iM-100 Series

intelligence Measurement Station

Model	iM-101	iM-102	iM-103	iM-105
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	0.5"/1" (0.0001 / 0.0002gon, 0.002 / 0.005mil)	1"/5" (0.0002 / 0.001gon, 0.005 / 0.02mil)		
Accuracy (ISO 17123-3:2001)	1"	2"	3"	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 800m (2,620ft.) / Under good conditions[*4] : 1,000m (3,280ft.)			
Reflective sheet[*5*6]	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 prisms	CP01: 1.3 to 2,500m (4.3 to 8,200ft.), OR1PA: 1.3 to 500m (4.3 to 1,640ft.)			
One prism	1.3 to 5,000m (4.3 to 16,400ft.) / Under good conditions[*4] : 6,000m (19,680ft.)			
Minimum Display	Fine / Rapid : 0.0001m (0.001ft. / 1/16 in.) / 0.001m (0.005ft. / 1/8 in.) (selectable) Tracking / Road : 0.001m (0.005ft. / 1/8 in.) / 0.01m (0.02ft. / 1/2 in.) (selectable)			
Accuracy[*2] (ISO 17123-4:2001) (D=measuring distance in mm) — Reflectorless[*3]	(2 + 2ppm x D) mm[*8]			
Reflective sheet[*5*6]	(2 + 2ppm x D) mm			
Prism[*7]	(1.5 + 2ppm x D) mm			
Measuring time[*4*9] — Fine	0.9s (initial 1.5s)			
Rapid	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, contrast adjustment / Alphanumeric keyboard / 28 keys with backlight			
Control panel location	On both faces			
Trigger key	Yes (right side)			
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)[*10]	Bluetooth Class 1.5, Operating range: up to 10m[*11]			
General				
Guide light[*12]	Green LED (524nm) and Red LED (626nm), Operating range: 1.3 to 150m (4.3 to 490ft.)			
Laser-pointer[*12]	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			
Instrument height	192.5mm from tribrach mounting surface			
Weight with battery & tribrach	Approx. 5.3kg (11.7lb)			
Power supply				
Battery	Li-ion rechargeable battery BDC70			
Operating time (20ºC)[*13]	BDC70: Approx. 28hours[*14]			
Application program				
On board	• REM Measurement • 3D Coordinate Measurement • Resection • Stake Out • Topography Observation • Offset Measurement • Missing Line Measurement • Intersection • Surface Area Calculation • Route Surveying • Point to Line			

*1 IEC60825-1:Ed.2.0:2007/ FDA CDRH 21 CFR Part 1040.10 and 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 Good conditions: No haze, visibility about 40km (25miles), overcast, no scintillation. *5 When the measuring beam's incidence angle is within 30º in relation to the reflective sheet target. *6 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.) *7 Face the prism toward the instrument during the measurement with the distance at 10 m or less. *8 Measuring range:0.3 to 200m *9 Fastest time under good conditions, no compensation, EDM ALC at appropriate setting, slope distance. *10 Usage approval of Bluetooth wireless technology varies according to country. Please consult your local office or representative in advance. *11 No obstacles, few vehicles or sources of radio emissions/interference in the near vicinity of the instrument, no rain. *12 The laser-pointer and the guide light do not work simultaneously. *13 Figures will change depensing on the operating environment including temperatures and observation conditions. *14 In use of ECO mode. Fine single measurement every 30sec.

Standard Package Components

• Main unit • Battery (BDC70) • Battery charger (CDC68A) • Power Cable • Lens cap • Lens hood • Tool pouch • Precision Screwdriver • Lens brush

• Hexagonal wrench ×2 • Cleaning cloth • Quick Manual • CD-ROM (Operation manual) • Laser caution sign-board • Carrying case • Carrying strap

SOKKIA

iM-100 Series

intelligence Measurement Station

Evolving Entry-Level Total Station

- **Construction and Survey Application Software On Board**

- **Best-in-Class Measuring Distance Feature**

- **Reliable Large Volume Internal Memory**

- **Long-Hour Battery Operation**

- **Strong Environmental Specification Against Tough Sites**

Construction and Survey Application Software On Board
Reliable All-Round Total Station

iM

Construction

Cross-Sectional Survey
By using the MLM (Missing Line Measurement) program, the height difference between points can be calculated. Also, you can save time on reflectorless mode to measure a number of points of variation in a large area.
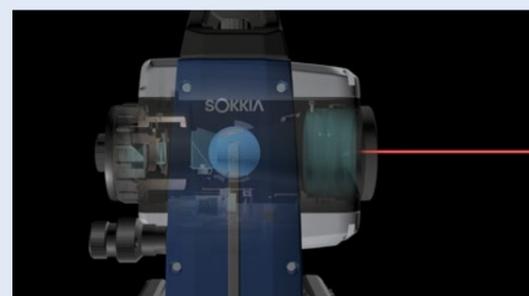
Coordinate Measurement
With coordinate measurement, you can manage 3D coordinate data so that various calculations such as Road, Layout and more can be determined. 3D coordinate data management can improve the productivity drastically.

Boundary and Cadastral Survey
By using the Area function, you can calculate the area easily. Also, you can determine the center point of the column such as electric pole, which cannot be directly measured, by using offset calculation.

Stake Out
The Guide Light function will navigate the prism operator to move to the stake out line quickly so that stake out operation can be done effectively.

Elevation Stake
Staking out with 3D coordinates, eliminates the need to set up TS on the straight line for all elevation stakes.

Topographic Survey
The trigger key, or measuring distance key, helps you perform topography quickly while continuously viewing through the telescope. Also, the long distance measuring range reduces the number of the instrument changes for more efficient working time.

Survey

A
B
E
C
D

Improve Topography and Stake Out,
with features to achieve faster and more efficient workflows

IoT Support System - Connect the Site and the Office
TSshield IoT Support System
- Remotely update the firmware via the internet
- Improves asset management by checking TS operating time
- Remote Lock secures the instrument from theft.
- Monitor TS heath status to enable quick reaction against any functionality issues
*This service may not be available in same areas.

IoT

Newly Designed High-End Class EDM
Especially effective in surveying control points that require high-accuracy, and in cross sectional surveying in large areas with reflectorless measurement mode.

All Features are at Top Class

	Accuracy	Measuring Range
Prism-Mode	1.5mm+2ppm	6,000m*
Reflectorless	2.0mm+2ppm	1,000m*

* Good atmospheric condition

Distance Measurement Accuracy (Prism Mode)
iM	**Accuracy**
	1.5mm+2ppm
Previous Model	2.0mm+2ppm

Measuring Range(Reflectorless Mode)
iM	→ **Distance 1,000m**
Previous Model	→ 500m

Reliable Large Volume Memory
Internal memory has 50,000 points to record. USB memory can be used up to 32GB.

Superior Basic Feature will Expand Your Application

Strong Environmental Spec
The IP66 rating ensures durability for most any rough job site temperatures and conditions.

Long Hours Operation
One battery lasts up to 28 hours, or about four days of normal operation time.

Bright Illumination Key for Nighttime Work
Key buttons are illuminated to minimize mistakes.

Reliable Large Volume Memory
Internal memory has 50,000 points to record. USB memory can be used up to 32GB.

Japan Quality Products
We perform the tough environmental tests to ensure long-term operation even under the rough site environments.
iM 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 iM Series product quality.