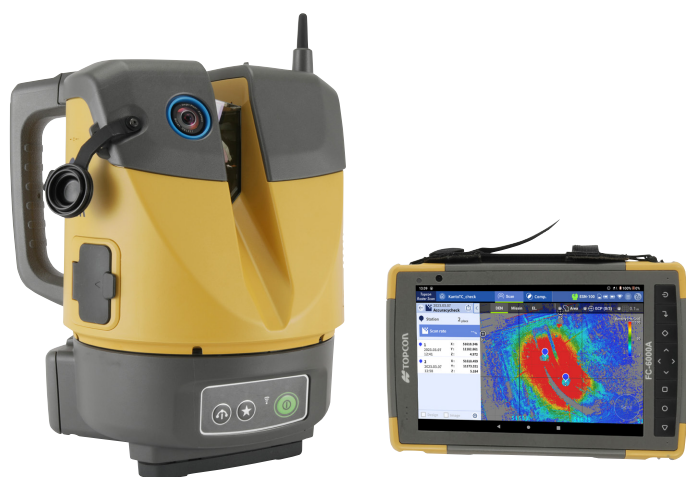


ESN-100

TOPCON

ESN-100

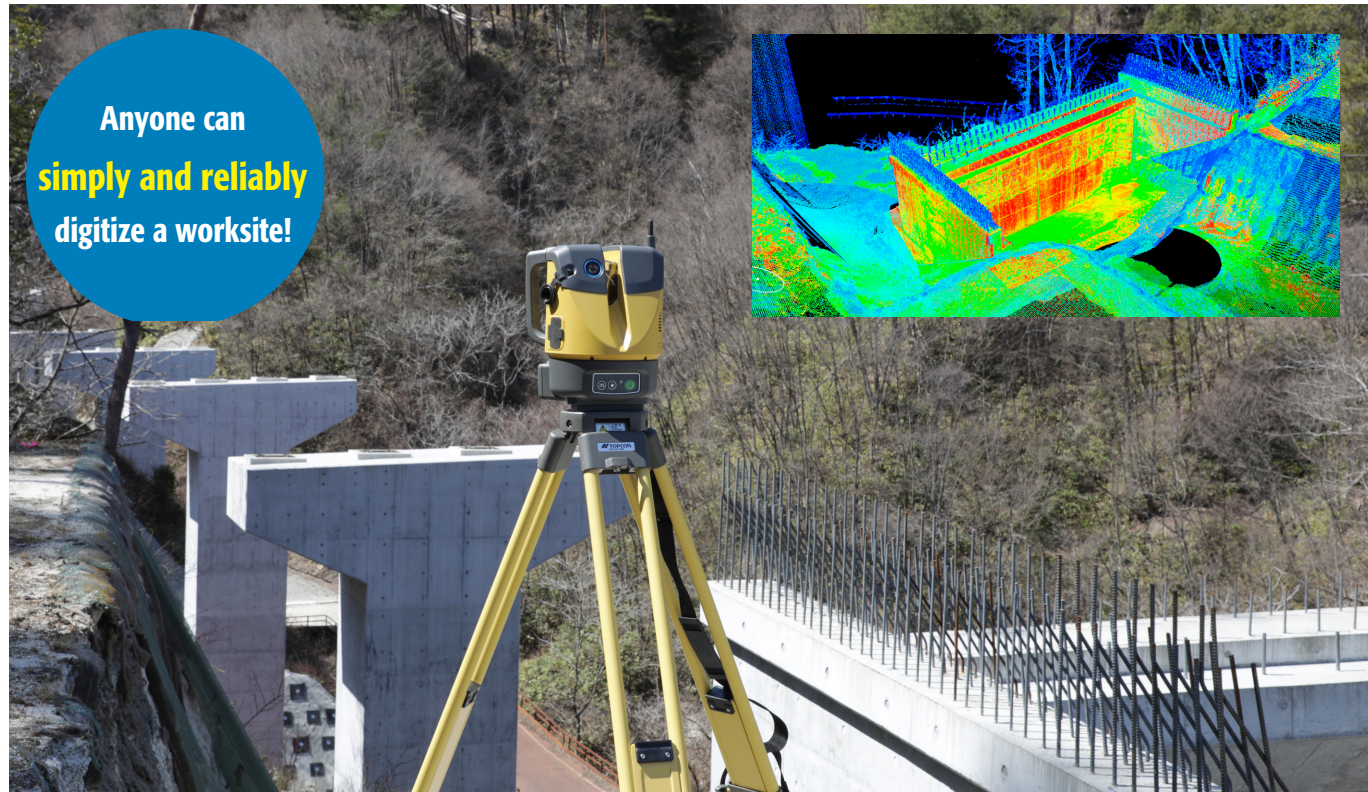
Scanning Navigator



With the ESN-100, You can handle scanning effortlessly.

