

# DT391GS Rugged GNSS Tablet

## Rugged Tablet with Integrated High-Accuracy GNSS



The DT391GS rugged mobile tablet features seamless integration of a 9" LED-backlight capacitive touch screen, an energy efficient Intel® processor, and the high-precision positioning module within a compact, lightweight yet durable package. With its high-accuracy GNSS module with foldable antenna, Windows® operating system, and optional camera module, this tablet is compatible with existing GIS software for mapping applications and brings together the advanced workflow for GIS data capture, accurate positioning, and data transmitting. Rated IP65 and MIL-STD-810G, the DT391GS is designed for field applications, providing reliable operation in harsh, mission-critical environments.

### Features

- 9-inch LED-backlight capacitive touch screen
- Intel® Celeron® dual-core processor; high performance with low power consumption
- Support for Microsoft® Windows® Embedded Standard 7 or 7 Professional operating system
- Delivers centimeter or sub meter accuracy
- Supports SBAS (WAAS, EGNOS, MSAS), DGNSS and RTK
- Fanless, lightweight and durable design
- IP65-rated for water and dust resistance
- MIL-STD-810G for shock and vibration protection
- 5 megapixel back camera with LED flash, auto focus, white balance, gain control and exposure control
- Integrated 3-axis accelerometer, gyroscope sensor, and e-compass
- Hot swappable battery for all-day operation



### Applications

- Agriculture
- Mapping and GIS
- Surveying and Mining
- Natural Resources
- Utilities and Government
- Engineering and Construction
- Transportation
- Logistics
- Water Management

## Specifications

System	
CPU	Intel® Celeron® Dual Core, 1.58GHz (up to 2.17GHz)
RAM	4GB
Storage	64GB to 256GB Flash
Operating System	Microsoft® Windows® Embedded Standard 7 or 7 Professional
Display	9" LED-backlight capacitive touch screen
Display Resolution	1024 x 600 (WSVGA)
Trusted Platform Module	TPM 1.2 support
Control Switch and Buttons	1 power button
Indicator	1 power/ battery status LED and 1 WLAN active LED
Speaker	1 built-in speaker, 1W
Sensor	Built-in gyroscope sensor, e-compass sensor, and 3-axis accelerometer
Camera	5 megapixel back camera with LED flash, auto focus, white balance, gain control and exposure control
Network Interface	
WLAN	Wi-Fi 802.11ac; 2.4GHz/ 5GHz dual band
Bluetooth	Bluetooth 4.0
I/O Ports	
USB Port	2
Headphone-out	1
DC-in	1
SD Slot	1 Micro-SD card slot
Mechanical and Environmental	
AC/DC Adapter	Input: 100 – 240V AC; Output: 19V DC, 2.36A
Battery Pack	7.4V, 3760mAh (hot-swappable)
Enclosure	ABS + PC plastics
Protective Grip	Rubber bumpers on each corner with handstrap for handling protection
Dimensions (H x W x D)	9.69 x 7.32 x 1.5 in (246 x 186 x 38.2 mm)
Weight	2.56 lbs (1.16 kg)
Water and Dust Resistance	IP65
Vibration and Shock Resistance	MIL-STD-810G
Regulatory	FCC Class B, CE, RoHS compliant
Temperature	Operation: -10°C ~ 50°C ; Storage: -20°C ~ 60°C
Humidity	0% – 90% non-condensing
Major Options	
WWAN	3G module, supports WCDMA/HSPA/HSPA+/EDGE/GPRS/GSM network

\* Specifications subject to change without notice.

## GNSS Options

Hemisphere Single Frequency GNSS Module with Embedded Antenna				
Receiver Type	L1, C/A code, with carrier phase smoothing			
Channels	12-channel, parallel tracking (10-channel when tracking SBAS)			
SBAS Tracking	2-channel, parallel tracking			
Update Rate	20 Hz maximum			
Accuracy (Horizontal)	< 0.02 m 95% confidence (RTK)			
	< 0.28 m 95% confidence (L-Dif)			
	< 0.6 m 95% confidence (DGPS)			
	< 2.5 m 95% confidence (autonomous, no SA)			

Hemisphere Dual Frequency GNSS Module with Embedded Antenna				
Receiver Type	GNSS L1 & L2 RTK with carrier phase			
Signals Received	GPS, GLONASS and GALILEO			
Channels	270			
GPS Sensitivity	-142 dBm			
SBAS Tracking	3-channel, parallel tracking			
Update Rate	1 Hz standard, 10 Hz optional			
Accuracy (Horizontal)		RMS (67%)	2DRMS (95%)	
	RTK	10 mm + 1 ppm	20 mm + 2 ppm	
	SBAS (WAAS)	0.3 m	0.6 m	
	Autonomous, no SA	1.2 m	2.5 m	

Trimble Single frequency GNSS Module with Embedded Antenna				
Signal Tracking	220 Channels: GPS: L1 C/A BeiDou: B1GLONASS: L1 C/A QZSS: L1 C/A, L1 SAIFGalileo: E1 SBAS: L1 C/A			
Performance	Time to First Fix (TTFF)	Cold Start: <45 s Warm Start: <30 s Signal reacquisition: <2 s		
	Velocity Accuracy	Horizontal: 0.007 m/sec Vertical: 0.020 m/sec Acceleration: 11 g		
	Maximum Operating Limits	Velocity: 515 m/sec Altitude: 18,000 m		
	Mode	Accuracy	Latency	Maximum Rate
Positioning	Single Baseline RTK (<5 km)	0.008 m + 1 ppm Horizontal 0.015 m + 1 ppm Vertical	<30 ms	20 Hz
	DGNSS	0.25 m + 1 ppm Horizontal 0.50 m + 1 ppm Vertical	<20 ms	20 Hz
	SBAS	0.50 m Horizontal 0.85 m Vertical	<20 ms	20 Hz
	RTK initialization time	typically <1 minute		
	RTK initialization reliability	>99.9%		

Trimble Triple frequency GNSS Module with Embedded Antenna				
Signal Tracking	220 Channels: GPS: L1 C/A, L2E, L2C, L5 GLONASS: L1 C/A, L2 C/A, L3 CDMA QZSS: L1 C/A, L1 SAIF, L2C, L5BeiDou: B1, B2 Galileo: E1, E5A, E5B, E5AltBOC SBAS: L1 C/A, L5			
Performance	Time to First Fix (TTFF)	Cold Start: <45 s Warm Start: <30 s Signal reacquisition: <2 s		
	Velocity Accuracy	Horizontal: 0.007 m/sec Vertical: 0.020 m/sec Acceleration: 11 g		
	Maximum Operating Limits	Velocity: 515 m/sec Altitude: 18,000 m		
	Mode	Accuracy	Latency	Maximum Rate
Positioning	Single Baseline RTK (<5 km)	0.008 m + 1 ppm Horizontal 0.015 m + 1 ppm Vertical	<30 ms	20 Hz
	DGNSS	0.25 m + 1 ppm Horizontal 0.50 m + 1 ppm Vertical	<20 ms	20 Hz
	SBAS	0.50 m Horizontal 0.85 m Vertical	<20 ms	20 Hz
	RTK initialization time	typically <10 seconds		
	RTK initialization reliability	>99.9%		