TOPCON

GM-50 Series

Geodetic Measurement Station

High Quality, High Return!

- Construction and Survey Application Software
- Fast & Accurate & Powerful Measuring Distance Feature
- 500m Long Range Reflectoress Measurement
- Rugged & Waterproof Design
- Reliable Large Volume Internal Memory

Topbasic

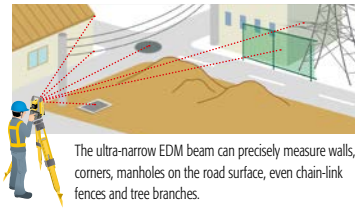
Made in Japan

GM-50 Series

TOPCON

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

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 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 GM Series product quality.

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)	
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 +60ºC (-4 to +140ºF)	
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 (20ºC)[*9]		Approx. 14hours[*10]	
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 30º in relation to the reflective sheet target. *5 Measuring range in temperatures of 50 to 60ºC (122 to 140ºF): 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 Figures will change depending on the operating environment including temperatures and observation conditions. *10 In use of ECO mode. Fine single measurement every 30sec.

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