

SPECIFICATIONS			
Model	GM-101	GM-102	GM-103
Telescope	36x / 2.5"		
Magnification / Resolving power	Length : 171mm (6.7in.), Objective aperture : 45mm (1.8in.) / 44mm (1.8in.) for EDM, Image: Erect, Field of view: 1°30' (26m/1,000m), Minimum focus: 1.3m (4.3ft.) Reticle illumination: 5 brightness levels		
Angle measurement	0.5"/1" (0.0001 / 0.0002gon, 0.002 / 0.005mil)		
Minimum Display	17/9" (0.0002 / 0.0005gon, 0.002 / 0.005mil)		
Accuracy (ISO 17123-3:2001)	2" / 3" (0.0002 / 0.0005gon, 0.002 / 0.005mil)		
Dual-axis compensator / Collimation compensation	Dual-axis liquid tilt sensor, working range: 8/6° On/OFF (selectable)		
Distance measurement	Laser output: Reflectorless mode: Class 3R / Prism/reticle mode: Class 1 0.3 to 800m (±200ft) / Under good conditions*: 1,200m (±390ft)		
Measuring range (under average conditions*)	Reflectivity** R590-K: 1.3 to 500m (4.3 to 1,640ft.), R550-K: 1.3 to 300m (4.3 to 984ft.), R510-K: 1.3 to 100m (4.3 to 328ft.) *1 to 300m (±1 to 1,640ft.)		
Minimum Display	1.3 to 5,000m (4.3 to 16,408ft.) / under good conditions*: 6,000m (19,686ft.) Fine / Rapid : 0.001m (0.001ft.) / 1/18 in. / 0.001m (0.001ft.) / 1/8 in. (selectable) Tracking / Read : 0.001m (0.001ft.) / 1/18 in. / 0.001m (0.001ft.) / 1/2 in. (selectable)		
Accuracy** (ISO 17123-4:2011) (D-measuring distance in mm)	Reflectivity** Fine : 2 + 2ppm x D) mm Rapid : 1.5 + 2ppm x D) mm Tracking : 0.95 (initial 1.35) Rapid : 0.45 (initial 1.35)		
Measuring time**	Rapid : 0.95 (initial 1.35) Tracking : 0.45 (initial 1.35)		
OS, Interface and Data management	Operating system: Linux Display / Keyboard: Graphic LCD, 192 x 80 dots, backlight, contrast adjustment / Alphanumeric keyboard / 28 keys with backlight Control panel location: On both faces Trigger key: Yes (right side) Data storage: Internal memory: Approx. 50,000 points Flash in memory device: USB flash memory (max. 32GB) Interface: Serial RS-232C, USB2.0 (Type A for USB flash memory) Bluetooth module (option)**: Bluetooth Class 1.S, Operating range: up to 10m**		
General	Green LED (924nm) and Red LED (626nm), Operating range: 1.3 to 150m (4.3 to 490ft.) Laser pointer***: Casual red laser using EDM beam Levels: 6° (Inner Circle) Plumbet: Optical Magnification: 3x, Minimum focus: 3.5m (19.7in.) from tribrach bottom Dust and water protection / Operating temperature: IP66 (IEC 60529:2001) / -20 to +40°C (-4 to +104°F) Size with handle: 196 (W) x 141 (D) x 348 (H) mm Instrument height: 192.5mm from tribrach mounting surface Weight with battery & tribrach: Approx. 5.3kg (11.7lb) Power supply: Li-ion rechargeable battery BDC-70 Battery: BDC-70, Approx. 28hours Operating time (20°C)**: BDC-70, Approx. 28hours Application program: *REM Measurement *SD Coordinate Measurement *Resection *Stake Out *Topography Observation *Offset Measurement *Missing Line Measurement *Intersection *Surface Area Calculation *Route Surveying *Point to Line		
On board	*REM Measurement *SD Coordinate Measurement *Resection *Stake Out *Topography Observation *Offset Measurement *Missing Line Measurement *Intersection *Surface Area Calculation *Route Surveying *Point to Line		

