SOKKIA

NET05AX II
NET1AX II

3D Station

Ultra High-precision 3D Stations for Accurate Measurements in Industrial and Monitoring Applications

- Ultra High-precision Distance Measurement
- Precise Angle Accuracies 0.5" (NET05AXII) / 1" (NET1AXII)
- 1" Auto Pointing Accuracy *
- Remote Control through on-line PC
- Exclusive Reflector Prescan Technology
- Enforced Durability for Long Term Deformation / Monitoring Applications

* When measured with standard prism

TS shield
Exclusive TSshield technology built-in
World's First integrated support service

* *For more detail of TSshield, please refer to the TSshield's leaflet. This service may not be available in some areas.

Ultra High-precision 3D Stations for Accurate

For Monitoring

Engineering structures, such as buildings, dams, tunnels and bridges, can always be affected by movement caused by excavation, heavy construction and piling placement, in addition to natural hazards, such as harsh weather, soil movement, change of ground water level or any number of other factors. The ultimate goal in any project, at any job site, is to secure the safety of people and equipment, and therefore the saving of maintenance cost.
The NET series provides superior measuring precision and is equipped with environmental protection and various functions necessary in monitoring applications and therefore, can be utilize to configure a high-precision monitoring system.

For Industrial Measurement

NET05AXII, used with reflective sheet targets, can achieve sub-millimeter accuracy.
It is suitable, therefore, for measuring the shape and alignment of large scale structures, such as various plants and bridges, as well as for precise measurement of ships, railroad cars and airplanes.

For 1st order Survey

The NET series offers high-precision angle accuracy (NET05AXII: 0.5", NET1AXII:1") which can be applied for a wide range of precise measurements.
Since it is equipped with an automatic tracking system, the high-precision 3D station can be configured with a remote control system.

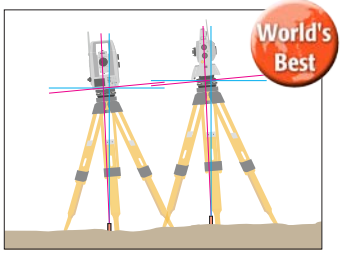
Ultra High-precision Distance and Angle Measuring System

Ultra High-precision Distance Measurement

NET05AXII
Using reflective sheet targets, the NET05AXII provides sub-millimeter accuracy (0.5mm + 1ppm) in a range of up to 200m.
NET1AXII
The reflectorless measurement range of the NET1AXII model is doubled to 400m (1,310ft.) with Kodak white side (90% reflective).

0.5mm

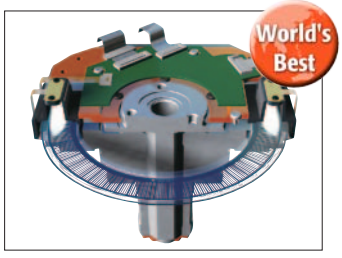
Adjusting mechanism for angle measuring



The biaxial level compensation mechanism has a wider adjusting range of ±6‘ which is twice as wide, compared with previous models. This enables highly accurate measuring performance.

±6‘

Advanced Angle Measurement System



SOKKIA's IACS (Independent Angle Calibration System) technology provides "best in class" angle accuracy, 0.5" (NET05AXII) / 1" (NET1AXII).

0.5"/1"

Superior Auto-Pointing Accuracy

The auto-pointing accuracy* with the standard prism is 1” (1mm@200m), and 4” (1mm@50m) with a reflective sheet.

* Auto-pointing accuracy is verified using the methods specified by ISO 17123-3.

1"

Measurements

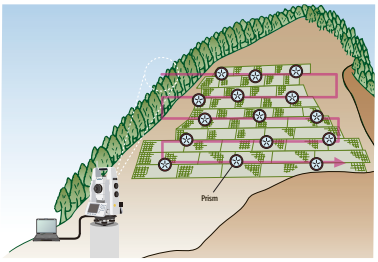
Key Features of NET Series for Monitoring Solutions

Remote operation by online system

A library of special control commands can be provided in order to establish remote operation functionality in your own monitoring system.
*Please contact us for the details of the special commands.

