

**PENTAX**

**Reflectorless  
Total Station**

**V-100N Series**

V-101N

V-102N | V-102NL

**Newly  
enhanced Total Station  
equipped with high power  
EDM System 'TURBO X'**

**Increase your  
work efficiency**

TI Asahi Co., Ltd.  
**Focusing on true performance**



## PENTAX TOTAL STATION V-100N SERIES

### Characteristics

The V-100N is a full-featured total station with long reflectorless measuring capability which provides exceptional performance and a cost-effective solution to a wide range of general and concrete surveying applications. This total station is designed to be accessible to users of all skill levels.

### YOUR BENEFITS

#### Powerful

##### Long measuring range

- Reflectorless mode up to 1,000 m

##### Long battery operation

- Maximum 30 hours continuous distance measurement

#### Fast

##### Quick measuring response

- Initial measuring speed 0.7 sec
- Continues 0.3 sec per measurement.

#### Precise

##### High accuracy measurement

- Prism mode (2+2 ppm),
- Reflectionless (3+2 ppm)
- 1 or 2 second angle accuracy for all standard models

#### Stable

##### Solid and consistent performance

- IP54 dust/water resistance protects the instrument in harsh outdoor environment.
- The trigger key is embedded in the instrument to avoid the impact of jitter on the measurement.

### TURBO X: Newly enhanced EDM system

Longer distance, higher accuracy and faster action. New EDM system TURBO X is designed and developed to maximize all the features required for efficient and accurate measuring works.

### Advanced optical technology

V-100N's telescope features high light transmission performance which enables users to obtain clear visibility in dark places with a high resolution and high contrast images, thus effectively contributes them to reduce working hours.

### Advanced main board

New generation low power consumption ARM processor equipped with great electro-magnetic resistant exercises high and stable computing performance.

### Dual axis Compensator

The electro-optical compensator placed on the vertical axis supports +/- 4' in compensating range with 6" in accuracy.

The precision electric vial helps users to set the instrument level precisely and quickly.

### Easy and quick data transfer

V-100N is equipped with USB slot and Bluetooth port for easy transaction of the data and real-time communication with external devices.

## KEY FEATURES

### Solid Aluminum Handle

Rugged aluminum handle ensures safe carriage of the instrument

### Long operation time

Dual lithium battery design supporting hot-swap with total 6700mAh capacity and modern ARM processors enables users to conduct a long continuous operation about as much as 50 hours out of a single power charge. The battery is compatible with other various PENTAX surveying products.



### Bright & Colorful LCD

Wide bright color screen secures high visibility of the display under sunlight

### Versatile surveying program

V-100N's powerful onboard software package features an easy-to-use operator interface that guides users through all types of applications required in contemporary surveying fields.

### Trigger Key

Distance measurement is activated with a soft finger touch on the surface capacitive trigger key.



# SPECIFICATIONS TOTAL STATION V-100N SERIES

Model		V-101N	V-102N	V-102NL
Telescope	Magnification	30 X		
	Effective Aperture	48 mm		
	Field of View	1° 30'		
	Minimum Focus	1.7 m		
Distance Measurement	Laser Class of Laser Pointer	Prism mode Class 1, Reflectorless mode: Class 3R		
	Measurement Range (Good Conditions) *1			
	Reflectorless *2	1000 m	1000 m	600 m
	1P	3500 m		
	Measurement Accuracy			
	Reflectorless ~ 200m	±(3+2ppm×D) mm		
	Reflectorless 200m ~	±(5+3ppm×D) mm		
	Prism /Reflector Sheet	±(2+2ppm×D) mm		
	Minimum Count	Normal Meas. : 1 mm or 0.1 mm / Fast Meas. : 10 mm		
	Initial Meas. Reflectorless	Approx. 0.3 sec.		
		Prism/Refl. Sheet	Approx. 0.8 sec.	
	Continuous Meas. Reflectorless	0.7 sec.		
		Prism/Refl. Sheet	Approx. 0.3 sec.	
	Environmental Correction	Yes		
	Laser Pointer	Yes		
Angle Measurement	Measuring Method	Absolute Rotary Encoder		
	Detection Method	Code image Detection		
	Minimum Count	1"		
	Accuracy (ISO 17123-3)	1 "	2 "	2 "
Display Type		Back light 2 Sides 320×240 color pixels		
Compensator	Compensator Type	Liquid-electric		
	Compensator Axis	2 Axis		
	Compensator Range	± 4 '		
Onboard Software	Functions	File Management, coordinate measurement, stakeout, resection, reference line measurement, offset measurement, missing line measurement, remote height measurement, area calculation, etc.		
Data Process	Data Recording Method	Internal Memory		
	Capacity (Coordinates/Observation Data)	Approx. 40,000 points		
Interface		USB Port (Pen Drive is supported) and Bluetooth		
Sensitivity of Vials	Electrical Level	0.5"		
	Tubular Level	30 "/2 mm		
Laser Plummet		Class 2		
Base		Detachable		
Dust & Water Protection		IP54 (instrument only)		
Operating Temperature Range		-20 °C ~ +50 °C		
Dimensions		215 x 176 x 315 mm		
Weight (incl. Battery)		5.93 kg		
Battery Pack (BP07)	Power Source	Li-ion 7.4V 3350mAh, equipped with 2 batteries as standard, Hot-Swappable		
Operation Time	Continous Meas.	Maximum 30 hours with 2 batteries		
	Angle Meas.	Maximum 50 hours with 2 batteries		
Battery Charging Time		1 battery: approx. 2 hrs. / When charging 2 batteries at the same time: approx. 4 hrs.		

\*1 Normal or good weather conditions are based on the following conditions:

20km visibility with slight shimmer, weak sunlight and moderate wind.

\*2 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).

**TI Asahi Co., Ltd.**

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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

**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

[www.pentaxsurveying.com/en/](http://www.pentaxsurveying.com/en/)

Your Official PENTAX Dealer



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



ISO 9001: 2015 Certified

**JSIMA**  
Japan Surveying Instruments Manufacturers' Association

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