

PENTAX

R-400

INNOVATION IN THE DETAILS

R-422N | R-423N | R-425N | R-435N | R-415N



AHEAD OF VISION

PENTAX

R-400

EXTENDED
EDM-PERFORMANCE



Long range
550 m reflectorless

Ergonomic grip

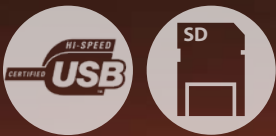


Large internal memory



Auto Focus

Laser pointer



Advanced connectivity
SD-Card slot
USB



Standard
Ni-MH Battery

Alphanumeric
keyboard

Triple axis compensator
on the R-422N and
R-423N models

Incorporated
date clock



The R-400 Series Total Stations are designed to make your job feel like a walk in the park. No more complex processes. The R-400 is equipped with outstanding features allowing you to simply measure.



R-400 KEY FEATURES

- Long range: reflectorless measuring up to 550 m
- Connectivity: USB, SD-card
- Pentax's exclusive Auto Focus system
- Large internal memory
- Power Topolite with new road design module



GO FURTHER

Measure distance over 550 m in reflectorless mode and over 7000 m to a single prism, with the same level of accuracy. No more additional set-ups, simply measure the points you need.



CONNECTIVITY

In its standard configuration, the R-400 is equipped with multiple data-interfaces: mini USB data port, SD card slot and RS-232C data port, for seamless data transfer to a PC or laptop.



PENTAX'S EXCLUSIVE AUTO FOCUS SYSTEM

The AF system offers you an instant razor sharp image by simply pushing one single button.

TRI-AXIS CORRECTION

The R-422N and R-423N models feature a unique precision Tri-axis correction to provide automatic error compensation, in addition to dual-axis correction. The error occurs where the vertical, horizontal and sight axis intersect.

RELIABLE DATA EXCHANGE with DL-01

Information is exchanged via a standard RS232 cable. DL-01 software supports all upload and download between PENTAX surveying instruments and PC's. DL-01 allows direct exchange of data from any software.



LARGE INTERNAL MEMORY

Large internal memory allowing you to store up to 60.000 points in the field: several days worth of data collection.

FOR ALL SKILL LEVELS

Whether used for simple measurements or complex surveying jobs, the R-400 will do the job. No need for a high-tech and costly instrument when having to stake out a road.

The R-400 with on-board software PowerTopoLite, simply offers you that easy-to-use Road Design application.



TOTAL STATION R-400 SERIES SPECIFICATIONS

Model	R-400	R-422N	R-423N	R-425N	R-435N	R-415N
Telescope	Magnification			30 x		
	Effective aperture			45mm (EDM45mm)		
	Resolving power			3.0"		
	Field of view			2.6 % (1° 30')		
	Minimum focus			1.0 m		
	Focus			Auto focus / Power focus / Manual		
Distance measurement	Laser Class		Visible laser: Class III a (3R) (Reflectorless) / Class II (2) (Prism, sheet)			
Measurement range (Good conditions) (*3)	Reflectorless (*1)		1.5 ~ 550 m			
	Reflector sheet (*2)		1.5 ~ 600 m (800 m)			
	Mini Prism		1.5 ~ 2,500 m (3,000 m)			
	1 P		1.5 ~ 7,000 m (9,000 m)			
	3 P		1.5 ~ 9,000 m (9,999 m)			
Accuracy (*4)	Prism / Reflector sheet		1.5 ~ 10 m: ± (3 + 2 ppm x D) mm / 10 m ~: ± (2 + 2 ppm x D) mm			
	Reflectorless		1.5 ~ 300 m: ± (5 + 2 ppm x D) mm / 300 m ~: ± (7 + 10 ppm x D) mm			
	At Auto - Atm. correction					
	Prism / Reflector sheet		1.5 ~ 10 m: ± (3 + 10 ppm x D) mm / 10 m ~: ± (2 + 10 ppm x D) mm			
	Reflectorless		1.5 ~ 300 m: ± (5 + 10 ppm x D) mm / 300 m ~: ± (7 + 18 ppm x D) mm			
Measuring time (*5)	Repeat meas.	Normal (1 mm)	Prism / Reflector sheet 2.0 sec - Reflectorless 2.0 sec			
		Quick (1 mm)	Prism / Reflector sheet 1.2 sec			
	Initial meas.	Normal (1 mm)	Prism / Reflector sheet 0.4 sec - Reflectorless 0.4 sec			
		Quick (1 mm)	Prism / Reflector sheet 2.5 sec - Reflectorless 2.4 sec			
		Track (10 mm)	Prism / Reflector sheet 1.7 sec			
Angle measurement	Measurement method		Absolute rotary encoder			
	Direction method		Vertical / horizontal angle: 2 sides			
	Minimum count		1" / 5" selectable			
	Accuracy (ISO 17123-3)		2"	3"		5"
Compensator			3 Axis (*7)		2 Axis	
Target screw			2 speed		1 speed	
Sensitivity of vials	Plate level (electronic)		30" / 1 div.			
	Circular level		8' / 2 mm			
Plummet			Visible laser: ± 0.5mm (instrument height: 1.5m)			
Base			Detachable	Shifting	Fixed	
Dust & water resistance			IP56 (instrument only)			
Ambient temperature			-20°C ~ +50°C / -4°F ~ 122°F (working range)			
Tripod thread			5/8" x 11	35 mm P2	5/8" x 11	
Dimensions / Weight	Dimensions		177 (W) x 343 (H) x 177 (L) mm			
	Weight (incl. battery)		5.7 kg		5.5 kg	
	Carrying case		373 (W) x 286 (H) x 465 (L) mm			
Battery pack BP02	Power source		Ni-MH 4300 mAh (rechargeable) DC 6.0 V			
	Operation time		Continuous approx. 4.5 hrs (ETH + EDM) / 15hrs (ETH) with approx. 2.2 hrs of charging time			
	Weight		380 g			
Battery charger BC03 and AC adapter AC01	Input Voltage (AC01)		AC 100 ~ 240 V			
	Output Voltage (BC03)		DC 7.5 V			
	Weight		280 g			
Data Process	Data recording method		Internal Memory			
	Coordinates data (*8)		60,000 points		50,000 points	
	Special function		PowerTopoLite			
Display / keyboard	I / F		RS-232C, SD CARD, USB			
	Display type		Graphic LCD / 20 characters x 8 lines / 240 x 96 pixels			
	Quantity	2	1 (2nd optional)			
	Keys		22 each (12 numeric / 5 function / 5 special)			
Laser Pointer	Display back light		Intensity settings: 10 steps			
			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. (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: 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. In case of reflectorless mode it will be 18ppm when the measurement distance is more than 300m or influenced by the shape, size of surface and reflection rate of the target and its environment.
- *5 EDM measuring time is determined in good conditions. It may take longer than usual to measure the distance exceeding 4000m in prism mode and 300m in reflectorless 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.
- *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.

You should be able to use any SD card in your camera. While Pentax does not guarantee compatibility with any particular manufacturer or model, we have seen consistent compatibility with SD cards from Panasonic (1GB, 2GB), SanDisk (1GB, 2GB), and Toshiba (1GB, 2GB)

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Visit the R-400 series at:
www.pentaxsurveying.com



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/4.95mW 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



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