PENTAX | Reflectorless Total Station

R-2500NS Series

R-2501NS | R-2502NS
R-2503NS | R-2505NS

- **Long EDM range measuring distance: reflectorless up to 600 m and in prism mode up to 7,000 m**
- **Dual display as standard equipment**
- **Easy transfer to a PC via SD card, USB mini and RS-232C data port**
- **Pre-loaded PowerTopoLite software which offers a package of versatile application functions**
- **Guiding lights for easy & fast stakeout**

- **Trigger key on the side cover for quick & light measurement key stroke**

- **Dual battery system for long operation time in the field**

Increase your work efficiency

TI Asahi Co.,Ltd
Focusing on True Performance

TOTAL STATION SPECIFICATIONS

Model			R-2501NS	R-2502NS	R-2503NS	R-2505NS
Telescope	Magnification		30X			
	Effective Aperture		45mm (EDM45mm)			
	Resolving Power		3″			
	Field of View		1°30′ (2.6%)			
	Minimum Focus		1.0 m			
Distance Measurement	**Laser Class**		Laser Pointer: Class 2, When measuring: Class 3R			
	Measurement Range Good Conditions *3					
		Reflectorless ***1**	0.5m ~ 600m			
		Reflector Sheet ***2**	1.5m ~ 600 (800) m			
		1P	1.5m ~ 7000 (9999) m			
		3P	1.5m ~ 9000 (9999) m			
		Mini Prism	1.5m ~ 2500 (3000) m			
	Measurement Accuracy *4					
	Reflectorless	0.5 ~ 100m	±(3+2ppm×D) mm			
		100 ~ 300m	±(5+2ppm×D) mm			
		300m ~	±(7+2ppm×D) mm			
	Prism /Reflector Sheet ***5**		±(2+2ppm×D) mm			
	Minimum Count		Normal Meas. : 1 mm or 0.1 mm/Fast Meas. : 10 mm			
	Measurement Time *5					
	Initial Meas.	Reflectorless	Approx. 1.0 sec.			
		Prism/Refl. Sheet	Approx. 1.2 sec.			
	Continuous Meas.	Reflectorless	Approx. 0.8 sec.			
		Prism/Refl. Sheet	Approx. 0.8 sec.			
	Weather Correlation		Auto, Temp., Pressure input /PPM No-Input Selectable		Temp., Pressure Input /PPM No-Input Selectable	
	Laser Pointer		Yes			
Angle Measurement	Measuring Method		Absolute Rotary Encoder			
	Detection Method		H: 2 Sides Detection V: 2 Sides Detection			
	Minimum Count		5″/1″ Selectable			
	Accuracy (ISO 17123-3)		1″	2″	3″	5″
	Tangent Screw		2 Speed		1 Speed	
Display Type			2 Sides with Illumination			
Compensator *7	Compensator Type		Float Type Level		Capacitance Type Level	
	Compensator Axis		3 Axis		2 Axis	
	Compensator Range		± 3′			
Special Function	Measurement/Calculation		File Management, Measure, View & Edit, Free Station, Stakeout, Traverse, VPN, I/O, Calculation, RDM,			
			Preference, Load Design, PegSurvey (Mining Software)*optional			
Data Process	Data Recording Method		Internal Memory/SD Card			
	Capacity (Coordinates/Observation Data) ***8**		Approx. 60,000 points			
Interface			SD Card Slot, Mini USB Port, RS-232C, Bluetooth Class 2			
Sensitivity of Vials	Electrical Level		30″/1 div.		N/A	
	Circular Level		8″/2 mm			
Laser Plummet			Brightness and Optical Axis Adjustable			
Base			Detachable			
Dust & Water Protection			IP56 (instrument only)			
Operating Temperature Range			-20 °C ~ +50 °C			
Dimensions			190 (W) x 343 (H) x 177 (L) mm			
Weight (incl. Battery)			5.7 kg			
Battery Pack (BP07)	**Power Source**		Li-ion 7.4V 3350mAh, equipped with 2 batteries as standard, Hot-Swappable			
	Operation Time/Charge					
	Continous Meas.		Approx.. 15 hrs. (Measured once every 30 sec.) ***6**			
	Angle Meas.		Approx. 47.5 hrs.			
	Charging Time		1 battery: approx. 2 hrs. / When charging 2 batteries at the same time: approx. 4 hrs.			

***1** The measurement range and accuracy of reflectorless, and time required to measure may vary by the shape, size of surface area and reflection rate of the target and its environment. The measurement range of reflectorless is determined by the white side of the KODAK Gray Card (KODAK is a registered trademark of Eastman Kodak Company).
***2** Reflector sheet: based on PENTAX Genuine Reflector sheet.
***3** Normal or good weather conditions are based on the following conditions.
Normal conditions: 20km visibility with slight shimmer, weak sunlight and moderate wind.
***4** During the automatic weather correction, the value of ppm error is 10ppm in case of the prism or reflector sheet measurement. Also in case of the reflectorless measurement, it will be 18ppm depending on the distance (300m or more) and change in environmental conditions, shape, area and reflectance of targets.
***5** EDM measuring time is determined in good conditions. It may takes longer than usual to measure the distance exceeding 4000m in prism mode and 300m in reflectorless mode.
***6** When EDM energy saving setting is "Yes".
***7** The 3-axis correction is a function to correct the orthogonal error between the horizontal axis and the collimation axis and the orthogonal error between the vertical axis and the horizontal axis in addition to the XY 2-axis correction.
***8** The number of recorded points varies depending on the observation method and it is the number of observed points when the coordinate, one pair of observation and pairs of observation are used separately, but not combination of each of them. The pairs of observation is a typical number of observation points in the case of one pair of five-direction observation. Maximum number of recorded points in one site: 3,000 points Maximum number of sites created: 20 sites Maximum number of data transfer points from personal computer to total station 1,000 points.

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DANGER
LASER RADIATION - DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENT INTO SUNLIGHT
620-690 nm/4.75mW max.
CLASS IIIa LASER PRODUCT
Laserclass IIIa, conform FDA 21 CFR Ch. 1 § 1040

www.pentaxsurveying.com/en/

CE
The CE marking assures that this product complies with the requirements of the EC directive for safety.

ISO 9001: 2015 Certified

CAUTION
LASER RADIATION - DO NOT STARE INTO BEAM
620-690 nm/0.95mW max.
CLASS II LASER PRODUCT
Laserclass II, conform FDA 21 CFR Ch. 1 § 1040

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