

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





GM-50 Series



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.



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 (BDC71)
- Battery charger (CDC77)
- 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"			SPECIFICATIONS	~~~~~	
Telescope	Model		GM-52	GM-55	
Magnification / Resolving power 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: 1.3in (4.3ft.), Reticle illumination: 5 brightness levels			GH-32	GH-33	
Chers			30x / 2 5"		
(1.5 in.) for EDM), Image: Frect, Field of view: 130 (26m/1,000m), Minimum focus: 1.3m (4.3ft.) Reticle illumination: 5 brightness levels					
Minimum focus: 1.3m (4.3ft.) Reticle illumination: 5 brightness levels	Oulers				
Angle measurement					
Minimum Display	Angle measuremen	+	riminium rocus. 1.5m (4.5m.) Redicie illumination: 5 prignitiess levels		
Accuracy (150 17123-3:2001)			1"/5" (0.0002 / 0.001gon, 0.005 / 0.02mil)		
Dual-axis compensator		23-3-2001)	2"		
Dolistance measurement					
Distance measurement Laser output Laser output Reflectorless mode : Class 3R / Prism/sheet mode : Class 1 Reflectorless Reflectorl					
Reflectorless mode : Class 3R / Prismy/sheet mode : Class 1			On/On (Selectable)		
Measuring range (under average conditions 2) Reflectorless 3 Reflectorless 3 Reflectorless 4 Reflective sheet 4 Reflective sheet 5 Reflective sheet 5 Reflective sheet 6 Reflective sheet 6 Reflective sheet 7 Reflective sheet 8 Reflective			Reflectorless mode : Class 3R / Prism/sheet mode : Class 1		
(under average conditions*2) Reflective sheet**** RSSON-K: 1.3 to 500m (4.3 to 1,640ft.), RSSION-K: 1.3 to 100m (4.3 to 320ft.) Mini prism		Reflectorless*3			
RS50N-K: 1.3 to 300m (4.3 to 980ft.), RS10N-K: 1.3 to 100m (4.3 to 320ft.)					
RS10N-K: 1.3 to 100m (4.3 to 320ft.) Mini prism		Reflective Sficet			
Mini prism	conditions)				
One prism		Mini nrism			
Fine Coarse : 0.0001m (0.005ft, / 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.) Tracking / Road : 0.01m (0.02ft. / 1 in.) Tracking / Road : 0.01m (0.02ft. / 1 in.) Tracking / Road : 0.01m (0.02ft. / 1 in.) Tracking / Road : 0.01m (0.02ft. / 1 in.) Tracking / Road : 0.01m (0.02ft. / 1 in.) Tracking / Road : 0.01m (0.02ft. / 1 in.) Tracking / Reflective sheet Section Tracking T	Minimum Display	One prism			
Tracking Road : 0.01m (0.02ft. / 1 in.)	Timmani Bispiay				
Accuracy					
(ISO 17123-4:2001) (D=messuring distance imm) (D=messuring distance imm) (D=messuring distance imm) Measuring time* Fine 1.15 + 2ppm x D) mm Measuring time* Fine 0.95 (initial 1.5s) Coarse 0.65 (initial 1.3s) OS, Interface and Data management Operating system Display / Keyboard Control panel location Data storage Internal memory Plug-in memory device Interface Serial RS-232C, USB2.0 (Type A for USB flash memory) General Laser-pointer Levels Graphic Circular level (on tribrach) Plummet Optical Laser (option) Beam accuracy: <=1.0mm@1.3m, Class 2 laser product Dust and water protection / Operating temperature Distance with handle Instrument height 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 Instrument height 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 Distrument height 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 Distrument height 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 Distrument height 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 Distrument height Magnification: 3x, Minimum focus: 0.5m (19.7in.) from tribrach mounting surface Weight with battery & tribrach Approx. 5.1kg (11.3lb) Power supply Approx. 14hours** Appro	Accuracy*2 Reflectorless*3				
Departing distance in mm Prism*7 (1.5 + 2ppm x D) mm					
Fine					
Coarse 0.6s (initial 1.3s)					
Tracking 0.4s (initial 1.3s)	ineasuring time				