- Automatic Self-leveling with one button!
- Automatic target detection!
- Automatic combining scan data!
- Remote operation in real time!
- Compare today's scan data with yesterday's!
- Compare actual data with design data!

You also can be a scan master!



Anyone can
simply and reliably
digitize a worksite!

Automated

Automated leveling and device setup make things simple!



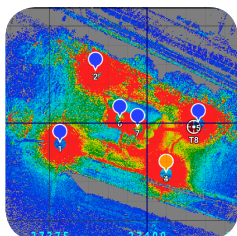
Automatic Self-leveling with one button!

Easy leveling with one button thanks to the automated leveling feature. Can be set up by anyone, no experience required.



Automatic target detection!

Automatically detect prisms at up to 100 m, and perform Resection. Can be used on multiple measurement locations on shared targets thanks to the 360° prism.



Automatic combining scan data!

Automatically combine multiple pieces of scan data. With the Resection method, anyone can get easily and precisely combined point cloud data.

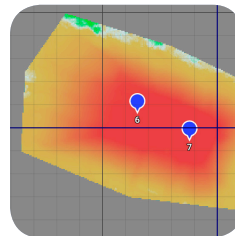
Complete on-site

Check measurement results immediately! Less reworking, more reliable



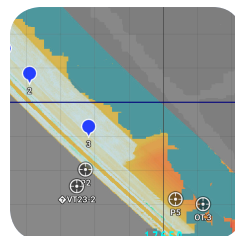
Remote operation in real time!

On Field measurement result check using Topcon Raster Scan, our dedicated field software, so you can determine where to scan next and keep work going.



Compare today's scan data with yesterday's!

Compare scan data from yesterday's ground elevation with today's after piling to manage progress and calculate earth volume.



Compare actual data with design data!

After initial measurements, you can track progress with design verification, earth volume calculation, and volume management. You can also inspect differences between the design and the actual result using volume management.

ESN-100

Complete on-site solution! Automated scanning solution



ESN-100 dedicated field software
Topcon Raster Scan



Field software that supports smooth on-site 3D measurement and analysis.



Comes with a 360° prism as Standard package

Place the scanner in the chosen location and perform device setup using Resection.



Compact, lightweight, handle-equipped

Supports on-site work with excellent mobility.



Continuous measurements over long periods

Fitted with a hot-swapping function for changing the batteries while using the device.



Once the ESN-100 unit is turned on, everything can be done via tablet software. Scan with just a few clicks, and complete measurements automatically.

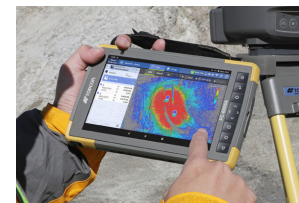
Usage scenarios

Initial survey

Progress management

Volume management

Simple operation for carrying out 3D measurements. Efficiently manage progress through the real-time display and the comparison function enables comparison of acquired point clouds with past point clouds or 3D design data.



Field controller FC-6000A

Large screen and efficient mobility for comfortable working. Supports on-site work with excellent mobility. Compatible with Android™ OS.



Backpack (optional)

A backpack for easy carrying is also available. Simple and safe device transportation and setup, even on steep worksites such as mountainous areas.

Export scan data on-site after measurements!

- LAS/TXT standard format
- Import directly into point cloud processing software

No post-processing required for point cloud generation!



Export data via USB



Load into point cloud processing software for immediate use!

