

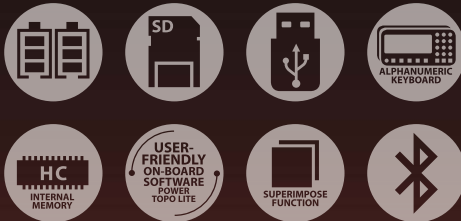
PENTAX

R-200 Series

R-202NS | R-202P

R-202NS Key Product Features

- 300m Reflecterless EDM Range
- High Capacity Dual Battery
- Dual Axis Compensator
- Easy Transfer to a PC via USB, SD Connection
- PowerTopoLite Software
- 2" Angle Accuracy
- 10m Range Bluetooth Connection
- Large Capacity Internal Memory
- Alphanumeric Keyboard



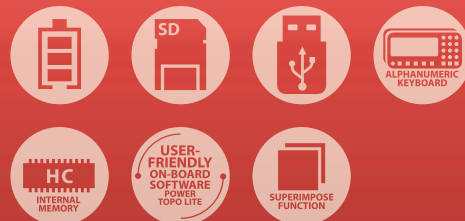
Bluetooth
10M

300M
Reflectorless range



R-202P Key Product Features

- Prism
- Single Battery
- Dual Axis Compensator
- Easy Transfer to a PC via USB, SD Connection
- 2" Angle Accuracy
- Large Capacity Internal Memory
- Alphanumeric Keyboard
- PowerTopoLite Software



Model	R-202P		R-202NS	
Telescope	Magnification	30 x		
	Effective Aperture	45 mm		
	Resolving Power	3"		
	Field of View	2.6% (1° 30')		
	Minimum Focus	1.0 m		
	Focus	Manual		
Distance Measurement	Laser Class	Visible laser: Class III a (3R) (Reflectorless) / Class II (2) (Prism, Reflector sheet)		
Measurement Range	Reflectorless (*1)	...	0.5 ~ 300 m	
	Reflector Sheet (*2)	...	1.5 ~ 600 m	
	(Good Conditions) (*3)	Mini Prism	1.5 ~ 1,200 m (1,500 m)	
(Good Conditions) (*3)	1 P	1.5 ~ 3,000 m (4,000 m)		
(Good Conditions) (*3)	3 P	1.5 ~ 5,000 m (7,000 m)		
Accuracy	Prism	Normal	1.5 ~ 10 m: ±(3+2 ppm×D) mm / 10 m ~ : ± (2+2 ppm×D) mm,	
		Quick (*5)	1.5 ~ 10 m: ±(4+2 ppm×D) mm / 10 m ~ 500 m: ± (3+2 ppm×D) mm	
	Reflector Sheet	Normal	...	1.5 ~ 10 m: ±(3+2 ppm×D) mm / 10 m ~ : ± (2+2 ppm×D) mm,
		Quick (*5)	...	1.5 ~ 10 m: ±(4+2 ppm×D) mm / 10 m ~ 500 m: ± (3+2 ppm×D) mm
Reflectorless	...	0.5~10 m: ± (5+2 ppm×D) mm 10~200 m: ±(3+2 ppm×D) mm 200~ m: ±(7+10 ppm×D) mm		
	Minimum Count	0.1 mm (Fine mode) / 1 mm (Normal mode) / 10 mm (Track mode)		
Measuring Time (*4)	Repeat Meas.	Normal (1 mm)	Prism 1.2 sec	Prism/Reflector sheet 1.2 sec Reflectorless 1.4 sec"
		Quick (1 mm) (*5)	Prism 1.0 sec	Prism/Reflector sheet 1.0 sec
	Track (10 mm)	Prism 0.4 sec	Prism/Reflector sheet/Reflectorless 0.4 sec	
	Initial Meas.	Normal (1 mm)	Prism 2.2 sec	Prism/Reflector sheet 2.2 sec Reflectorless 2.7 sec"
		Quick (1 mm) (*5)	Prism 1.8 sec	Prism/Reflector sheet 1.8 sec
Angle	Measurement Method	Absolute rotary encoder		
	Direction Method	Vertical / Horizontal angle: 2 sides		
	Minimum Count	1" / 5" selectable		
	Accuracy (ISO 17123-3)	2"		
Compensator		2 Axis		
Target Screw		1 speed		
Sensitivity of Vials	Plate Level	30" / 2 mm		
	Circular Level	8" / 2 mm		
Laser Plummet		Visible laser: ± 0.5mm (instrument height: 1.5 m) (Optical Plummet is optional)		
Base		Detachable		
Dust & Water Resistance		IP56 (instrument only)		
Ambient Temperature		-20°C ~ +50°C / -4°F ~ 122°F (working range)		
Tripod Thread		5/8" x 11		
Dimensions / Weight	Dimensions	180 (W) x 342 (H) x 177 (L) mm	190 (W) x 343 (H) x 177 (L) mm	
	Weight (incl. battery)	5.7 kg		
	Carrying Case	250 (W) x 365 (H) x 425 (L) mm		
Battery Pack	Power Source	Ni-MH 4300mAh x1 (rechargeable) DC 6.0 V	Li-Ion 2500mAh x2 (rechargeable) DC 7.4 V	
	Operation Time (*6)	Approx. 7.0 hrs (ETH+EDM) / 15.0 hrs (ETH) & approx. 2.2 hrs of charging time	Approx. 10.0 hrs (ETH+EDM) / 20.0 hrs (ETH) & approx. 2.0 hrs of charging time (for 1 batt.)	
	Weight	380 g	110 g	
Battery Charger and AC adapter	Input Voltage	AC 100 ~ 240 V	AC 110 ~ 240 V	
	Output Voltage	DC 7.5 V	DC 8.4 V	
	Weight	460 g	470 g	
Data Process	Data Recording Method	Internal Memory		
	Coordinates Data (*7)	25,000		
	Special Function	PowerTopoLite		
	I / F	RS-232C, SD CARD, USB mini TypeB	RS-232C, SD CARD, USB mini TypeB, Bluetooth(Class2)	
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	Pointer	Yes		
Date Clock	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. (Kodak is a trademark of Eastman Kodak Company)
*2 Reflector sheet: PENTAX genuine Reflector sheet
*3 The measurement range may vary by conditions of the environment.
Normal conditions: 20 km visibility with slight shimmer
Good conditions: 40 km visibility, overcast, no heat, no shimmer and moderate wind.
*4 EDM measuring time is determined in good conditions. It may take longer than usual to measure

the distance exceeding 4000 m in prism mode. Also the measurement time in reflectorless mode is influenced by the shape, size and surface area and reflection rate of the target and its environment.
*5 Quick mode, which functions with prism and reflector sheet, is effective only under normal mode (1 mm) and up to 500 m.
*6 Distance measurement has been done every 30 second for the Operation time for "ETH+EDM".
*7 Number of points to be recorded may vary by usage.
Maximum number of point to be recorded per job site: 1000 points
Maximum number of job file to be recorded: 20 job files
Maximum data points to be sent from PC to the instrument: 1000 points

TI Asahi Co., Ltd.
International Sales Department
4-3-4 Ueno Iwatsuki-Ku, Saitama-Shi
Saitama, 339-0073 Japan

Exclusive PENTAX Distributor in IRAN

www.jahedteb.ir



197 Mirza Shirazi St. Motahari Ave.
Tehran - IRAN
Postal Code : 1586693111
Tel : +98 21 88315000 (20 lines)
Fax : +98 21 88314999



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



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

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

JSIMA
Japan Surveying Instruments Manufacturers' Association
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