

# GM-50 Series



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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

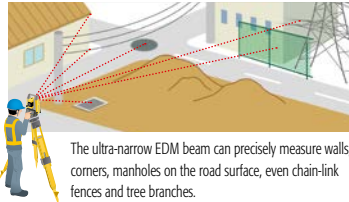


Topbasic



## 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	
<b>Angle measurement</b>		
Minimum Display	1"/5" (0.0002 / 0.001gon, 0.005 / 0.02mil)	
Accuracy (ISO 17123-3:2001)	2"	5"
Dual-axis compensator / Collimation compensation	Dual-axis liquid tilt sensor, working range: ±6' / On/Off (selectable)	
<b>Distance measurement</b>		
Laser output <sup>*1</sup>	Reflectorless mode : Class 3R / Prism/sheet mode : Class 1	
Measuring range (under average conditions <sup>*2</sup> )	Reflectorless <sup>*3</sup> Reflective sheet <sup>*4*5</sup> Mini prism One prism	0.3 to 500m (1,640ft.) 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.) 1.3 to 500m (4.3 to 1,640ft.) 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 <sup>*2</sup> (ISO 17123-4:2001) (D=measuring distance in mm)	Reflectorless <sup>*3</sup> Reflective sheet <sup>*4*5</sup> Prism <sup>*7</sup>	(2 + 2ppm × D) mm <sup>*6</sup> (2 + 2ppm × D) mm (1.5 + 2ppm × D) mm
Measuring time <sup>*8</sup>	Fine Coarse Tracking	0.9s (initial 1.5s) 0.6s (initial 1.3s) 0.4s (initial 1.3s)
<b>OS, Interface and Data management</b>		
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 Plug-in memory device	Approx. 50,000 points USB flash memory (max. 32GB)
Interface	Serial RS-232C, USB2.0 (Type A for USB flash memory)	
<b>General</b>		
Laser-pointer	Coaxial red laser using EDM beam	
Levels	Graphic Circular level (on tribrach)	6' (Inner Circle) 10' / 2mm
Plummet	Optical Laser (option)	Magnification: 3x, Minimum focus: 0.5m (19.7in.) from tribrach bottom 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)× 181(D)× 348(H)mm (On both faces)	183(W)× 174(D)× 348(H)mm (On single face)
Instrument height	192.5mm from tribrach mounting surface	
Weight with battery & tribrach	Approx. 5.1kg (11.3lb)	
<b>Power supply</b>		
Battery	Li-ion rechargeable battery BDC46C	
Operating time (20°C) <sup>*9</sup>	Approx. 14hours <sup>*10</sup>	
<b>Application program</b>		
On board	<ul style="list-style-type: none"> <li>•REM Measurement •3D Coordinate Measurement</li> <li>•Resection •Stake Out •Topography Observation</li> <li>•Offset Measurement •Missing Line Measurement</li> <li>•Surface Area Calculation •Route Surveying •Point to Line</li> </ul>	

\*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 Figures will change depending on the operating environment including temperatures and observation conditions. \*10 In use of ECO mode. Fine single measurement every 30sec.