RANGER 5

Backlit international alphanumeric keypad

5-inch touchscreen

All day battery

IP65 and MIL-STD-810H rated

Android 10 GMS

Built-in Bluetooth, Wi-Fi, GNSS, worldwide WWAN, Verizon and AT&T certified (US carriers)

One EMPOWER Module bay

13 MP Rear Facing Camera

Ranger 5, Right for You, Right for your Job

The Spectra Geospatial Ranger 5 is the fifth-generation with a heritage that traces back to the first modern field computer for land surveyors. From the beginning, the Ranger has been designed to help you get every job done consistently, efficiently–and right.

This hard working, Android-based survey field data collector is built to handle a full range of tasks thanks to many unparalleled features:

- Backlit international alphanumeric QWERTY keypad enables fast and efficient data entry, even in tough conditions

- Ergonomic design, lighter weight and easy to grip means less onsite fatigue

- Brightly lit, anti-glare screen is easy to use and helps you get more done even in high glare and low light conditions

- All day battery, backed up by a removable battery option helps you power through the day

- Rugged and reliable, IP65 and MIL-STD-810H rated, means it comes into its own in tough environments withstanding shock, dust and water

- Featuring an Android 10 GMS (Google Mobile Services) certified operating system and Qualcomm processor, the Ranger 5 is fast and efficient with a familiar OS

- Built-in Bluetooth, Wi-Fi, GNSS, worldwide WWAN, and a rear facing camera, make it easy to capture videos and images, send and receive data and access the Internet.

- One EMPOWER Module bay provides expansion with the EM120 (Long Range Radio), EM100 (GNSS), and EM11X family (RFID/Barcode readers)

Whether your day calls for precision field data collection or stakeout and layout, you can depend on the Ranger 5 to get the job done.

SPECTRA
GEOSPATIAL

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
Meet or exceed
- 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 oC and 60 oC (–22 oF 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

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
- Origin
- Origin Lite

ELECTRICAL SPECIFICATIONS
- Processor
  – Qualcomm SDA660
- Memory
  – 4 GB LPDDR4X RAM
- Storage
  – 64 GB Flash eMMC
- Operating System
  – Android 10
  – Android Security Updates provided until December 2024
- Batteries
  – Internal Li-Ion 4530mAh/7.2 V 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 and 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: 13 MP auto-focus with LED flash
- GNSS
  – IntegratedSierraWirelessEM7565; L1C/A,GPS/ GLONASS/ BeiDou/Galileo/QZSS
- Sensors
  – Ambient light sensor, e-Compass, accelerometer, gyro sensor

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