

# Trimble TSC510

## CONTROLLER



Get to work immediately with this fully connected, powered-up, and rugged solution.

### Connect to a better way to work

#### Faster

Enhanced processing power delivers faster job completion and improved energy efficiency, making the Trimble® TSC510 controller ideal for on-the-go productivity.

Manage projects of any scale, from initial data capture to final office processing. With accelerated handling, you can quickly capture, process, and transfer even the largest files, keeping your workflow seamless and eliminating frustrating delays.

#### Connected

Constantly connected options include Wi-Fi®, 4G WWAN, Bluetooth® classic and BLE.

Utilize Android™ Quickshare, which allows the user to send and receive files from devices close to device locations such as Android devices, Chromebooks, and some Windows® PCs.

Stay connected and ahead of schedule by leveraging Trimble Connect® cloud software or WorksManager software for data sharing or using a local base station with Trimble's base station service.

#### Productive

All-day battery life with hot swappable supplemental battery option.

Unlock peak efficiency by leveraging Trimble Connect or WorksManager's on-the-go information management, empowering you to make data-driven decisions and work smarter.

Secure your field data with confidence. The TSC510's advanced security keeps your information readily available, all within a military-spec design that's also IP68 rated for ultimate resilience.



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## Controller

### Physical specifications

<b>Size</b>	287 mm × 175.4 mm × 38 mm - 11.3" x 6.9" x 1.5" (L × W × H)
<b>Weight</b>	987 g excluding optional removable battery, Trimble Empower™ module, pole bracket and other accessories
<b>Housing</b>	SABIC EXL 9330 7T1A5204 + TPU-TEXIN 990

### ENVIRONMENTAL SPECIFICATIONS (MEETS OR EXCEEDS)

<b>Operating temperature</b>	MIL-STD-810H, Method 501.7 & 502.7, Procedure II -30 °C to +60 °C (-22 °F to +140 °F)
<b>Storage temperature</b>	MIL-STD-810H, Method 501.7 & 502.7, Procedure I -40 °C to +70 °C (-40 °F to +158 °F)
<b>Startup temperature</b>	-20 °C to +60 °C (-4 °F to +140 °F)
<b>AC adapter / charging temperature</b>	0 °C to +45 °C (32 °F to 113 °F)
<b>Dust</b>	IP6x: 8 hours with blowing talcum powder (IEC-529)
<b>Water</b>	IPx8: Immersion, up to 1 m (3.2 ft) depth for 2 hours (IEC-529)
<b>Transit drop</b>	MIL-STD-810H, Method 516.8, Procedure IV 26 drops (each face, edge & corner) at room temperature from 1.22 m (4 ft) onto plywood and 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—5 drops, center and 4 corners
<b>Humidity</b>	MIL-STD-810H, Method 507.6 Procedure II 90% RH temp cycle 30 °C / 60 °C (86 °F / 140 °F)
<b>Vibration</b>	MIL-STD-810H, Method 514.8 Procedures I & II General minimum integrity and loose cargo test
<b>Altitude (Low pressure)</b>	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
<b>Temperature shock</b>	MIL-STD-810H, Method 503.7, Procedure I-C Survives cycles between -30 °C and +60 °C (-22 °F and +140 °F)
<b>Solar exposure</b>	MIL-STD-810H, Method 505.7, Procedures I & II Survives prolonged solar exposure
<b>Salt spray</b>	ASTM B117 5% salt solution, 96 hrs



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### Electrical specifications

<b>Processor</b>	Qualcomm QCS6490
<b>Memory</b>	8 GB LPDDR
<b>Storage</b>	128 GB UFS Flash Memory
<b>Operating system</b>	Android 14
<b>Batteries</b>	Internal Li-Ion 4600 mAh/7.2 V nominal capacity with optional user replaceable Li-Ion battery pack
<b>Battery life</b>	RTS usage 16 hours or GNSS RTK usage 18 hours (Depending on display settings, connectivity, data processing, ambient temperature, etc.)
<b>Charging time</b>	Full-charge 3.5 hours, 0-50 % charge in 1.5 hours
<b>Power input</b>	USB Type-C, PD 2.0 compliant: 5V, 9V, 12V / 3A charging
<b>Notification LED</b>	Battery status, Shift, Fn, Ctrl, AGr, Caps Lock, Search, and Cursor Lock LED indicator
<b>Display</b>	5" landscape HD (1280x720 px) 365 nits display 295 DPI 800 cd/m <sup>2</sup> sunlight readable LED backlight, projective capacitive multi-touch touchscreen with stylus, finger, and glove modes
<b>Keyboard</b>	International backlit alpha-numeric and QWERTY with Fn keys (11 physical + multiple Fn, Shift & AGr key combinations)
<b>Audio</b>	Mono speaker and dual microphones with noise-canceling technology
<b>I/O</b>	Single USB Type-C port for charging and data transfer Supports USB PD 2.0 charging (5V, 9V, 12V / 3A) and USB 3.2 (gen1) 5Gbps data rate, display port alt mode via USB Type-C
<b>WWAN</b>	Sierra Wireless EM7590, Worldwide LTE 4G & UMTS 3G in regions where it is available AT&T and Verizon certified. NanoSIM card.
<b>Wi-Fi</b>	Wi-Fi 6, 2.4 GHz (802.11 b/g/n/ax) & 5.0 GHz (802.11 a/n/ac/ax)
<b>Bluetooth</b>	Bluetooth 5.2, BLE 5, Class 1
<b>Near-field comms</b>	NFC NXP PN-7160, Reader/Writer Mode
<b>Camera</b>	Rear camera: 16 MP auto-focus with LED flash
<b>GNSS</b>	Integrated Sierra Wireless EM7590   Dual Frequency L1 C/A, GPS, GLONASS, BeiDou, Galileo, QZSS   4M Horizontal RMS in favorable conditions
<b>Integrated sensors</b>	6-axis accelerometer Magnetic sensor Ambient light sensor SAR sensor Compass

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Security	
	Secure boot with hardware fuse protection Qualcomm® Trusted Execution Environment (QTEE) Device encryption Camera security - Hardware-based camera biometrics protects against malware attacks Quarterly Android security patches
Configurations	
	Empower Module support 1 x module bay supports EM120, EM130 & EM940/450 radio modules
Certifications	
Country certifications	Australia, Brazil, Canada, Chile, EU, India, Japan, Kazakhstan, Mexico, New Zealand, Saudi Arabia, South Africa, South Korea, Taiwan, Thailand, UAE, UK and USA
Environmental	Conflict Minerals, EU RoHS 2.0, EU REACH COMPATIBLE
Compatible software	
	Trimble Access™ field software or Siteworks software version 1.80 and later
	Trimble Connect cloud software or WorksManager software
	Android 14 applications
	AR Core



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