TOPCON

GM-50 SERIES

REFLECTORLESS TOTAL STATIONS

Reflectorless Total Stations

- Fast and accurate new EDM
- Bluetooth® communications (optional)
- Advanced angle accuracy
- Long battery life – 14 hours
- Rugged, waterproof design with IP66 rating
- 500 m long-range reflectorless measurement
- 50,000 point internal memory

Topcon GM-50 Series total stations – advanced design with superior technology

The GM-50 Series was designed from the ground up to deliver the very latest technological advantages, all in a small, sleek design – you'll appreciate the advantages from the very first measurement.

Featuring a class leading EDM unit, the GM-50 is able to measure up to 4,000 m at 1.5 mm + 2 ppm accuracy, to standard prisms, and can measure in reflectorless mode up to 500 m at an incredible 2 mm + 2 ppm accuracy.

Measurements are captured faster than ever, and with a beam width of 13 mm (at 30 m), the bright red laser dot pinpoints features with ease.

Versatile, Economical Solution

The GM-50 Series is smaller, lighter, with increased storage capacity. Offered at an even more cost-efficient option than previous models, it provides your customers the perfect tool for entry-level site layout and surveying.

Bluetooth® Communication

With integrated Bluetooth® capability and internal antenna, the sleek design enables you to deliver measurements cable-free to your data controller.

Tested for toughness

We perform the tough environmental tests to ensure long-term operation even under the rough site environments. GM Series total stations are thoroughly inspected with dust-proof and water-proof test chambers. In addition, the various tests against vibration, drop, temperature, and humidity were successfully passed to achieve the best environmenta spec. 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 GM Series product quality.

GM-50 Series

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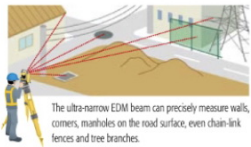
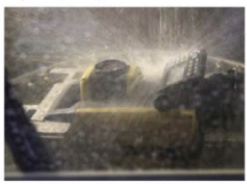
Fast and Powerful Reflectorless EDM

- Fast and accurate pinpointing with phase shift technology.
- Fast distance measurement of 0.9s regardless of object.
- Minimum reflectorless measuring distance - just 30cm.
- Improved collimation with super-bright pointer.
- Smaller EDM beam spot size for minimal distance measuring error.
- Dependable measuring even at shallow incidence angles.
- Ensures accurate reflective sheet distance measurement.



The ultra-narrow EDM beam can precisely measure walls, corners, manholes on the road surface, even chain-link fences and tree branches.

Japan Quality Products



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Standard Package Components

- Main unit • Battery (BDC46C)
- Battery charger (CDC68A)
- Power Cable • Lens cap • Lens hood
- Tool pouch • Precision Screwdriver
- Lens brush • Hexagonal wrench ×2
- Cleaning cloth • Quick Manual
- Laser caution sign-board
- Carrying case • Carrying strap

SPECIFICATIONS

Model		GM-52	GM-55
Telescope			
Magnification / Resolving power		30x / 2.5"	
Others		Length : 171mm (6.7in.), Objective aperture : 45mm (1.8in.) (48mm (1.9in.) 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			
Minimum Display		1"/5" (0.0002 / 0.001gon, 0.005 / 0.02mil)	
Accuracy (ISO 17123-3:2001)		2"	5"
Dual-axis compensator /		Dual-axis liquid tilt sensor, working range: ±6'	
Collimation compensation		On/Off (selectable)	
Distance measurement			
Laser output *1		Reflectorless mode : Class 3R / Prism/sheet mode : Class 1	
Measuring range (under average conditions *2)	Reflectorless *3	0.3 to 500m (1,640ft.)	
	Reflective sheet *4*5	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.)	
	Mini prism	1.3 to 500m (4.3 to 1,640ft.)	
	One prism	1.3 to 4,000m (4.3 to 13,320ft)	
Minimum Display		Fine / Coarse : 0.0001m (0.001ft. / 1/8 in.) / 0.001m (0.005ft. / 1/8 in.) (selectable) Coarse : 0.001m (0.005ft. / 1/8 in.) / 0.01m (0.02ft. / 1 in.) (selectable) Tracking / Road : 0.01m (0.02ft. / 1 in.)	
Accuracy *2 (ISO 17123-4:2001) (D=measuring distance in mm)	Reflectorless *3	(2 + 2ppm x D) mm *6	
	Reflective sheet *4*5	(2 + 2ppm x D) mm	
	Prism *7	(1.5 + 2ppm x D) mm	
Measuring time *8	Fine	0.9s (initial 1.5s)	
	Coarse	0.6s (initial 1.3s)	
	Tracking	0.4s (initial 1.3s)	
OS, Interface and Data management			
Operating system		Linux	
Display / Keyboard		Graphic LCD, 192 x 80 dots, backlight : on/off (Selectable) / Alphanumeric keyboard / 28 keys with backlight	
Control panel location		On both faces	On single face
Data storage	Internal memory	Approx. 50,000 points	
	Plug-in memory device	USB flash memory (max. 32GB)	
Interface		Serial RS-232C, USB2.0 (Type A for USB flash memory)	
	Bluetooth modem (option) *9	Bluetooth Class 1.5, Operating range: up to 10m *10	
General			
Laser-pointer		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 (19.7in.) from tribrach bottom	
	Laser (option)	Red laser diode (635nm±10nm), Beam accuracy: <=1.0mm@1.3m, Class 2 laser product	
Dust and water protection / Operating temperature		IP66 (IEC 60529:2001) / -20 to +60°C (-4 to +140°F)	
Size with handle		183(W)x 181(D)x 348(H)mm (On both faces)	183(W)x 174(D)x 348(H)mm (On single face)
Instrument height		192.5mm from tribrach mounting surface	
Weight with battery & tribrach		Approx. 5.1kg (11.3lb)	
Power supply			
Battery		Li-ion rechargeable battery BDC46C	
Operating time (20°C) *11		Approx. 14hours *12	
Application program			
On board		•REM Measurement •3D Coordinate Measurement •Resection •Stake Out •Topography Observation •Offset Measurement •Missing Line Measurement •Surface Area Calculation •Route Surveying •Point to Line	

*1 IEC60825-1:Ed.3.0:2014/ FDA CDRH 21CFR Part1040.10 AND1040.11 *2 Average conditions: Slight haze, visibility about 20km (12 miles), sunny periods, weak scintillation. *3 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. *4 When the measuring beam's incidence angle is within 30° in relation to the reflective sheet target. *5 Measuring range in temperatures of 50 to 60°C (122 to 140°F): RS90N-K: 1.3 to 300m (4.3 to 980ft.), RS50N-K: 1.3 to 180m (4.3 to 590ft.), RS10N-K: 1.3 to 60m (4.3 to 190ft.) *6 Measuring range:0.3 to 200m *7 Face the prism toward the instrument during the measurement with the distance at 10 m or less. *8 Good conditions: No haze, visibility about 40km (25miles), overcast, no scintillation. *9 Usage approval of Bluetooth wireless technology varies according to country. Please consult your local office or representative in advance. *10 No obstacles, few vehicles or sources of radio emissions/interference in the near vicinity of the instrument, no rain. *11 Figures will change depensing on the operating environment including temperatures and observation conditions. *12 In use of ECO mode. Fine single measurement every 30sec.

TOPCON

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