Zoller+Fröhlich

DATA SHEET

Z+F IMAGER® 5024

Supreme | Advanced | Essential



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Main features	Z+F IMAGER® 5024 Supreme	Z+F IMAGER® 5024 Advanced	Z+F IMAGER® 5024 Essential
Measurement range	0.3 m – 365 m	0.3 m – 150 m	0.3 m – 80 m
Max. data aquisition rate [MPx/s]	2.2	2.2	1.1
Typical acquisition time [min]	0:52 [1]	0:52 [1]	1:31 [2]
Resolution [mm@10m]	0.6 – 25.2	3.1 – 25.2	3.1 – 25.2
Speed settings	5	3	2

Laser system			
Laser class	1 (according to IEC EN 60825-1)		
Beam diameter / divergence	~ 3.5 mm @ 1 m / ~ 0.3 mrad (1/e², half angle)		
Linearity error [3]	≤ 1 mm + 10 ppm/m		
Range resolution	0.1 mm		
Range noise [mm rms]	black 14 %	grey 37 %	white 80 %
• 10 m [3 4]	0.3	0.25	0.2
• 25 m [3 4]	0.4	0.3	0.25
• 50 m [3 4]	0.8	0.5	0.3
• 100 m [3 4 5]	2.6	1.1	0.7
• 200 m [3 4 5]	9.6	3.6	1.7

Deflection unit	
Deflection system	completely encapsulated rotating mirror
Vertical field of view	320°
Horizontal field of view	360°
Vertical angular resolution	0.00031° (1.12“)
Horizontal angular resolution	0.00018° (0.65“)
Vertical accuracy [3]	0.004° (14.4“) rms
Horizontal accuracy [3]	0.004° (14.4“) rms

	Z+F IMAGER® 5024 Supreme	Z+F IMAGER® 5024 Advanced	Z+F IMAGER® 5024 Essential
Data management			
Internal storage (SATA)	256 GB	256 GB	128 GB
Data transfer	• SD-Card 128 GB • Ethernet 1 GB • Wifi 802.11 a/n/g Standard, Dual Band, up to 240 MBits/s		
Device control			
Interface	5.7“ Touchscreen	Keypad	Keypad
Field-Software (Z+F LaserControl® Scout)	✓	✓	-
Webinterface	✓	✓	✓
Z+F LaserControl® Scout [7]	Mobile App for automatic real-time registration on-site, data and target control, multi-scanner support, data synchronisation between office and field, report and comment functions, annotation tools		
Profiler mode	2D acquisition mode for installation in mobile mapping systems		
Combine Scans	Automatic removal of dynamic objects		
Positioning and Levelling			
Altimeter, Compass, GNSS [8]	✓	✓	-
Levelling	Dynamic Compensator + IMU	IMU	IMU
Tilt correction	dynamic + static	static	static
Dynamic Compensator	Resolution: 0.001°, measurement range: +/- 0.5°, accuracy: < 11“ Dynamic tilt correction		
Inertial measurement unit (IMU)	Measurement range: +/- 180°, accuracy: < 17“ Static tilt correction		
Additional sensors			
Laser plummet	optional	-	-
Camera	I-Cam + Z+F TopCam [6]	Z+F TopCam [6]	Z+F TopCam [6]
I-Cam (internal RGB-Camera)	• High Dynamic Range HDR (max. 11 exposure levels) • Acquisition time approx. 2:30 min, parallax free • Focus area 1 m – ∞ • Panorama resolution approx. 80 Mpx • Integrated LED spotlights		
Z+F TopCam [6] (RGB)	• Panorama resolution approx 60 Mpx • Acquisition time 0:12 min / 0:30 min HDR (6x)		
Z+F T-Cam [6] (Infrared)	• Thermal imaging • Acquisition time: 1:45 min		
Interface	Micro D-Sub connector for additional accessories (PPS pulse, odometer, line sync, Z+F TopCam, etc.)		

Ambient conditions	
Operating temperature	-10 °C – +45 °C
Storage temperature	-20 °C – +50 °C
Lighting conditions	independent of lighting conditions
Humidity	non-condensing
Protection class	IP 54

Power supply	
Input voltage	24 V DC (scanner); 100 – 240 V AC / 12 – 24 V DC (power unit)
Power consumption	≤ 45 W (scanning) / ≤ 75 W (scanning and battery charging)
Operating time	Up to 5 hours

Dimensions and weights		
Z+F IMAGER® 5024 Supreme Advanced & Essential	Dimensions (w x d x h): 150 x 258 x 328 mm	Weight: 6.7 kg (14.8 lbs) 6.4 kg (14.1 lbs)
Two Batteries, each	150 x 80 x 45 mm	0.5 kg (1.1 lbs)
AC power unit	35 x 67 x 167 mm	0.54 kg (1.2 lbs)

System requirements for Z+F LaserControl® Scout

Minimum system requirements	Recommended system requirements
Windows 8.1 (64 Bit)	Windows 10 (64 Bit)
Intel i5 CPU	Intel i7 CPU
128 GB SSD	512 GB SSD
8 GB RAM	16 GB RAM
10“ Full HD	12“ Full HD
Wifi	Dualband wifi

1. Setting: „high resolution / speed++“
2. Setting: „high resolution / speed+“
3. Detailed explanation on request – please contact: info@zf-laser.com
4. Data rate 137,000 Pixel/sec. (corresponds to „high resolution / quality+“ setting), 1 sigma range noise, unfiltered raw data.
5. Calculated specification
6. Accessory (not included in scope of delivery)
7. Only for Microsoft Windows
8. GNSS-Systems: GPS, GLONASS, Galileo, Beidou

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