

# Theodolites - Nikon NE-100/101/102/103



- Four models to choose from:  
NE-100/101/102/103
- Accurate, affordable,  
easy-to-use
- Ergonomic keypad
- One-touch function keys
- Large, backlit LCD display
- NE-100/101 models are  
water-resistant
- NE-102/103 models are  
waterproof
- 5", 7" and 10" accuracies  
available

Designed for general construction and survey applications, Nikon NE-100 Series electronic digital theodolites give you accurate measurements in an affordable, easy-to-use platform. Each of the four models has an ergonomic keypad with onetouch keys for all functions, and a large backlit LCD display helps you work productively in the field. You can instantly convert vertical angles to percent of grade, reset the horizontal angle to zero and lock the horizontal angle displayed on the LCD while you reposition or repeat a measurement. Angle accuracies differ between the models. The NE-100 offers 10" angle accuracy, while the NE-101 offers 7". Both the NE-102 and 103 models offer 5" angle accuracy with the NE-103 featuring vertical axis compensation. NE-100 series theodolites feature five easy-to-use, one-touch keys: four to perform all common functions and a fifth to control the backlit LCD display and reticle illumination. NE-100 Series theodolites feature a built-in reticle illuminator and backlit LCD display that allow you to work inside

buildings as well as in tunnels, mines and other environments with little or no light. These features also come in handy during low light conditions outdoors, such as near dawn or dusk. Unlike other instruments that require specialized batteries, NE-100 Series theodolites use six standard AA alkaline batteries. What's more, those batteries can power all models for about 48 hours. A three-level bar graph on the LCD screen displays remaining battery power. With the Nikon NE-100 Series theodolite models, you can count on reliable performance in tough conditions. The NE-100/101 models have an IP54 rating, meaning water can splash on them from any direction with no harmful effects. Nikon NE-102/103 models have a higher rating of IP56 which means they're waterproof and dustproof.

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## Specifications Sheet

SPECIFICATIONS	NE-100	NE-101	NE-102	NE-103
<b>ANGLE MEASUREMENT</b>				
Reading system	photoelectric incremental encoder	photoelectric incremental encoder	photoelectric incremental encoder	photoelectric incremental encoder
Circle diameter	79 mm (3.1 in)	79 mm (3.1 in)	79 mm (3.1 in)	79 mm (3.1 in)
Unit of reading	degree/gon/mil	degree/gon/mil	degree/gon/mil	degree/gon/mil
Minimum digital reading	10/20", 2/5 mgon, 0.05/0.1 mil	5/10", 1/2 mgon, 0.02/0.05 mil	5/10", 1/2 mgon, 0.02/0.05 mil	5/10", 1/2 mgon, 0.02/0.05 mil
Accuracy (DIN 18723)	10"/3 mgon	7"/2 mgon	5"/1 mgon	5"/1 mgon
<b>TELESCOPE</b>				
Effective diameter of objective	45 mm (1.8 in)	45 mm (1.8 in)	45 mm (1.8 in)	45 mm (1.8 in)
Magnification	30x	30x	30x	30x
Image	erect	erect	erect	erect
Field of view	1°20' (2.3 m @ 100 m/2.3 ft @ 100 ft)	1°20' (2.3 m @ 100 m/2.3 ft @ 100 ft)	1°20' (2.3 m @ 100 m/2.3 ft @ 100 ft)	1°20' (2.3 m @ 100 m/2.3 ft @ 100 ft)
Minimum focusing distance	0.7 m (2.3 ft)	0.7 m (2.3 ft)	0.7 m (2.3 ft)	0.7 m (2.3 ft)
Stadia multiplier constant	100	100	100	100
Stadia additive constant	0	0	0	0
Reticle illuminator	Yes	Yes	Yes	Yes
<b>AUTOMATIC VERTICAL COMPENSATOR</b>				
Type	—	—	—	liquid-electric detection
Working range	—	—	—	±3' (out-of-range warning provided)
<b>DISPLAY/KEYPAD</b>				
Front				
Type	dot-matrix LCD (20 characters x 2 lines)	dot-matrix LCD (20 characters x 2 lines)	dot-matrix LCD (20 characters x 2 lines)	dot-matrix LCD (20 characters x 2 lines)
Backlight	1-level illumination	1-level illumination	1-level illumination	1-level illumination
Keypad	5 buttons	5 buttons	5 buttons	5 buttons
Rear				
Type	—	—	dot-matrix LCD (20 characters x 2 lines)	dot-matrix LCD (20 characters x 2 lines)
Backlight	—	—	1-level illumination	1-level illumination
Keypad	—	—	5 buttons	5 buttons
<b>OPTICAL PLUMMET</b>				
Magnification	2.2x	2.2x	3x	3x
Field of view	5°	5°	5°	5°
Focus range	1.3 m (4.3 ft) fixed	1.3 m (4.3 ft) fixed	0.5 m (1.6 ft) to infinity	0.5 m (1.6 ft) to infinity
<b>LEVEL SENSITIVITY</b>				
Plate level	60"/2 mm	40"/2 mm	30"/2 mm	30"/2 mm
Circular level	10'/2 mm	10'/2 mm	10'/2 mm	10'/2 mm
<b>LEVELING BASE</b> Type	detachable	detachable	detachable	detachable
<b>AMBIENT TEMPERATURE RANGE</b>	-20 to 50 C (-4 TO 122 °F)	-20 to 50 C (-4 TO 122 °F)	-20 to 50 C (-4 TO 122 °F)	-20 to 50 C (-4 TO 122 °F)
<b>ENVIRONMENTAL RATING</b>	IP54	IP54	IP56	IP56
<b>DIMENSIONS</b> Instrument	153.5 x 172 x 334 mm (6.0 x 6.8 x 13.1 in)	153.5 x 172 x 334 mm (6.0 x 6.8 x 13.1 in)	153.5 x 172 x 334 mm (6.0 x 6.8 x 13.1 in)	153.5 x 172 x 334 mm (6.0 x 6.8 x 13.1 in)
<b>WEIGHT</b>				
Instrument	4.5 kg (9.8 lb)	4.5 kg (9.8 lb)	4.5 kg (9.9 lb)	4.6 kg (10.1 lb)
Carrying case	2.5 kg (5.4 lb)	2.5 kg (5.4 lb)	3.9 kg (8.6 lb)	3.9 kg (8.6 lb)
<b>POWER SUPPLY</b>				
Battery type	1.5 V alkaline AA x 6	1.5 V alkaline AA x 6	1.5 V AA Alkaline x 6	1.5 V AA Alkaline x 6
Continuous operating time (at 68 °F/20 °C)	48 hours	48 hours	48 hours	48 hours