Reflector Prescan function* for Monitoring Setup

This function is ideal for structural monitoring applications to make initial setup easy and fast.
The NET series automatically searches within the predetermined area to quickly measure the reflectors as initial positions for subsequent routine measurements.
This function works even in low light or dark conditions where the reflectors cannot be clearly seen by the human eye and provides greatly increased efficiency in initial reflector search.



*This function is not included in on-board software, and need to be implemented in the user's own system using opened command.

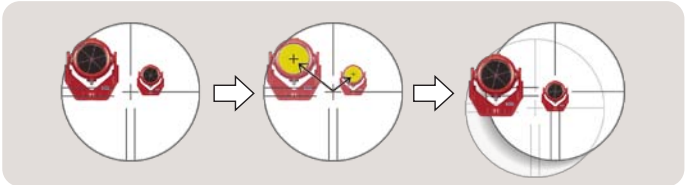
Dust and Water Protection IP65

Provides protection from dust and driving rain as well as other inclement weather conditions. Operates in temperatures from -20 to +50ºC.

Advanced Auto-Pointing Algorithm* for multiple prisms

The NET series incorporats an advanced auto-pointing algorithm* optimized for monitoring applications. The NET series automatically sights the prism closest to the telescope center regardless of the distance from the instrument. This works even if multiple prisms or other reflective objects are in the field of view.
This feature dramatically enhances the reliability in periodic monitoring of predetermined prism locations.

* With a regular auto-pointing algorithm, the instrument normally sights the nearest target with the strongest reflection.



PRIMARY FEATURES

Target Illumination

Prisms or sheet target can be located easily in dim lighting conditions using the high-intensity white LED built into the telescope.

Upgraded durability

Improved durability by changing and redesigning the assembling parts, especially for "24-7 monitoring operation".

Communication port

Weatherproof multi-port maintains IP65 protection even with an RS-232C data cable or an external battery connected.

Bluetooth

Equipped with Bluetooth (Class 1) as standard, which enables communication over a long distance up to 600m*
* When used with RC-PR5 Remote Controller. The range can be subject to change depending on the obstacles between the instruments or any environmental radio conditions.

Easy access to USB flash drive port

An operator can easily import/export data from the office to the field in seconds.

Control Panel

Control panel with touch-screen display and alpha/numeric keyboard.

