



Overview

Product name	GEOCAL / GEOCAL XL / GEOCAL IR
Principle	DOE-based geometric calibration of digital cameras

Features

Hardware

Diffractive Optical Element (DOE)	Generates a very evenly distributed grid of light points, virtually originating from infinity
Output window	GEOCAL / GEOCAL IR: Usable aperture: Ø 77 mm GEOCAL XL: Usable aperture: Ø 155 mm (camera lens needs to have an equal or smaller diameter)
Usable FoV	Approx. 30 – 120° (Larger values possible, depending on the camera. Please contact us for details).
Dimensions (L x W x H)	GEOCAL / GEOCAL IR: approx. 575 mm x 144 mm x 170 mm GEOCAL XL: approx. 850 mm x 244 mm x 270 mm
Mounting points	GEOCAL / GEOCAL IR: 3 x M5 x 0.8 tapped holes in the base plate GEOCAL XL: 10 x M5 x 0.8 tapped holes in the base plate

Illumination **(CAUTION: DO NOT LOOK DIRECTLY INTO THE LIGHT SOURCE!)**



Light source	Frequency-stabilized diode laser
Wavelength	GEOCAL / GEOCAL XL: 638 nm GEOCAL IR: 935 nm
Output power	5 mW
Laser Class (diode only)	3B
Laser Class (GEOCAL)	1M
Lifetime	>20.000h
Warm-up time	Not required



Software

System requirements	PC with Windows 7 operating system (or higher) USB port
Functions	<ul style="list-style-type: none"> • Load multiple images • View selected image • Perform calibration • Overlay detected point grid • Various result visualization methods • Export results (CSV and XML) and coordinates of detected points (CSV)
Output data	Camera intrinsic and extrinsic data, the orientation of DOE
API (C++)	Available as a separate option

General description hardware

Power supply/consumption	25 W 5 V / 5 A / Pmax = 2 W
Ports	USB type B
Weight	GEOCAL / GEOCAL IR: approx. 4.5 kg GEOCAL XL: approx. 9 kg
Operating conditions	15 – 35 °C

Requirements on the device under test (DUT)

Max. dimensions	GEOCAL / GEOCAL IR: max. diameter of the camera lens: 77 mm GEOCAL XL: max. diameter of the camera lens: 155 mm
Usable FoV	Approx. 30 – 120° (Larger values possible, depending on the camera. Please contact us)