

SPECIFICATIONS

Product Type	Auto-tracking Model			Auto-collimation Model		
	GT-1001	GT-1003	GT-1005	GT-501	GT-503	GT-505/505E
Model						
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	30x / 2.5"					
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)	1"/5" (0.0001 / 0.0002gon, 0.002 / 0.005mil)	0.5"/1" (0.0001 / 0.0002gon, 0.002 / 0.005mil)	1"/5" (0.0002 / 0.001gon, 0.005 / 0.02mil)	1"/5" (0.0001 / 0.0002gon, 0.002 / 0.005mil)
Accuracy (ISO 17123-3:2001)	1"	3"	5"	1"	3"	5"
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	Reflectorless ⁷	Under good conditions ⁸ : 0.3 to 1,000m			Under good conditions ⁸ : 0.3 to 800m(505E:500m)	
(under average conditions ⁶)	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 ¹⁶	Reflectorless ⁷	(2 + 2ppm x D) mm ¹¹				
(ISO 17123-4:2001)	Reflective sheet ⁹	(2 + 2ppm x D) mm				
(D=measuring distance in 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				
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	Cellular	2G/3G, User SIM: mini-SIM(2FF)(25 x 15 x 0.76mm)				
	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					
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	BDC70 detachable battery	Li-ion rechargeable battery				
Operating time (20°C)	BDC70 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 depending on the operating environment including temperatures and observation conditions.

Brand New Model Newborn... The next generation total station

GT



The world's fastest! *

UltraSonic motor and direct drive system!

The world's smallest! *

Redesigned to ultra-slim body!

The world's lightest! *

Accomplished lightweight, 5.7kg robotic total station!

World's first Internet-connected (IoT) total station! *

Integrated cellular modem!
Total station now offers Internet connectivity!

Highest quality in class!

Passes various environmental tests with Topcon quality!

Actual size

*As robotic total station, by our research on January 2016.

Fastest · Smallest · Lightest

Newborn...The next generation total station



The world's fastest!*
UltraSonic motor and direct drive system!
Accomplished the world's fastest turning speed of 180° per second with UltraSonic motor and direct drive system. This also contributes to ultra-slim body.



The world's lightest!*
Accomplished weight-saving, 5.7 kg motor drive total station!
GT is a third smaller than any previous Topcon robotic instrument and the same weight as a manual total station — providing easy carrying and setup at a project site.



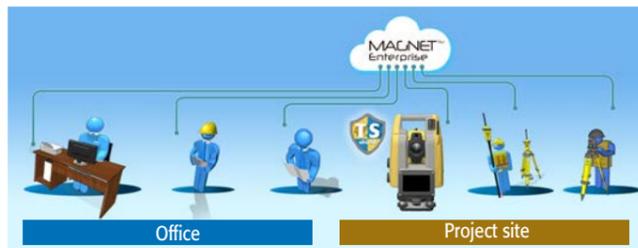
The world's smallest!*
Redesigned to ultra-slim body!
GT is designed by reviewing of the basis and redesigned to the world's smallest total station.



World's first Internet-connected (IoT) total station!*
Integrated cellular modem. Total station now with Internet connectivity!
GT is fully connected with cellular modem and wireless LAN. This allows direct connectivity to MAGNET® Enterprise and provides you close connection between a project site and office staff and managers.



Highest quality in class!
Passes various environmental tests with Topcon quality!
Tough designed GT, passes impact, vibration, high-temperature, and humidity testing — provides consistent performance at any harsh environments.



*As robotic total station, by our research on January 2016.

Versatile functions

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.



Green: move to right stakeout line Red: move to left

Jog dial

You can rotate GT with smooth jog dial.



Large display

Large and high-resolution WVGA display provides clear visibility under the sunlight. Moreover, large size icon improves operability.



RC handle (GT-1000 series)

RC-5A sensor on the handle can be used for auto-prism searching. This allows easy, rapid prism searching regardless of your position.



Trigger key

Just "Rough Aim" and "Press Trigger button" to get precise aiming and measurement automatically and easily.



USB available

Serial cable and USB connections can be used (Max:32GB) for data transmission/reception.



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.



Auto-tracking

Enhanced prism-tracking strength under any conditions in case you lose the line-of-sight by interruption or strong sunlight. Even if a prism lock is lost, you can easily turn GT and reacquire the prism with RC-5A and go back to work smoothly.

Auto-collimating

Precise measurement can be done by just "Rough Aim" and "Press Trigger button" without lens focus and other operations. Auto-collimating provides consistent accuracy and speed regardless of operator's skill levels and condition.