GT

TOPCON

GT-1200/600 series

Geodetic Total Station

Embedded Smooth Drive Control™
New motor control technology enhances prism tracking!

- World's fastest!* New Ultrasonic motor direct drive
- World's smallest!* Highly mobile super compact body
- World's lightest!* 5.7kg robotic total station
- Best in class with Topcon manufacturing quality
- Compatible with ICT construction solutions!

* Based on Topcon's testing and research August 2020

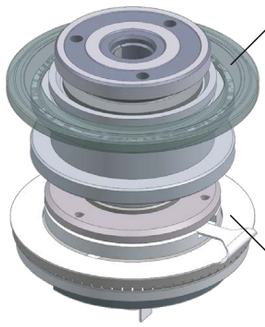
SMOOTH DRIVE CONTROL

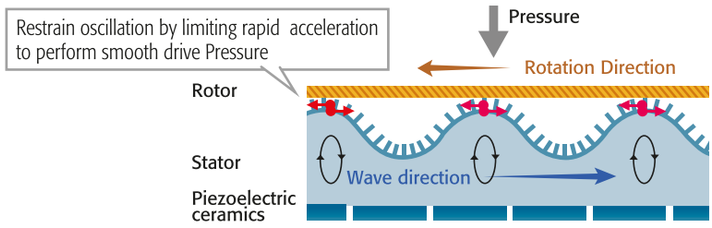
New motor control technologies for auto-tracking!

Newly adapted technologies to control Ultrasonic motor "Smooth Drive Control™"

Robotic total station can quickly increase or decrease the motor's speed. High speed rotation is a USM feature which reduces the rotation time to turn the units to the designated angle, face 1 / face 2 rotation.

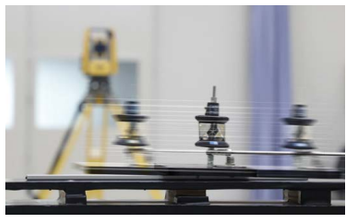
Built-in "Smooth Drive Control™" technology smooths motion rotation under any conditions. "Smooth Drive Control™" technology enhances the durability of the ultrasonic motor. The durability has been confirmed through quality test.





Features of Ultrasonic Motor (USM)

- Fastest rotation speed 180 degrees/sec
- Small size because of the gearless system
- Fast response



Auto-tracking test under high speed vibration conditions

Auto-tracking durability test against rotating object.

The world's Smallest and Lightest

This Robotic Total Station is the world's smallest and lightest. Moreover, it is the same weight as a manual total station. So that it is easier to carry and set up at your projects even in mountains. Mobility performance is better than before at difficult terrain areas.

*As Robotic Total Station by our research in August 2020

10Hz High rate data communication

Robotic Total Station is able to communicate the data 10Hz speed for survey work purpose. So it enables us to stake out faster than conventional way thanks to high rate data communication.

*The application which is applicable to this function is going to be released.

Highly accurate positioning information expands your opportunity!

Straightforward and streamlined field work

Excellent basic performance

Auto-aiming

Precise measurements can be done by a rough aim and a light touch on the "Trigger button" without focusing the lens or doing other operations.
Auto aiming provides consistent accuracy and speed regardless of the operator's skill levels and other conditions.

Auto-tracking

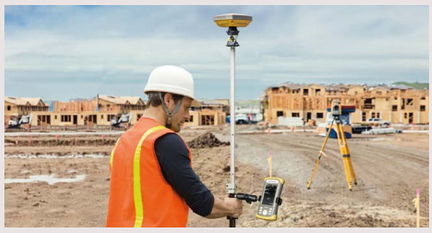
Enhanced prism-tracking enables you to operate under virtually any Conditions, even when you lose the line-of-sight because of obstructions or strong sunlight. Even if a prism lock is lost, you can easily turn GT, reacquire the prism with RC-5A and go back to work smoothly.

Maximizing measurements and field performance

Hybrid Positioning Survey System

Upgradable

Hybrid Switch from Robotic Total Station to GNSS receivers with single-button tap !



Survey Everywhere

If line of sight is not there, we use GNSS. If no open sky, we use the robotic total station.

