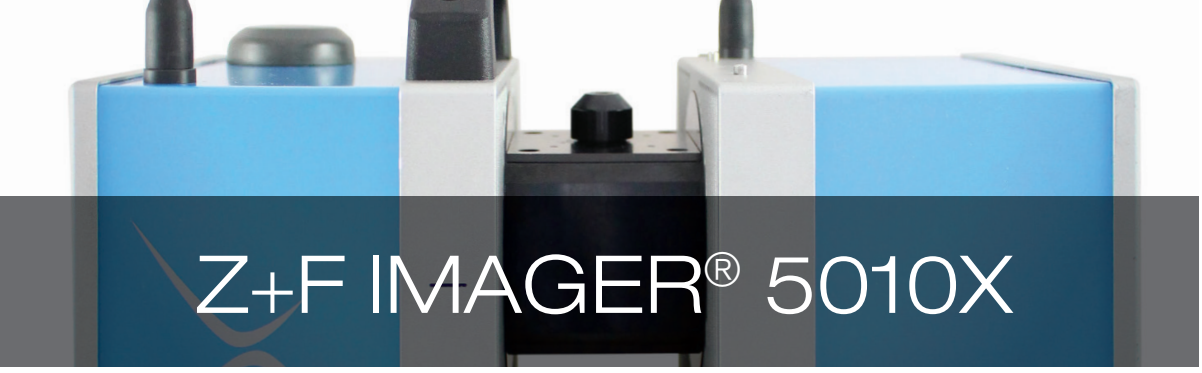


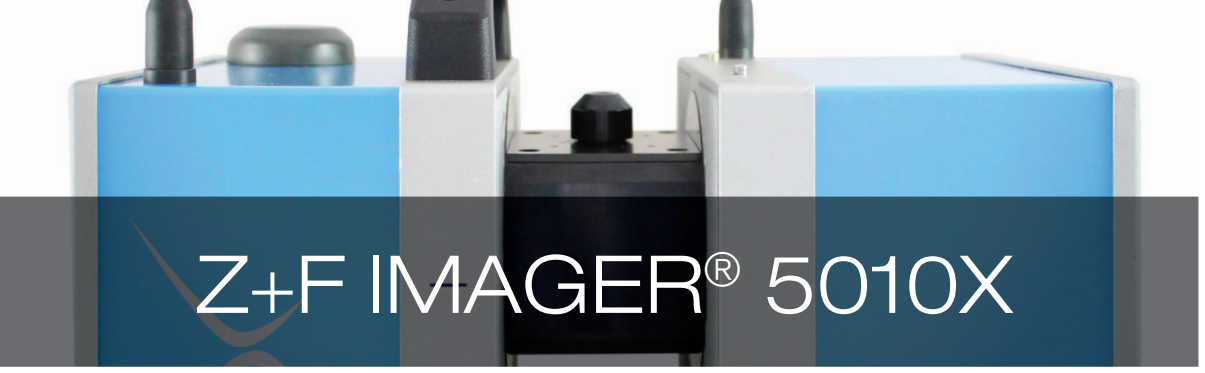
Z+F IMAGER® 5010X

The Z+F IMAGER® 5010X comes with a unique navigation system. It estimates the scanner position and orientation in order to support the registration software Z+F LaserControl® Scout during pre and post registration on site.

Laser system			
Laser class	1		
Beam divergence	< 0.3 mrad		
Beam diameter	approx. 3.5 mm (at 0.1 m distance)		
Range	187.3 m (unambiguity interval)		
Minimum distance	0.3 m		
Resolution range	0.1 mm		
Data acquisition rate	Max. 1.016 million pixel/sec.		
Linearity error [1]	≤ 1 mm		
Range noise	black 14 %	grey 37 %	white 80 %
Range noise, 10 m [1 2]	0.4 mm rms	0.3 mm rms	0.2 mm rms
Range noise, 25 m [1 2]	0.6mm rms	0.4 mm rms	0.3 mm rms
Range noise, 50 m [1 2]	2.2 mm rms	0.8 mm rms	0.5 mm rms
Range noise, 100 m [1 2 3]	10 mm rms	3.3 mm rms	1.6 mm rms
Temperature drift	negligible		

