



Trimble Ranger 5

CONTROLLER



KEY FEATURES

- ▶ Back-lit international alphanumeric keypad with directional keys
- ▶ 12 programmable function keys
- ▶ Function, Shift and AGR key combinations
- ▶ Ergonomic design, easy to grip and carry, less handling fatigue
- ▶ All day battery, with user-replaceable battery option
- ▶ 5-inch multi-touch screen—with finger, stylus and glove modes
- ▶ Bright, anti-glare display, readable in sunlight and lowlight conditions
- ▶ Military-spec rugged design, IP65 rated
- ▶ Android™ 10 operating system
- ▶ Google Mobile Services certified with access to Google Play™ store apps
- ▶ Optimized for Trimble® field software
- ▶ EMPOWER module compatible

Learn more:
trimblewater.com/ranger5

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PHYSICAL SPECIFICATIONS

Size	287.1 mm x 175.6 mm x 43.9 mm (11.3" x 6.9" x 1.7")
Weight	934 g (2.06 lb) Excluding optional removable battery, EMPOWER module, pole bracket and other accessories
Housing	PC-EXL9330 Case with TPU-Texin990 Overmold

ENVIRONMENTAL SPECIFICATIONS (MEETS OR EXCEEDS)

Operating Temperature	MIL-STD-810H, Method 501.7 & 502.7, Procedure II -30 °C to 60 °C (-22 °F to 140 °F)
Storage temperature	MIL-STD-810H, Method 501.7 & 502.7, Procedure I -40 °C to 70 °C (-40 °F to 158 °F)
Startup temperature	-20 °C to +60 °C (-4 °F to 140 °F)
AC adapter / charging temperature	0 °C to +40 °C (32 °F to 104 °F)
Dust	IP6x: 8 hours with blowing talcum powder (IEC 60529)
Water	IPx5: Water Jet 6.3 mm diameter @ 3 minute, 12.5 liter/minute (IEC 60529)
Transit Drop	MIL-STD-810H, Method 516.8, Procedure IV 26 drops (each face, edge & corner) at room temperature from 1.22 m (4 ft) onto concrete 6 faces at low and high temps (-30 °C and 60 °C (-22 °F and 140 °F)) Ball Drop similar to IEC 60950-1, 50 mm steel ball dropped 0.5 m on touch panel only
Humidity	MIL-STD-810H, Method 507.6 Procedure II 90% RH temp cycle +30 °C / +60 °C (+86 °F / +140 °F)
Vibration	MIL-STD-810H, Method 514.8 Procedures I & II General Minimum Integrity and Loose Cargo Test
Altitude (low pressure)	MIL-STD-810H, Method 500.6, Procedures I (storage), II (operating) & III (rapid decompression) Operational at 9,144 m (30,000 ft) at 5 °C / 41 °F Storage at 12,192 m (40,000 ft) at -30 °C / -22 °F Rapid Decompression 2,438m (8,000 ft) to 12,192 m (40,000 ft) in <15 seconds at 25 °C / 77 °F
Temperature Shock	MIL-STD-810H, Method 503.7, Procedure I-C Survives cycles between -30 °C and 60 °C (-22 °F and 140 °F)
Solar Exposure	MIL-STD-810H, Method 505.7, Procedures I & II Survives prolonged solar exposure
Salt Spray	ASTM B117 5% salt solution, 96 hrs

SECURITY

Application Security, Hardware Token, Qualcomm® Processor Security, Hardware backed encryption, Storage encryption, TLS 1.3, Platform hardening, Quarterly Android security patches.

CONFIGURATIONS

EMPOWER module support	1 x module bay supports EM100 GNSS radio Module, EM120 2.4 GHz Receiver Module, EM11x Barcode/RFID Modules, and more
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CERTIFICATIONS

Country certifications	Australia, Brazil, Canada, China, EU, India, Japan, Mexico, New Zealand, Russia, South Africa, South Korea, Taiwan, Thailand, UAE United Arab Emirates, UK and USA.
Environmental	Conflict Minerals, China RoHS 2.0, EU RoHS 2.0, EU REACH

COMPATIBLE FIELD SOFTWARE

Trimble Unity
Android 10 applications

ELECTRICAL SPECIFICATIONS

Processor	Qualcomm SDA660
Memory	4 GB LPDDR4X RAM
Storage	64 GB Flash eMMC
Operating System	Android 10
Batteries	Internal Li-Ion 4530mAh/7.2V nominal capacity Optional User Replaceable Li-Ion Battery Pack
Battery life	RTS usage 16 hours or GNSS RTK usage 18 hours (depending on display settings, connectivity, data processing, ambient temperature, etc.) Fully charged battery can support sleep state for 7.2 days and off for more than 175 days
Charging time	Full-charge 3.5 hours, 0-50% charge in 1.5 hours
Power input	5 V/9 V 3A charging, USB-PD compliant with Type C connector
Notification LED	Battery status, Shift, Fn, Ctrl, AGr, Caps Lock, Search, and Cursor Lock LED indicator
Display	5" landscape HD (1280x720) 300 DPI Transflective type TFT Display, 365 cd/m2 sunlight readable LED backlight, Projective capacitive multi-touch touchscreen with stylus, finger, and glove modes
Keyboard	International backlit Alpha-Numeric & QWERTY with Fn keys (12 physical + multiple Fn, Shift & AGr key combinations)
Audio	1 W Mono Speaker and Dual Microphones with noise cancelling technology
External speaker/microphone	USB-C or Bluetooth headsets supported
I/O	USB-C for charging and USB 2.0 data transfer USB-PD 2.0 supports charger inputs up to 9 V/3 A
WWAN	Worldwide LTE 4G in regions where it is available, and compatible with 3G networks AT&T and Verizon certified. MicroSIM card
Wi-Fi	2.4 GHz 802.11 b/g/n/ac & 5.0 GHz 802.11 a/n/ac
Bluetooth®	Bluetooth 5 classic & BLE 5, Class 1
Camera	Rear camera: 13MP auto-focus with LED flash
GNSS	Integrated Sierra Wireless EM7565; L1 C/A, GPS/GLONASS/BeiDou/Galileo/QZSS
Sensors	Ambient light sensor, e-Compass, accelerometer, Gyro sensor

Specifications subject to change without notice.



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