

# NET AXII Series 3D Monitoring Stations



## SOKKIA

### NET AXII Series 3D Monitoring Stations



#### Ultra-high-precision Distance Measurement

These fully robotic monitoring stations offer a superior level of performance compared to conventional systems that simply lock on to the nearest targets. The NET AXII series excels at precision-intensive tasks such as monitoring, bridge construction, and other highly detailed engineering projects.

- Precise angle accuracies 0.5" (NET05 AXII) / 1" (NET1 AXII)
- 1" Auto-pointing accuracy
- Remote control through on-line PC
- Exclusive reflector prescan technology
- Enforced durability for long-term deformation / monitoring applications

#### **For Monitoring**

The NET AXII series provides superior measuring precision for high-precision monitoring applications and can be utilized to configure a high-precision monitoring system.

#### For Industrial Measurement

Achieve sub-millimeter accuracy using the NET05 AXII and reflective sheet targets. It's excellent 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 First Order Survey

You get high-precision angle accuracy (NET05 AXII: 0.5", NET1 AXII: 1"), which can be applied for a wide range of precise measurements. The high-precision 3D station is equipped with an automatic tracking system and can be configured by remote control.

### Ultra-high-precision Distance Measurement

#### NET05 AXII

Using reflective sheet targets, the NET05 AXII provides sub-millimeter accuracy (0.5 mm + 1 ppm) in a range of up to 200 m.

#### NET1 AXII

The reflectorless measurement range of the NET1 AXII model is doubled to 400 m (1,310 ft.) when using a Kodak white side (90% reflective).

#### **Advanced Accuracy**

Our IACS (Independent Angle Calibration System) technology provides "best-in-class" angle accuracy. With a biaxial level compensation mechanism that has a wide adjusting range of ±6 feet, which is twice as wide as the previous models. This enables highly accurate measuring performance.

The auto-pointing accuracy<sup>\*</sup> with the standard prism is 1" (1 mm at 200 m), and 4" (1 mm at 50 m) with a reflective sheet.

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



#### **Advanced Auto-pointing Algorithm for Multiple Prisms**\*

The NET series incorporates an advanced auto-pointing algorithm\* optimized for monitoring applications. Your instrument automatically sights the prism closest to the telescope center regardless of the distance. This works even if multiple prisms or other reflective objects are in the field-of-view. The 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.

#### **Specifications**

MODEL		NET05 AXII	NET1 AXII
Telescope			
Magnification / Resolving power 30x / 2.5"			
Objective aperture: 45 mm (1.8 in.) (50 mm (2.0 in.) for EDM), Image: Erect, Field of view: 1°30'			
(26 m / 1,000 m), Minimum for	cus: 1.3 m (4.3 ft.)		
Angle Measurement			
Display Resolution (selectable)		0.1" / 0.5" (0.00002 / 0.000	1 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' /	
IACS (Independent Angle Calibration System)		Provided	
Distance Measurement	auon system)	FION	ueu
Lasar output	Deflectorloss mode	Class 2D / Drism / sk	anat mada: Class 1
Laser output	Reflectoriess mode	1 2 to 2 500 m (4 2 to 11 490 ft )	
(under good conditions <sup>2</sup> )	Reflective sheet RS50N-R <sup>4</sup>	1.3 to 200 m (4.3 to 640 ft.)	
	Reflectorless⁵	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	0.00001 m / 0.0001 m
		(0.0001 ft. / 0.001 ft.,	(0.0001 ft. / 0.001 ft.,
		1/64 in. / 1/16 in.)	1/64 in. / 1/16 in.)
Accuracy <sup>2</sup> (ISO 17123-4:2001)	Prism <sup>3</sup>	(0.8 + 1 ppm x D) mm	(1 + 1 ppm x D) mm
(D=measuring distance in mm)	Reflective sheet <sup>4</sup>	(0.5 + 1 ppm x D) mm	(1 + 1 ppm x D) mm
	Reflectorless⁵	(1 + 1 ppm x D) mm	(2 + 1 ppm x D) mm6
Measuring time (Fine mode)7		0.9s (init	ial 1.5s)
Auto-Collimating			
Working range	One prism <sup>3</sup>	1.3 to 1,000 m (4.3 to 3,280 ft.)	
(under average conditions <sup>8</sup> )	Reflective sheet RS50N-R <sup>9</sup>	5 to 50 m (16 to 160 ft.)	
Sighting accuracy	Prism <sup>3</sup>	1" (1 mm at 200 m)	
(ISO 17123-3) Reflective sheet <sup>9</sup>		4" (1 mm at 50 m)	
OS. Interface and Data Management			
Operating system		Windows® Compact 7	
Display <sup>10</sup>		3.5", transmissive TFT QVGA color LCD with LED	
		backlight, Touch screen, Automatic brightness control	
Keyboard <sup>10</sup>		25 keys with backlight	
Trigger key		On right of instrument support	
Data storage		Internal: 500 MB (includes memory for program	
0		files) / External: USB flash memory up to 8 GB	
Interface		Serial RS-232C, USB 2.0 (Type A / mini B)	
Bluetooth®11		Bluetooth Class 1, Ver.2.1+EDR.	
		Operating range: up to 600 m (1,960 ft.) <sup>12</sup>	
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:	
		0.3 m (11.8 in.) from tribrach bottom	
Dust and water protection / operating temperature		IP65 (IEC 60529:2001) / -20°C to 50°C (-4 to 122°F)	
Size with handle <sup>10</sup> (w x d x h)		Single face: 230 x 196 x 393 mm /	
		Dual face: 230 x 207 x 393 mm	
Weight with battery and tribrach <sup>10</sup>		Single face: 6.8 kg (15.0 lb) / Dual face: 7.0 kg (15.4 lb)	
Motor type / rotation speed		DC motor drive / 85°/s	
Power supply			
BDC70 standard battery		7.2V, 5.2Ah / Li-ion rechargeable battery	
Operating time (20°C) <sup>13</sup>		Approx. 4 hours <sup>5</sup>	
External battery (option)		BDC60: approx.7 hours / BDC61: approx.14.5 hours	
1EC60825-1-Ed 2 0-2007 / EDA CDPH	21 CER Part 10/0 10 3	nd 11 <sup>2</sup> Good conditions: No b	aze visibility about 40km (25
miles), overcast, no scintillation. <sup>3</sup> Face or less. <sup>4</sup> Face the reflective sheet targ	e the prism to the instr et to the instrument. <sup>5</sup>	With Kodak Gray Card White S	ent with the distance at 10 m ide (90% reflective). When

or less. "Face the reflective sheet target to the instrument. With Kodak Gray Card White Side (90% reflective). When brightness on measured surface is 30,000 k. or less. Reflectorless range/accuracy may vary according to measuring objects, observation situations and environmental conditions. "Measuring range: 0.5 to 200 m. "Fastest time under good atmospheric conditions", no compensation, EDM ALC at appropriate setting, slope distance. "Average conditions: Slight haze, visibility about 20 km (12 miles), sumry periods, weak schillation. "Figures when the Auto Pointing beam strikes within 15° of the reflective sheet target. "Control panel and keyboard location may vary depending on region or model." Usage approval of Bluetooth wireless technology varies according to country. Please consult your local office or representative in advance. "Paried with RC-PRS, with instrument height to be more than 1.5 m, 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. "Fine distance measurement (single) using Auto Pointing. repeated every 30 seconds. repeated every 30 seconds.

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