

PENTAX | Total Surveying Solutions **R-2800N Series**

R-2801N | R-2802N | R-2803N | R-2805N

- + Long EDM range:
reflectorless up to 800 m
and in prism mode up to 4,000 m
- + Large internal memory:
60,000 points
- + Dual display
- + Easy transfer to a PC via SD card,
USB mini and RS-232C data port
- + Pre-loaded versatile
software functions
- + Dual battery system
for long time use
- + Bluetooth Class1
Long Link: 100 m



TI Asahi Co.,Ltd
Aiming at the future together!

Technical Specifications R-2800N Series Total Station

Model		R-2801N	R-2802N	R-2803N	R-2805N
Telescope	Image			Erect	
	Magnification			30 x	
	Effective Aperture			45 mm	
	Resolving Power			3.0"	
	Field of View			1°20'	
	Minimum Focus			1.0 m	
	Focus			Manual	
	Laser Class		Visible Laser: Class IIIa (Reflectorless, sheet) / Class I (Prism)		
Measurement Range	(Good condition) *3				
	Reflectorless *1			1.5 m ~ 800 m	
	Reflector Sheet *2			1.5 m ~ 800 m	
	Mini Prism			1.5 m ~ 800 m	
	1P			1.5 m ~ 4,000 m	
	3P			1.5 m ~ 5,000 m	
Accuracy	Prism			± (2 + 2 ppm x D) mm	
	Reflector Sheet			± (3 + 2 ppm x D) mm	
	Reflectorless			2.0 m ~ 200 m: ± (3 + 2 ppm x D) mm 200 m ~ 300 m: ± (5 + 2 ppm x D) mm 300 m ~ 500 m: ± (10 + 2 ppm x D) mm 500 m ~ 800 m: ± (20 + 10 ppm x D) mm	
	Minimum Count			0.1 mm (Fine mode), 1 mm (Normal mode), 10 mm (Track mode)	
Measurement Time *4	Repeat Meas.	Fine (0.1 mm)		Prism / Ref. Sheet 3.0 sec., Ref. less 3.0 sec. (over 300 m 5.0 sec.)	
		Normal (1 mm)		Prism / Ref. Sheet 2.0 sec., Ref. less 2.0 sec. (over 300 m 4.0 sec.)	
		Track (10 mm)		Prism / Ref. Sheet 0.4 sec., Ref. less 0.4 sec. (over 300 m 0.4 sec.)	
	Initial Meas.	Fine (0.1 mm)		1.5 ~ 300 m 3.5 sec., over 300 m ~ 13 sec.	
		Normal (1 mm)		1.5 ~ 300 m 2.4 sec., over 300 m ~ 12 sec.	
		Track (10 mm)		1.5 ~ 300 m 2.5 sec., over 300 m ~ 12 sec.	
Angle Measurement	Measuring Method			Absolute rotary encoder	
	Detection Method			Vertical / Horizontal angle	
				2 sides	
	Minimum Count			1" / 5"	
	Accuracy (ISO17123-3)	1"	2"	3"	5"
Compensator				2 axis	
Compensator range				3' 30"	
Tangent Screw				1 Speed / Clamping (< 30")	
Sensitivity of Vials	Plate Level			30"/1 div. (electrical)	
	Circular Level			8'/2 mm	
Plummet				Visible Laser, ± 0.5 mm (instrument height 1.5 m)	
Base				Detachable	
Dust and Water Protection				IP55 (instrument only)	
Ambient Temperature				-20°C ~ 50°C / -4°F ~ 122°F (Working range)	
Tripod Thread				5/8" x 11	
Dimensions/Weight	Dimensions			183 (W) x 342 (H) x 167 (L) mm	
	Weight (incl. Battery)			5.4 kg	
Carrying Case				440 (W) x 370 (H) x 275 (L) mm / 3.9 kg	
Battery Pack	Power Source			Li-ion 3,350 mAh x 2 = 6,700 mAh (hotswap)	
	Operation Time			Continuous approx. 10.0 hrs (ETH+EDM) with approx. 2.5 hrs of charging time	
	Weight			5,400 g	
Battery Charger and AC Adapter					
	Input Voltage (AC05)			AC 100 ~ 240V	
	Output Voltage (BC05)			DC8.4V	
Data Process	Data Recording Method			Internal Memory	
	Capacity / Coordinates Data			Up to 2GB / 60,000	
	Special Function			PowerTopoExpress 2	
	I/F			RS-232C, SD CARD, USB mini, Bluetooth (Class1)	
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	

*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: 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 with overcast, no heat, no shimmer and moderate wind.

*4 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.

TI Asahi Co., Ltd.

International Sales Department

4-3-4 Ueno Iwatsuki-Ku, Saitama-Shi

Saitama, 339-0073 Japan

Tel.: +81-48-793-0118

Fax: +81-48-793-0128

E-mail: International@tiasahi.com

www.pentaxsurveying.com/en/

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