Hybrid Search

Turns robotic total station toward the prism location based on GNSS position information

As a high precision sensor to perform accurate Machine Control System

LPS 3D-MC

Upgradable

Spreading to precise construction execution, Robotic Total Station is able to control heavy machineries in 3D ! There is no need of open sky !

LPS Dozer, LPS Excavators, LPS Grader, LPS Compaction roller, LPS Paver

Trigger key

Just rough aim towards the target prism and lightly press "Trigger button" to precisely aim and measure automatically with ease.

Dustproof and Waterproof: IP65 design

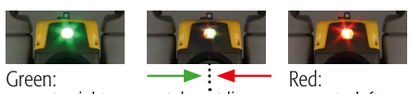
Provides protection from dust and driving rain as well as other inclement weather conditions. Operates in temperatures from -20 to +50°C.

Large display

Large and high-resolution WVGA display provides clear visibility in sunlight.
Moreover, the large icons improve operability.

Bright, Sharp Guide Light

The Guide Light allows you to instantly recognize the line between the instrument and the stakeout line, with clearly visible Green and Red lights.



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SPECIFICATIONS

Product Type		Auto-tracking Model			Auto-collimation Model		
Model		GT-1201	GT-1202	GT-1203	GT-601	GT-602	GT-603
Auto-tracking / Auto-Collimating							
Auto-tracking		●			–(Option)*1		
Auto-collimating		●			●		
Motor type		Direct drive by ultrasonic motor					
Rotation speed / Auto-tracking speed		180°/s / 20°/s					
Auto-tracking / Auto-Collimating range*2		ATP1/ATP1S 360° prism*3 : 2 to 600m (6.6 to 1,960ft.), Prism-5 mini prism : 1.3 to 500m (4.3 to 1,640ft.) Prism-2 one prism : 1.3 to 1,000m (4.3 to 3,280 ft.) Reflective sheet (Auto-collimation)*4 : RS10/30/50N-K : 5 to 50m (16 to 160ft.) / RS90N-K : 10 to 50m (32 to 160ft.)					
RC handle		●			–(Option)*1		
Remote control range (RC handle + RC-5A)		2 to 300m (4.3 to 980ft.)			2 to 300m (4.3 to 980ft.)*1		
Telescope							
Magnification / Resolving power		30x / 2.5"					
Length : 142mm (5.6in.), Objective aperture : 38mm (1.5in.) (38mm (1.5in.) for EDM), Image: Erect, Field of view: 1°30' (26m/1,000m), Minimum focus: 1.3m (4.3ft.)							
Angle measurement							
Display resolutions		0.5"/1" (0.0001 / 0.0002gon, 0.002 / 0.005mil)		1"/5" (0.0002 / 0.001gon, 0.005 / 0.02mil)	0.5"/1" (0.0001 / 0.0002gon, 0.002 / 0.005mil)		1"/5" (0.0002 / 0.001gon, 0.005 / 0.02mil)
Accuracy (ISO 17123-3:2001)		1"	2"	3"	1"	2"	3"
Dual-axis compensator		Dual-axis liquid tilt sensor, working range: ±6'					
Distance measurement							
Laser output*5		Reflectorless mode : Class 3R / Prism/sheet mode : Class 1					
Measuring range (under average conditions*6)	Reflectorless*7	Under good conditions*8 : 0.3 to 1,000m					
	Reflective sheet*9	RS90N-K: 1.3 to 500m (4.3 to 1,640ft.), RS50N-K: 1.3 to 300m (4.3 to 980ft.), RS10N-K: 1.3 to 100m (4.3 to 320ft.)					
	Prism-5*10	1.3 to 500m (4.3 to 1,640ft.)					
	Prism-2*10	1.3 to 5,000m (4.3 to 16,400ft) / Under good conditions*8 : 6,000m (19,680ft.)					
	ATP1/ATP1S 360° prism	1.3 to 1,000m (4.3 to 3,280ft.)					
Display resolution		Fine and Rapid : 0.0001m(0.001ft/ 1/16in.) / 0.001m (0.005ft/ 1/8in.) Tracking and Road : 0.001m (0.005ft/ 1/8in.)/ 0.01m (0.1ft/ 1/2in.)					
Accuracy*6 (ISO 17123-4:2001) (D=measuring distance in mm)	Reflectorless*7	(2 + 2ppm x D) mm*11					
	Reflective sheet*9	(2 + 2ppm x D) mm					
	Prism*10	(1 + 2ppm x D) mm					
Measuring time*8*12	Fine / Rapid / Tracking	0.9s (initial 1.5s) / 0.6s (initial 1.3s) / 0.4s (initial 1.3s)					
OS, Interface and Data management							
Operating system		Windows Embedded Compact7					
Control panel	Display	4.3 inch, Transmissive TFT WVGA color LCD with LED backlight, Touch screen,					
	Keyboard	24 keys with backlight					
	Location	On single face/On both faces (Option, Face 2 is only touch screen display)			On both faces (Face 2 is only touch screen display)		
Trigger key		On right instrument support					
Data storage	Internal memory	1GB internal memory (includes memory for program files)					
	Plug-in memory device	USB flash memory (max. 32GB)					
Calendar / clock function		Yes					
Interface		Serial RS-232C, USB2.0 (Type A / miniB)					
Wireless communication	Bluetooth modem*13	Bluetooth Class 1, Ver.2.1+EDR, Operating range: up to 600m (1,960ft.) (while in communication with RC-5A)*14					
	Wireless LAN	IEEE 802.11b/g/n					
General							
Guide light*15		Green LED (524nm) and Red LED (626nm), Operating range: 1.3 to 150m (4.3 to 490ft.)					
Laser-pointer*15		Coaxial red laser using EDM beam					
Levels	Graphic	6' (Inner Circle)					
	Circular level (on tribrach)	10' / 2mm					
Plummet	Optical	Magnification: 3x, Minimum focus: 0.5m (11.8in.) from tribrach bottom					
	Laser (option)	Red laser diode (635nm±10nm), Beam accuracy: <=1.0mm@1.3m, Class 2 laser product					
Dust and water protection*16 / Operating temperature		IP65 (IEC 60529:2001) / -20 to +50°C (-4 to +122°F)					
Size with handle		212(W)x 172(D)x 355(H)mm (Display on single face)			212(W)x 195(D)x 355(H)mm (Display on both faces)		
Instrument height		192.5mm from tribrach mounting surface					
Weight with battery & tribrach		Approx. 5.8kg (12.8lb)(with RC handle)			Approx. 5.7kg (12.6lb)(with standard handle)		
Power supply							
Battery	BDC72 detachable battery	Li-ion rechargeable battery					
Operating time (20°C)	BDC72 detachable battery	Approx. 4hours*16					