NET05AXII/NET1AXII

3D Station

SPECIFICATIONS

Model		NET05AXII	NET1AXII
Telescope			
Magnification / Resolving power		30x / 2.5"	
Objective aperture: 45mm (1.8 in.) (50mm (2.0 in.) for EDM), Image: Erect, Field of view: 1°30' (26 m/1,000 m), Minimum focus: 1.3 m (4.3 ft.),			
Angle measurement			
Display resolutions (selectable)		0.1" / 0.5" (0.00002 / 0.0001 gon, 0.0005 / 0.002 mil)	
Accuracy (ISO 17123-3:2001)		0.5"	1"
Dual-axis compensator / Collimation compensation		Dual-axis liquid tilt sensor, working range: ±6' / Collimation compensation available	
IACS (Independent Angle Calibration System)		Provided	
Distance measurement			
Laser output[*1]		Reflectorless mode: Class 3R / Prism/sheet mode: Class 1	
Measuring range (under good conditions[*2])	One prism[*3]	1.3 to 3,500 m (4.3 to 11,480 ft.)	
	Reflective sheet RS50N-R[*4]	1.3 to 200m (4.3 to 640 ft.)	
	Reflectorless[*5]	0.5 to 100 m (1.64 to 320 ft.)	0.5 to 400 m (1.64 to 1,310 ft.)
Minimum display		0.00001 m / 0.0001 m (0.0001 ft. / 0.001 ft., 1/64 in. / 1/16 in.)	0.0001 m / 0.001 m 0.001 ft. / 0.01 ft., 1/16 in. / 1/8 in.)
Accuracy (ISO 17123-4:2001) (D=measuring distance in mm)	Prism[*3]	(0.8 + 1ppm x D) mm	(1 + 1ppm x D) mm
	Reflective sheet[*4]	(0.5 + 1ppm x D) mm	(1 + 1ppm x D) mm
	Reflectorless[*5]	(1 + 1ppm x D) mm	(2 + 1ppm x D) mm[*6]
Measuring time (Fine mode)[*7]		0.9s (initial 1.5s)	
Motor			
Type		DC motor drive	
Rotation speed		85°/s	
Auto-Collimating			
Working range (under avarage conditions[*8])	One prism	1.3 to 1,000 m (4.3 to 3,280 ft.)	
	Reflective sheet RS50N-R[*9]	5 to 50m (16 to 160ft.)	
Sighting accuracy (ISO 17123-3)	prism	1" (1 mm @ 200 m)	
	Reflective sheet[*9]	4" (1 mm @ 50 m)	
OS, Interface and Data management			
Operating system		Widnows Embedded CE 6.0	
Display[*10]		3.5inch, transmissive TFT QVGA color LCD with LED backlight, Touch screen, Automatic brightness control	
Keyboard[*10]		25 keys with backlight	
Trigger key		On right instrument support	
Data storage	Internal memory	500MB (includes memory for program files)	
	Plug-in memory device	USB flash memory (up to 8 GB)	
Calendar / clock function		Provided	
Interface		Serial RS-232C, USB2.0 (Type A / miniB)	
Bluetooth modem[*11]		Bluetooth Class 1, Ver.2.1+EDR, Operating range: up to 600m (1,960 ft.)[*12]	
General			
Target searchlight		LED (white), Blink / On, selectable	
Laser-pointer		Coaxial red laser using EDM beam, ON / OFF, selectable	
Levels	Graphic	6' (Inner Circle)	
	Circular level	10' / 2 mm	
Optical plummet		Magnification: 3x, Minimum focus: 0.3m (11.8in.) from tribrach bottom	
Dust and water protection / Operating temperature		IP65 (IEC 60529:2001) / -20 to +50ºC (-4 to +122ºF)	
Size with handle[*10]		Display and keyboard on one face: 230 (W) X 196 (D) X 393 (H) mm Display and keyboard on both faces: 230 (W) X 207 (D) X 393 (H) mm	
Weight with battery & tribrach[*10]		Display and keyboard on one face: 6.8 kg (15.0 lb) Display and keyboard on both faces: 7.0 kg (15.4 lb)	
Power supply			
Battery	BDC70	Li-ion rechargeable battery	
Operating time (20ºC)[*13]	BDC70	Approx.4 hours	
	External battery (option)	BDC60: approx.7 hours, BDC61: approx.14.5 hours	

*1 IEC60825-1:Ed.2.0:2007 / FDA CDRH 21 CFR Part 1040.10 and 11 *2 Good conditions: No haze, visibility about 40km (25 miles), overcast, no scintillation. *3 Face the prism to the instrument during the measurement with the distance at 10 m or less. *4 Face the reflective sheet target to the instrument. *5 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. *6 Measuring range: 0.5 to 200 m *7 Fastest time under good atmospheric conditions*2, no compensation, EDM ALC at appropriate setting, slope distance. *8 Average conditions: Slight haze, visibility about 20km (12 miles), sunny periods, weak scintillation. *9 Figures when the Auto Pointing beam strikes within 15° of the reflective sheet target. *10 Control panel and keyboard location may vary depending on region or model. *11 Usage approval of Bluetooth wireless technology varies according to country. Please consult your local office or representative in advance. *12 Paired with RC-PR5, with instrument height to be more than 1.5m, no obstacles (like building structures, trees or vehicles) causing interrupting/reflecting radio wave, few sources of radio emissions/interference in the near vicinity of the instrument, no rain. *13 Fine distance measurement (single) using Auto Pointing, repeated every 30 seconds

Standard package components

●NET Main unit ●Battery (BDC70) x 2 ●Battery charger (CDC68A) ●Power cable (EDC113A/113B/113C etc.) ●Stylus pen ●Lens cap ●Lens hood ●Tool pouch ●Screwdriver ●Lens brush ●Adjusting pin x 2 ●Vinyl cover ●Wiping cloth ●Quick Manual ●Standard package components ●Precautions for Safe Operation ●USB memory (Manual) ● Export restrictions card (Be sure to read) ●Laser caution sign-board ●Carrying case ●Carrying strap

TOPCON

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