OS, Interface and Data management Operating system Display / Keyboard Oraphic LCD, 192 x 80 dots, backlight: on/off (Selectable) / Alphanumeric keyboard / 28 keys with backlight Control panel location Data storage Internal memory Plug-in memory device Interface Oserial RS-232C, USB2.0 (Type A for USB flash memory) General Laser-pointer Levels Graphic Circular level (on tribrach) Plummet Optical Laser (option) Beam accuracy: <=1.0mm@1.3m, Class 2 laser product Dust and water protection / Operating temperature Dist and water protection / Operating temperature Dist with handle Neight with battery & tribrach Neight with battery & tribrach Power supply Battery On board ■ REM Measurement ● Missing Line Measurement ● Resection • Stake Out ● Topography Observation ● Offset Measurement • Missing Line Measurement					
Display / Keyboard Graphic LCD, 192 x 80 dots, backlight : on/off (Selectable) / Alphanumeric keyboard / 28 keys with backlight Alphanumeric keyboard / 28 keys with backlight Alphanumeric keyboard / 28 keys with backlight On both faces On single face	, ,				
Display / Keyboard Graphic LCD, 192 x 80 dots, backlight : on/off (Selectable) / Alphanumeric keyboard / 28 keys with backlight			Linux		
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 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	Display / Reyboard				
Data storage					
Plug-in memory device USB flash memory (max. 32GB)		Internal memory			
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General Laser-pointer Coaxial red laser using EDM beam Levels Graphic (Circular level (on tribrach)) 6' (Inner Circle) Plummet Optical (Optical) Magnification: 3x, Minimum focus: 0.5m (19.7in.) from tribrach bottom Laser (option) Red laser diode (635nm±10nm), Red laser diode (635nm±10nm), Beam accuracy: <=1.0mm@1.3m, Class 2 laser product	Interface				
Laser-pointer Coaxial red laser using EDM beam Levels Graphic Circular level (on tribrach) 6' (Inner Circle) Plummet Optical Magnification: 3x, Minimum focus: 0.5m (19.7in.) from tribrach bottom Laser (option) Red laser diode (635nm±10nm), Red laser diode (635nm±10nm), Beam accuracy: <=1.0mm@1.3m, Class 2 laser product					
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Size with handle 183(W)x 181(D)x 348(H)mm (On both faces) (On single face) Instrument height 192.5mm from tribrach mounting surface Weight with battery & tribrach Power supply Battery Li-ion rechargeable battery BDC71 Operating time (20°C)*9 Approx. 14hours*10 Application program On board • REM Measurement •3D Coordinate Measurement • Resection • Stake Out • Topography Observation • Offset Measurement • Missing Line Measurement	Dust and water protection / Operating temperature				
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Battery Operating time (20°C)*9 Approx. 14hours*10 Application program On board •REM Measurement •3D Coordinate Measurement •Resection •Stake Out •Topography Observation •Offset Measurement •Missing Line Measurement			Approx. 3.1kg (11.3lb)		
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Application program On board •REM Measurement •3D Coordinate Measurement •Resection •Stake Out •Topography Observation •Offset Measurement •Missing Line Measurement	Operating time (20)	°C)*9			
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•Resection •Stake Out •Topography Observation •Offset Measurement •Missing Line Measurement			DEM Management 2D	Candinata Masauranat	
•Offset Measurement •Missing Line Measurement	On board				
•Surrace Area Calculation •Route Surveying •Point to Line					
			•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 30,800 k. 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 depensing on the operating environment including temperatures and observation conditions. *10 In use of ECO mode. Fine single measurement every 30sec.



TOPCON CORPORATION

75-1 Hasunuma-cho, Itabashi-ku, Tokyo 174-8580, Japan www.topcon.co.jp

<Contact to>

TOPCON POSITIONING ASIA (MALAYSIA) SDN. BHD.

Registration No. 201901043929 (1353259-V)
No. 6, Jalan Pensyarah U1/28,
Hicom-Glenmarie Industrial Park,
40150 Shah Alam, Selangor Darul Ehsan
Email: mys_survey_sales@topcon.com
Web: http://www.topcon.com.my/corporate.html

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