

# MS 05AXII / MS 1AXII



## Measuring Accuracy and Durability are Further Refined to Provide Highly Accurate Measurement

- Ultra High-precision Distance Measurement
- Precise Angle Accuracies 0.5" (MS05AXII) / 1" (MS1AXII)
- Auto Aiming Accuracy of 1" \*
- Remote Control through on-line PC
- Exclusive Reflector Prescan technology
- Enforced Durability for Long Term Deformation / Monitoring Applications

\* When measured with standard prism

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.

**SPECIFICATIONS**

Model	<b>MS05AXII</b>		<b>MS1AXII</b>
<b>Telescope</b>			
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.),			
<b>Angle measurement</b>			
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		
Advanced angle encoder technology	Provided		
<b>Distance measurement</b>			
Laser output <sup>*1</sup>	Reflectorless mode: Class 3R / Prism/sheet mode: Class 1		
Measuring range (under good conditions <sup>*2</sup> )	One prism <sup>*3</sup>	1.3 to 3,500 m (4.3 to 11,480 ft.)	
	Reflective sheet RS50N-R <sup>*4</sup>	1.3 to 200m (4.3 to 640 ft.)	
	Reflectorless <sup>*5</sup>	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)	Prism <sup>*3</sup>	(0.8 + 1ppm x D) mm	
	Reflective sheet <sup>*4</sup>	(0.5 + 1ppm x D) mm	
	Reflectorless <sup>*5</sup>	(1 + 1ppm x D) mm	
(D=measuring distance in mm)		(2 + 1ppm x D) mm <sup>*6</sup>	
Measuring time (Fine mode) <sup>*7</sup>	0.9s (initial 1.5s)		
<b>Motor</b>			
Type	DC motor drive		
Rotation speed	85°/s		
<b>Auto-Collimating</b>			
Working range (under average conditions <sup>*8</sup> )	One prism	1.3 to 1,000 m (4.3 to 3,280 ft.)	
	Reflective sheet RS50N-R <sup>*9</sup>	5 to 50m (16 to 160ft.)	
Sighting accuracy (ISO 17123-3)	prism	1" (1 mm @ 200 m)	
	Reflective sheet <sup>*9</sup>	4" (1 mm @ 50 m)	
<b>OS, Interface and Data management</b>			
Operating system	Windows Embedded CE 6.0		
Display <sup>*10</sup>	3.5inch, 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 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 <sup>*11</sup>	Bluetooth Class 1, Ver.2.1+EDR, Operating range: up to 600m (1,960 ft.) <sup>*12</sup>		
<b>General</b>			
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 +50°C (-4 to +122°F)		
Size with handle <sup>*10</sup>	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 <sup>*10</sup>	Display and keyboard on one face: 6.8 kg (15.0 lb) Display and keyboard on both faces: 7.0 kg (15.4 lb)		
<b>Power supply</b>			
Battery	BDC70	Li-ion rechargeable battery	
Operating time (20°C) <sup>*13</sup>	BDC70	Approx.4 hours	
	External battery (option)	BT-73Q: 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 50,000 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-5, 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**

MS 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



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