*1 Auto-tracking function can be added by upgrading. *2 Average conditions: Slight haze, visibility about 20km (12 miles), sunny periods, weak scintillation. *3 Figures when both the elevation and depression angles of the laser beam are within 15° and the instrument is facing the ATP1/ATP1S 360° prism *4 When using a reflective sheet for Auto-collimating, the size of sheet (10 to 90 mm) must be selected to correspond to the distance being measured. Use smaller reflective sheets for shorter distances. Figures when the Auto-collimating beam strikes within 15° of the reflective sheet target. *5 IEC60825-1:Ed.3.0:2014 / FDA CDRH 21 CFR Part 1040.10 and 11 *6 Average conditions: Slight haze, visibility about 20km (12 miles), sunny periods, weak scintillation. *7 With Kodak Gray Card White Side (90% reflective). When brightness on measured surface is 30,000 lx. or less. Reflectorless range/accuracy may vary according to measuring objects, observation situations and environmental conditions. *8 Good conditions: No haze, visibility about 40km (25miles), overcast, no scintillation. *9 When the measuring beam's incidence angle is within 30° in relation to the reflective sheet target. *10 Face the prism toward the instrument during the measurement with the distance at 10m or less. *11 Measuring range:0.66 to 200m *12 Fastest time under good conditions, no compensation, EDM ALC at appropriate setting, slope distance. *13 Usage approval of Bluetooth wireless technology varies according to country. Please consult your local office or representative in advance. *14 No obstacles, few vehicles or sources of radio emissions/interference in the near vicinity of the instrument, no rain. *15 The laser-pointer and the guide light do not work simultaneously. *16 Figures will change depensing on the operating environment including temperatures and observation conditions.

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