Deflection unit	
Vertical system	completely encapsulated rotating mirror
Horizontal system	device rotates about its vertical axis
Vertical field of view	320°
Horizontal field of view	360°
Vertical resolution	0.0004°
Horizontal resolution	0.0002°
Vertical accuracy [1]	0.007° rms
Horizontal accuracy [1]	0.007° rms
Rotation speed	max. 50 rps (3,000 rpm)

Deflection unit					
		Scan duration			
Angle resolution	pixel/360° horizontal & vertical	less quality [6]	normal quality [6]	high quality [6]	premium quality [6]
“preview“ [4]	1,250	---	0:26 min	---	---
“low“	2,500	0:26 min	0:52 min	1:44 min	---
“middle“	5,000	0:52 min	1:44 min	3:22 min	6:44 min
“high“	10,000	1:44 min	3:22 min	6:44 min	13:28 min
“super high“	20,000	3:28 min	6:44 min	13:28 min	26:56 min
“ultra high“ [5]	40,000	---	13:28 min	26:56 min	53:20 min
“extremely high“ [5]	100,000	---	81:00 min	162:00 min	---



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Miscellaneous		
Dynamic Compensator	resolution: 0.001° measurement range: +/- 0.5° accuracy: < 0.007° selectable on/off	The Dynamic Compensator will correct angular tilt for each pixel during scan acquisition.
Laser plummet	laser class: 2 accuracy of plummet: 0.5 mm/1m laser point diameter: < 1.5 mm at 1.5 m	
Levelling display	electronic level in onboard display and Z+F LaserControl® Scout	
Data storage	internal 64 GB flash card, 2 x 32 GB USB external flash drive	
Data transmission	Ethernet or USB 2.0	
Integrated control panel	touch screen with colour display	
Interfaces	2 x USB, LEMO 9-pin und LEMO 7-pin connections for and external sensors like GPS, odometer, etc.	

Power supply	
Input voltage	24 V DC (scanner) ; 100 – 240 V AC (power unit)
Power consumption	< 65 W (on average)
Operating time	> 3 h (internal battery)

Ambient conditions	
Operating temperature	-10 °C … +45 °C
Lighting conditions	operational in all conditions, from sunlight to darkness
Humidity	non-condensing
Protection class	IP 53

Dimensions and weights	
Scanner Dimensions (w x d x h) Weight	 170 x 286 x 395 mm 9.8 kg
Battery Dimensions (w x d x h) Weight	 170 x 88 x 61 mm 1.2 kg
AC power unit Dimensions Weight	 35 x 67 x 167 mm 0.54 kg

HDR camera	
focus area	1 m - ∞
panorama compilation	
image count for panorama	42
recording time (depend on the environment exposure)	ca. 3:30 min.
panorama resolution	ca. 80 MPixel



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Navigation System	
Task	The navigation system estimates the position and the orientation of the scanner to support the registration
Integrated sensors	Barometer
	Acceleration sensor
	Gyroscope
	Compass
	GPS

GPS	
Receiver	L1 (1575,42 MHz)
	56 channels
Horizontal position accuracy	2,5 m (autonomic)
	2,0 m (SBAS)
	<1,0 m (PPP Precise Point Positioning with WAAS)

WLAN	
Standard	802.11a/n/g
Frequency range	dual band (2,4 GHz/5 GHz)
Data rate	up to 240 Mbit/s

Together with Z+F LaserControl® Scout, the Z+F IMAGER® 5010X let you discover all advantages of the new blue field workflow on site.

- Automatic registration
- Check data quality
- Check target quality
- Find & fill gaps with more scans

System Requirements of Z+F LaserControl® Scout

Minimum System Requirements	Recommended System Requirements
Windows 8.1 (64 Bit)	Windows 8.1 (64 Bit)
Intel i5 CPU	Intel i7 CPU
64 GB SSD	512 GB SSD
4 GB RAM	8 GB RAM
10 Zoll Full HD	12 Zoll Full HD
	Dualband-WLAN
	USB 3.0



1. Detailed explanation on request – please contact info@zf-laser.com
2. Data rate 127,000 pixel/sec (equivalent to "High Resolution / high quality" setting), 1 Sigma range noise, unfiltered raw data
3. Not tested during production
4. Not intended for surveying purposes! To be used only for preview / selection scan definition.
5. Huge amounts of data will be generated! Recommended for high resolution, small area selection scans only.
6. Choosing the next higher quality setting will double scanning time and reduce range noise by a factor of 1.4.