

PENTAX | R-2500N

Reflectorless Total Station

- Long range: reflectorless measuring up to 600 m
- Bluetooth Class1 Long Link: 100 m
- Dust & Water resistance: IP66
- Automatic Atmospheric Correction

**ADVANCED
PENTAX EDM
TECHNOLOGY**



Model	R-2501N	R-2502N	R-2503N	R-2505N
Magnification			30 x	
Effective aperture			45mm (EDM45mm)	
Resolving power			3.0"	
Field of view			2.6% (1°30')	
Minimum focus			1.0m	
Focus			Manual	
Distance measurement	Laser Class		Visible Laser: Class IIIa (Reflectorless) / Class II (Prism, sheet)	
Measurement range (Good condition) *3				
	Reflectorless *1		1.5 ~ 600m	
	Reflector sheet *2		1.5 ~ 600m (800m)	
	Mini prism		1.5 ~ 2500m (3000m)	
	1P		1.5 ~ 7000m(9000m)	
	3P		1.5 ~ 9000m(9999m)	
Accuracy *4	Prism / Reflector Sheet		1.5m ~ 10m : ±(3+2ppm x D)mm 10m ~ : ±(2+2ppm x D)mm	
	Reflectorless		1.5m ~ 150m : ±(3+2ppm x D)mm 150m ~ 300m : ±(5+2ppm x D)mm 300m ~ : ±(7+10ppm x D)mm	
At Auto-ATM. Correction	Prism / Reflector sheet		1.5m ~ 10m : ±(3+10ppm x D)mm 10m ~ : ±(2+10ppm x D)mm	
	Reflectorless		1.5m ~ 300m : ±(5+10ppm x D)mm 300m ~ : ±(7+18ppm x D)mm	
	Minimum count		0.1mm (Fine mode), 1mm (Normal mode), 10mm (Track mode)	
Measurement time *5	Repeat meas.	Normal(1mm) Quick(1mm) Track(10mm)	Prism / Ref.sheet 2.0sec. Refless 2.0sec. Prism / Ref.sheet 1.2sec. *6	
	Initial meas.	Normal(1mm) Quick(1mm) Track(10mm)	Prism / Ref.sheet 0.4sec. Refless 0.4sec. Prism / Ref.sheet 2.5sec. Refless 2.4sec. Prism / Ref.sheet 1.7sec. *6 Prism / Ref.sheet 2.5sec. Refless 2.5sec.	
Angle measurement	Measuring method		Absolute rotary encoder	
	Detection method		Vertical / Horizontal angle	
	Minimum count		2 sides	1 side
	Accuracy (ISO17123-3)	0.5" / 1"	1" / 5"	5"
Compensator	Axis	1"	2"	3"
	Range	3 axis *7		2 axis
Tangent Screw			±3' 1 Speed	
Sensitivity of vials	Plate level	20"/1div. (electronic)	30"/1div. (electronic)	30"/1div.
	Circular level		8/2mm	
Plummet			Visible laser: ± 0.5mm (instrument height: 1.5m) (Optical Plummet is optional)	
Base	Dust and Water Protection		Detachable IP66 (instrument only)	
Ambient temperature			-20°C ~ 50°C / -4°F ~ 122°F (Working range)	
Tripod thread			5/8"x 11	
Dimensions/Weight	Dimensions		190(W) x 343(H) x 177(L)mm	
	Weight (incl. Battery)		5.7kg	
	Carrying case		373(W) x 286(H) x 465(L)mm / 2.9kg	
Battery pack BP07	Power source		Li-ion 2500mAh x 2 (hot swap)	
	Operation time		Continuous approx. 4.5 hrs (ETH+EDM), 15 hrs (ETH) with approx. 2.2 hrs of charging time	
	Weight		110g x 2 pcs	
Battery charger BC05 and AC Adapter AC05	Input voltage (AC05)		AC 100 ~ 240V	
	Output voltage (BC05)		DC8.4V	
Data Process	Data recording method		Internal Memory	
	Coordinates data *8		60.000	50.000
	Special function		PowerTopoLite	
	I/F		RS-232C, SD CARD, USB, Bluetooth	
Display / Keyboard	Display type		Graphic LCD / 20 characters x 8 lines / 240 x 96 pixels	
Quantity			2	
Keys			22 each(12 numeric / 5 function / 5 special)	
Display back light			Intensity settings: 10 steps	
Laser Pointer			Yes	
Date clock			Yes	

* Specifications are subject to change without notice

- *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.
- *2 Reflector sheet: PENTAX genuine Reflector sheet
- *3 The measurement range may vary by conditions of the environment.
Normal conditions: 20km visibility with slight shimmer
Good conditions: 40km visibility, overcast, no heat, no shimmer and moderate wind.
- *4 When automatic atmospheric correction is on, the EDM error is 10ppm in prism and reflector sheet mode.
- *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 Quick mode, which functions with prism and reflector sheet, is effective only under normal mode(1mm) and up to 500m.
- *7 In addition to dual-axis correction in the (X) and (Y) direction, mechanical error in the instrument is corrected.
- *8 Number of points to be recorded may vary by usage.
Maximum number of point to be recorded per job site : 3000 points
Maximum number of job file to be recorded : 50 job files
Maximum data points to be sent from PC to the instrument: 3000 points

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