**Standard Package Components**

- Main unit • Battery (BDC70) • Battery charger (CDC484) • Power Cable • Lens cap • Lens hood • Tool pouch • Precision Screwdriver • Lens brush
- Hexagonal wrench (1.3mm/2.5mm) • Cleaning cloth • Quick Manual • CD-ROM (Operation manual) • Laser caution sign-board • Carrying case • Carrying strap



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\* Specifications may vary by region and are subject to change without notice.  
\*\* Standard field test and laboratory reported and calculated accuracy by Topcon's QC, Inc. and any of its field units by users in accordance with.  
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# GM-100 Series

Geodetic Measurement Station



### Evolving Entry-Level Total Station

- Construction and Survey Application Software On Board
- Best-in-Class Measuring Distance Feature
- Reliable Large Volume Internal Memory
- Long-Hour Battery Operation
- Strong Environmental Specification against Tough Sites

## Construction and Survey Application Software On Board

### Reliable All-Round Total Station

# GM

## Construction

### Cross-Sectional Survey

By using the MLM (Missing Line Measurement) program, the height difference between points can be calculated for leveling. Also, you can save time on reflectorless mode to measure a number of points of variation in a large area.

### Stake Out

The Guide Light function will navigate the prism operator to move to the stake out line quickly so that stake out operation can be done effectively.

### Elevation Stake

Staking out with 3D coordinates, eliminates the need to set up IS on the straight line for all elevation stakes.

### Boundary and Cadastral Survey

By using the Area function, you can calculate the area easily. Also, you can determine the center point of a column such as an electric pole, which cannot be directly measured by using offset calculation.

### Coordinate Measurement

With coordinate measurement, you can manage 3D coordinate data as the various calculations such as Road, Layout and more can be determined. 3D coordinate data management can improve the productivity drastically.

### Topographic Survey

The trigger key, or measuring distance key, helps you perform topography quickly while continuously viewing through the telescope. Also, the long distance measuring range reduces the number of the instrument changes for more efficient working time.

## Improve Topography and Stake Out with features to achieve faster and more efficient workflows

### Newly Designed High-End Class EDM

Especially effective in surveying control points that require high-accuracy, and in cross sectional surveying in large areas with reflectorless measurement mode.

#### All Features are at Top Class

	Accuracy	Measuring Range
Prism-Mode	1.5mm+2ppm	6,000m*
Reflectorless	2.0mm+2ppm	1,000m*

\* Cold atmospheric condition

#### Distance Measurement Accuracy (Prism Mode)

GM Accuracy	Distance
1.5mm+2ppm	1,000m
2.0mm+2ppm	
Measuring Range (Reflectorless Mode)	500m

### Reliable Large Volume Memory

Internal memory has 50,000 points to record. USB memory can be used up to 32GB.

### IoT Support System - Connect the Site and the Office

#### TSshield IoT Support System

- Remotely update the firmware via the internet.
  - Improves asset management by checking TS operating time.
  - Remote Lock secures the instrument from theft.
  - Monitor TS health status to enable quick reaction against any functionality issues.
- \* This option may not be available in some areas.

# IoT

### Superior Basic Feature will Expand Your Application

#### Strong Environmental Spec

The IP66 rating ensures durability for most any rough job site temperatures and conditions.

#### Long-life Battery

One battery (BDC70) lasts up to 28 hours, or about four days of normal operation time.

#### Bright Illumination Key for Nighttime Work

Key buttons are illuminated to minimize mistakes.



### Topcon Provides Japan Quality Products

Topcon performs tough environmental tests to ensure long-term operation even under rough site environment. GM Series total stations are thoroughly inspected with dust-proof and water-proof test chambers. In addition, various tests against vibration, drop, temperature, and humidity were successfully passed to achieve the best environmental spec. Also, the measuring distance accuracy test on base line and the instrument leveling and angle accuracy test and adjustment by collimator system ensure your satisfaction on the GM Series product quality.

