

GM-50 Series



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

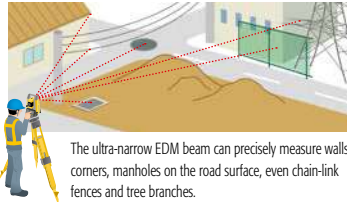


Topbasic



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	30x / 2.5"	
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"	
Dual-axis compensator / Collimation compensation	Dual-axis liquid tilt sensor, working range: ±6'	
Distance measurement	On/Off (selectable)	
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 × D) mm ^{*6} Reflective sheet ^{*4,5} (2 + 2ppm × D) mm Prism ^{*7} (1.5 + 2ppm × 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 depending on the operating environment including temperatures and observation conditions. ^{*12} In use of ECO mode. Fine single measurement every 30sec.

Your local Authorized Dealer is:



Precision Surveying Co
1st Floor, Satyanarayan Plaza, Harabala Path
Bylane No.1/2, Bora Service, Ulubari, Guwahati-7, Assam
+91 9864093910
+91 9435304264
www.precisionindia.co.in
sales@precisionindia.co.in



Angle Measurement

Min. Resolution/Accuracy

GM-101	0.5"/1"
GM-102	1"/2"
GM-103	1"/3"
GM-105	1"/5"

IACS Standard on 1" and 2" models

Compensation Dual-axis compensator

Distance Measurement

Prism EDM Range 6,000 m

Prism EDM Accuracy 1.5 mm + 2 ppm

Non-Prism Range 1,000 m

Non-Prism Accuracy 2 mm + 2 ppm (0.3 - 200 m)

Measuring Time
Fine: 0.9 sec
Rapid: 0.6 sec
Tracking: 0.4 sec**Communications**LongLink™ is not supported
Bluetooth® Class 1.5/10 m

USB 2.0 Slot (Host)

RS-232C Serial

General

Display Single Backlit LCD (Dual display optional)

Battery Operation Up to 28 hours

Dust/Water Rating IP66

Wireless Bluetooth® Class 1.5 Connection

Operating Temp -20°C to 60°C*
* Special Arctic version available (-35 to 50°C)

* Laser plummet standard.

* Optional optical plummet available in some global locations.

**Ultra-powerful, advanced EDM**

- 1,000 m non-prism range
- 6,000 m prism range

**Easy access USB 2.0 memory**

- Up to 32GB storage
- Environmentally protected
- Compatible with industry standard thumb drives

**Advanced angle encoder system**

- "Best-in-class" 1" angle accuracy
- Incorporates exclusive IACS (Independent Angle Calibration System) on 1" and 2" models

**Rugged, waterproof design**

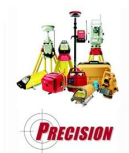
- Waterproof/dustproof IP66 design handles the toughest environments
- Magnesium-alloy housing providing stable angle accuracy
- Graphic display and alphanumeric key board (standard)



For more information:
topconpositioning.com/gm-series

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Precision Surveying Co
 1st Floor, Satyanarayan Plaza, Harabala Path
 Bylane No.1/2, Bora Service, Ulubari, Guwahati-7, Assam
 +91 9864093910
 +91 9435304264
www.precisionindia.co.in
sales@precisionindia.co.in