI or free PCI slot	Leica DFC Twain Leica LAS Software Windows Vista 32/64 bit Windows XP prof. 32/64 bit, SP3

Interfaces		
Recommended video adapter	c-mount 0.5× or 0.55×	
Data	Single cable FireWire – IEEE1394b – 9 pin, screw lock	
Digital Input connector	Opto-decoupled trigger	
Digital Output connector	Flash synch or readout active	
Physical and Environmental		
Power consumption	DFC425: ~4 W	DFC425 C: ~6 W
Power supply	via FireWire cable	
Housing	Aluminum die cast	
Size	DFC425: 112 × 74 × 69 mm³	DFC425 C: 132 × 74 × 69 mm³
Weight	DFC425: 340 g	DFC425 C: 495 g
Operating temperature range	+5 to +35 °C	
Relative humidity	10 % .. 80 % non-condensing	

Equipment Order Numbers	
12 730 221	Leica DFC425 camera kit comprising: Leica DFC425 Camera, Leica software, FireWire cable b–b
12 730 222	Leica DFC425 C camera kit comprising: Leica DFC425 C Camera, Leica software, FireWire cable b–b
Additional Items	
12 730 210	PCI-Express FireWire-b card for PCs without FireWire
12 447 066	Laptop PCMCIA FireWire-a interface card
12 730 186	FireWire-cable, 3m, b–b, 9/9-Pin
12 730 187	FireWire-cable, 3m, a–b, 6/9 Pin
12 730 188	FireWire Power kit comprising: 110/220V power supply, 4-pin FireWire-a or 6-pin FireWire-a adapter

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