Datasheet

NIR-II Fluorescence Microscope Imager

ATF9280

Features

- Wavelength：808、980、1064nm
- Deep refrigeration InGaAs CCD:MInimum refrigeration temperature -80°
- Imaging resolution: 640X512,1280X1024
- Large area motorized scanning platform
- Real-time auto focus, auto scan, auto stitching
- The motorized control can continuously scan the fluorescence channel, continuously changing from 1000-1700nm, and the tuning accuracy is 5nm
- Four-in-one optical fiber channel, which can connect four lasers at the same time, no need to switch light sources during multi-wavelength imaging
- The laser light outlet is equipped with a beam expander to effectively increase the irradiation area of the excitation light
- Powerful image acquisition and analysis software
- The novel integrated frame provides excellent stability and operability
- Modular structure design, multi-functional combination to ensure the versatility of the system

Application

- research laboratory
- (Small animals, etc.) In vivo fluorescence imaging
- targeted tumor imaging
- Microvascular imaging, monitoring blood flow changes
- Drug targeting and kinetic studies
- real-time surgical navigation

Description

ATF9280 is a self-focusing and auto-scanning micro NIR-II microfluorescence imager carefully developed by optosky. NIR-II (1000nm to 1700 nm), tissue scattering is reduced and tissue absorption and autofluorescence are minimal. Compatible with traditional visible or infrared optical imaging (400nm-1000 nm), better image contrast, sensitivity and depth of tissue penetration at these wavelengths. It is especially suitable for small animal in vivo fluorescence imaging, real-time surgical navigation, etc.

ATF9280 has a built-in ultra-low temperature refrigeration high-sensitivity InGaAs detector that can be cooled down to -80°C.

ATF9280 is equipped with a 50X50mm large-area motorized scanning platform, supplemented by an advanced and fast ultra-large image stitching algorithm, so as to achieve the functions of fast scanning and large-area imaging.

ATF9280 is equipped with a highly stable autofocus system, which can adjust the dynamic focus of the target in real time to achieve the best imaging effect.

ATF9280 is connected to the computer through the USB 2.0 interface, and there is also advanced and easy-to-use PC-side control software, which can achieve perfect experimental operation.

Model	Features
ATF9280	Cooled InGaAs camera, cooled to 10° C, 640X512 pixels
ATF9280-HR	High resolution type, cooled to -10°C, 1280X1024
ATF9280-DC	Deep cooling InGaAs camera, cooled to -80°C, integration time up to 5

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1.Selection Guide

Model	Feature
ATF9280BS	basically, the manual stage
ATF9280AF	auto focus
ATF9280MP	auto-focus,auto-scan,auto-fluorescence scanning imaging

2.Performance parameter

Parameters	ATF9280	ATF9280-HR	ATF9280-DC
Excitation parameters			
excitation wavelength	808, 980, 1064nm, other excitation wavelengths can be customized		
excitation light source	solid state laser		
maximum excitation power	2.5W, 5W		
Fluorescence receiving part parameters			
Spectral detection range	900nm-1700 nm, continuously variable		
Fluorescent channel selection	Electric control setting, continuous scanning or channel selection (4-20 channels)		
Spectral channel adjustment resolution	1.0 nm		
Imaging spectralre solution(FWHM)	5.0 nm		
Detector	Cooled InGaAs CCD	Cooled InGaAs CCD	Deep cooling InGaAs CCD
Detector resolution	640X512	1280X1024	640X512
Refrigeration temperature	10℃	-10℃	-80℃
Integration time	1ms-20s	1ms-20s	15μs-5 minutes
Detector interface	USB 3.0		
Dynamic Range	≥60dB	≥62dB	≥62dB
Maximum frame rate	120Hz	66Hz	100Hz

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Visible light imaging system	
light source	LED white light source
imaging camera	5 million pixel digital camera
camera port	USB2.0
Stage	
Focusing device	Manual focus or automatic focus, and a focus upper limit device
Stage	Steel wire drive stage (X axis does not protrude), double clamp structure
Stage area	220X200mm
X, Y axis electric control two-dimensional platform	
range of movement	50 X 50 mm , 100X100mm
mobile resolution	0.1 μm
positioning accuracy	1 μm
scanning speed	20mm/s
focus method	Manual, electric, real-time focus
Z axis (electric control, auto focus)	
Focus accuracy	≤ ±0.2 μm
Maximum stroke	100 mm
focus speed	≤ 10 s
Dimensions	890 X 610 X 520 mm
Weight	49.3 kg
Software part	
Function	Visual imaging and real-time fluorescence spectral detection

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