

DATA SHEET

Z+F IMAGER[®] 5024

Supreme | Advanced | Essential



Z+F IMAGER® 5024

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Supreme

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Advanced

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Essential

| 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 acquisition 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/e ² , 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 | <ul style="list-style-type: none"> • 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" | | |
| Inertial measurement unit (IMU) | Measurement range: +/- 180°, accuracy: < 17" | | |

| 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) | <ul style="list-style-type: none"> • 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) | <ul style="list-style-type: none"> • Panorama resolution approx 60 Mpx • Acquisition time 0:12 min / 0:30 min HDR (6x) | | |
| Z+F T-Cam ⁶ (Infrared) | <ul style="list-style-type: none"> • 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

Hauptsitz – Deutschland Head office – Germany

Zoller + Fröhlich GmbH
Simoniustrasse 22
88239 Wangen im Allgäu
Germany

Phone: +49 7522 9308-0
Fax: +49 7522 9308-252
www.zofre.de | info@zofre.de

Niederlassung – USA Subsidiary – USA

Z+F USA, Inc.
700 Old Pond Road
Suite 606
Bridgeville, PA 15017 (USA)

Phone: +1 412 257 8575
Fax: +1 412 257 8576
www.zf-usa.com | info@zf-usa.com