SPECIFICATIONS

Auto leveling	Method		Main unit integral type
	Auto leveling mechanism		Dual-axis
Scanner Unit	Leveling range		±3°
	Range of Measurement ^{*1}	surface of reflection factor 18%	0.6 to 30 m (2 to 98 ft)
		surface of reflection factor 90%	0.6 to 70 m (2 to 230 ft)
	Scanning Range	Horizontal	360° (maximum)
		Vertical	270° (maximum)
	Measurement accuracy Without smoothing (Surface of reflection factor 90%)	Distance accuracy ^{*2}	σ 6mm@10m, σ 10mm@20m, σ 15mm@30m
		Surface accuracy	σ 5mm@10m, σ 10mm@20m, σ 15mm@30m
		Coordinate accuracy	σ 6mm@10m, σ 11mm@20m, σ 17mm@30m
		Distance accuracy ^{*2}	σ 4mm@10m, σ 6mm@20m, σ 8mm@30m
	Measurement accuracy With smoothing ^{*3} (Surface of reflection factor 90%)	Surface accuracy	σ 3mm@10m, σ 5mm@20m, σ 7mm@30m
		Coordinate accuracy	σ 5mm@10m, σ 7mm@20m, σ 10mm@30m
		Scanning data rate	Maximum of 200,000 points per second
	Target scan	Range of Measurement ^{*4}	5.5mm@10m 2 to 100 m (7 to 328 ft)
			11mm@10m 2 to 80 m (7 to 262 ft)
			22mm@10m 2 to 20 m (7 to 66 ft)
		Scanning Range	Horizontal 360° (maximum) Vertical ±20° (maximum) ^{*5}
	Laser	Laser classification ^{*6}	Class 1
		Wave length	870 nm
Camera	Number of effective pixels		5M pixels
	Field angle		180° (V) × 130° (H)
	Type		SD card
Card slot	Standard		SDHC Class10 or greater is required. The capacity is 32 GB or less.
	Number of slots		1
Data transfer	Wireless LAN	Communication distance	30 m (98 ft) ^{*7}
		Frequency range	2.412 to 2.472 GHz (1 to 11 ch)
		Power source	Rechargeable Li-ion battery BDC72
		Working duration at 20 °C ^{*8}	About 2.5 hours (When using two BDC72)
Power Supply	Battery (BDC72)	Nominal voltage	7.2 V
		Capacity	5,986 mAh
		Input voltage	100 to 240 V AC
		Charging time (at 25 °C, when two batteries are charged at the same time)	About 8 hours (Charging may take longer than this at low or high temperature.)
	Charger (CDC77)	Charging temperature range	0 to 40 °C (32 to 104 °F)
		Storage temperature range	-20 to 65 °C (-4 to 149 °F)
		Auto power-off function	Yes (30 minutes)
	General	Dimensions	Outer diameter φ 224 mm (8.9 in) (excluding handle) Height 280.1 mm (11.1 in) (excluding antenna) Instrument height 225 mm (8.9 in) Weight About 4.9 kg (10.8 lb) (Including the battery)
		Operating temperature	-10 to 50 °C (-10 to 122 °F) (No condensation)
		Storage temperature	-20 to 60 °C (-4 to 140 °F) (No condensation)
		Dustproof / Waterproof	IP55
	Prism constant correction value		-7 mm
Prism (ATP2)	3D positioning accuracy (Standard deviation)		3 mm (Angles of elevation and inclination both less than 20°)
Carrying Case	Dimensions		547 (W) × 285(D) × 420(H) mm (21.5 × 11.2 × 16.5 in) (excluding bottom legs and handle)
	Weight		About 4.8 kg (10.6 lb)

*1: Face the object toward the instrument.

*2: Overall EDM accuracy considering surface accuracy and linearity.

*3: When using Collage Office or Collage Web

*4: The maximum distance at which target scanning is possible depends on the settings of your application software.

*5: When using ATP2/ATP2SII

*6: IEC60825-1 Ed. 3.0: 2014/FDA CDRH 21CFR Part1040.10 and 1040.11 (Complies with FDA performance standards for laser products except for deviations pursuant to Laser Notice No.56, dated May 8, 2019.)

*7: No obstacles, few vehicles or sources of radio emissions/interference in the near vicinity of the instrument.

*8: Figures will change depending on the operating environment including temperatures and observation conditions.

Standard components



- Main unit
- Battery (BDC72) 4 pieces
- Battery Charger (CDC77) 2 pieces
- Power Cable (EDC113) 2 pieces
- Prism(ATP2) 2 pieces
- Silicon cloth
- Tool pouch [Adjusting pin(1),Screw driver(1), Lens brush(1)]
- Startup Guide
- SD card (Manual)
- Carrying case (SC247T)
- Carrying strap
- Export restrictions card (Be sure to read)

Optional accessories



Field controller
FC-6000A



Backpack
SC252



TOPCON CORPORATION

75-1 Hasunuma-cho, Itabashi-ku, Tokyo 174-8580, Japan
Phone: (+81)3-3558-2993 Fax: (+81)3-3960-4214
<https://www.topconpositioning.asia>

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