Z+F IMAGER® 5010C

HDR i-Cam
The integrated CMOS colour camera is very low of noise. The objective is perfectly balanced to the camera, in order to generate high quality pictures even in difficult lighting conditions.

Range up to 187 meters (614 ft.)
Due to the wavelength, the device can scan up to 187 m. This range allows you to use the scanner for almost every terrestrial laser scanner application efficiently.

High-Speed 1 million pixels/sec.
With a maximum measurement rate of more than one million pixels/sec., the Z+F IMAGER® 5010C is amongst the fastest 3D laser scanners in the market.

Presetting
Resolution/Quality
Four different levels of quality can be set. The quality of a scan is based on the resolution and the measurement rate. Depending on the application and objective, the optimal scan configuration can be chosen. Through this, small distances between points can be realized even when scanning long distances.

Extended field-of-view 320° x 360°
The extended field-of-view with 320° vertically and 360° horizontally covers a maximum scanning area.

Easy handling
The Z+F IMAGER® 5010C is a compact and light device with a size of 170 x 286 x 395 mm (W x D x H) and weighing 9.8 kg. The scanner is delivered in a robust case which increases handling convenience and protection against impacts and shocks.

100% Stand-Alone
The stand-alone concept guarantees independence and flexibility. The scan data can be stored on the internal hard disk or two integrated, removable USB sticks. The colour display allows displaying scans, including zooming and basic measurement functions, as well as commenting with labels. Therefore a computer to control the scanned data is not necessary any more on-site.

Highest Data Quality
The Z+F IMAGER® 5010C stands out due to its high angular and distance accuracy. Highest data quality on different surfaces and for different distances is guaranteed by the low range noise. Even at highest data capturing rates the accuracies lie within millimeter-range.

Laser class 1
By using state-of-the-art laser sources, the Z+F IMAGER® 5010C conforms to the requirements of laser class 1 (according EN 60825-1). The laser is therefore classified as non-hazardous.

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How we build reality

Zoller+Fröhlich

English

The colourful way to scan

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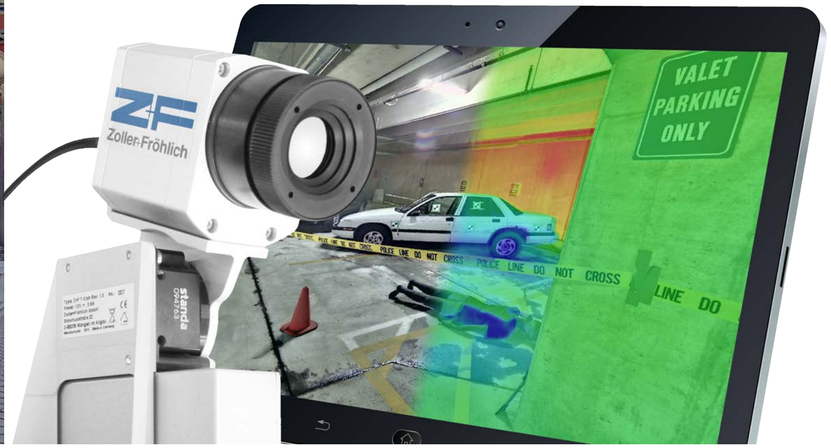

Unique Features

Integrated HDR i-Cam 1
The camera is fully embedded within the rotor, and therefore well protected against environmental influences. In order to achieve high quality images, even in difficult lighting conditions, the camera provides full HDR panoramas of up to 80 MP.

Rotating mirror 2
The laser beam is deflected by a rotating mirror, which reaches a rotational frequency of up to 50 rps. The mirror is capped with a patented protective glass. This guarantees high quality, ruggedness and persistence. With a maximum rotation speed of 3,000 rpm and a maximum scan rate of more than 1 million pixels/sec, it is possible to generate high resolution scans in short time.

Wi-Fi 3
The Wi-Fi interface allows the scanner to be controlled and operated via a web browser or by the Z+F Scan App.

Large color display 4
The 5,77" coloUr display with touch support provides great overview, even in difficult lighting conditions. Due to the high usability the scanner can be easily and quickly operated and further allows checking the completeness and accuracy of scans.

USB ports 5
The scanner has two USB ports for 32 GB flash drives which are integrated into sealed closure casings. External hard drives can also be connected to the USB ports.

Additional ports 6
These are used with the USB ports in order to control accessories, such as the Z+F SmartLight, Z+F T-Cam or a GPS module. The fixed socket of the scanner is equipped with ports for power supply and data download.

Dynamic Compensator 7
The dynamic compensator corrects the angle tilt of every point during the scanning process.

High Dynamic Range

HDR offers a solution to display homogenous colour information.

Therefore serveral pictures of the same scene are taken with different exposure times, including intentional underexposed and overexposed pictures, in order to capture every contrast area correctly. Even those areas which would be underexposed are captured. After this process all pictures are merged into one high dynamic range picture, displaying an ideal result.

HDR is not a new technology, but Z+F is the first manufacturer to integrate this capturing technique into a 3D laser scanner. Until now the HDR workflow was very time consming. Usually a reflex camera, equipped with a wide-angle lens is being used. The camera is mounted onto a nodal point adapter and then onto the tripod, replacing the scanner. This process takes a lot of valuable time and may be inaccurate.
The Z+F IMAGER® 5010C executes this entire workflow automatically. Just activate the camera and the scanner takes all required photos.

The HDR picture is being generated in the Z+F LaserControl® software and combined with the point cloud automatically. Compared to the manual method, Z+F's HDR procedure does not require any previous knowledge in the field of photography, e.g. about aperture and exposure time, and allows a simple and quick 3D documentation of the surrounding area.

1a) standard picture in a high-contrast scene

1b) underexposed areas in pink

1c) overexposed areas in red

Comparison between a Z+F HDR result and a standard picture

Innovative Accessories

Z+F T-Cam
The infrared camera Z+F T-Cam is an external solution to document rooms and objects not only three-dimensionally but also thermally. The camera generates 360° thermal panoramas with a resolution of 382x288 pixels. The infrared information is automatically being mapped onto the point cloud. The infrared spectral range is from 7.5 - 13 µm. By using the Z+F T-Cam, many new opportunities arise in the fields of insurance, facility management, industry and forensics. The T-Cam is easy to mount and is connected to the scanner via USB.

Z+F SmartLight
The SmartLight is also an external solution for the i-Cam of the Z+F IMAGER® 5010C and 5010X, which allows the user to take coloured scans even in dark areas. The power consumption of the Z+F IMAGER® 5010C/5010X is hardly affected due to the high power efficiency of the Z+F SmartLight. This is realized by efficient LEDs and partial illumination – the Z+F SmartLight follows the vertical movement of the i-Cam. The luminous flux of the Z+F SmartLight is 1.000 lm. The best lighting conditions are in a working range from 1 - 10 m.

Our entire accessories are listed in our accessory brochure or on our homepage www.zf-laser.com (products > accessories), where you can find everything from high quality aluminum tripods to a useful battery charger and professional nodal point adapters for using reflex cameras.