

# Nikon Nivo M Series Total Stations

## Specifications Sheet

QUALITY • COMPACT • ACCURATE

### DISTANCE MEASUREMENT

Range with Nikon specified prisms (Good conditions)<sup>i</sup>

With reflector sheet 5 cm x 5 cm (2 in x 2 in)

Nivo <sup>2.M</sup>	1.5 m to 270 m (4.9 ft to 886 ft)
Nivo <sup>3.M</sup> , Nivo <sup>5.M</sup>	1.5 m to 300 m (4.9 ft to 984 ft)

With single prism 6.25 cm (2.5 in)

Nivo <sup>2.M</sup>	1.5 m to 3,000 m (4.9 ft to 9,843 ft)
Nivo <sup>3.M</sup> , Nivo <sup>5.M</sup>	1.5 m to 5,000 m (4.9 ft to 16,404 ft)

Range reflectorless mode<sup>ii</sup>

	Good <sup>i</sup>	Normal <sup>iv</sup>	Difficult <sup>v</sup>
Nivo <sup>2.M</sup>			
KG <sup>CIII</sup> (18%)	350 m (1,148 ft)	250 m (820 ft)	200 m (656 ft)
KG <sup>CIII</sup> (90%)	500 m (1,640 ft)	400 m (1,312 ft)	250 m (820 ft)
Nivo <sup>3.M</sup> , Nivo <sup>5.M</sup>			
KG <sup>CIII</sup> (18%)	250 m (820 ft)	200 m (656 ft)	150 m (492 ft)
KG <sup>CIII</sup> (90%)	400 m (1,312 ft)	300 m (984 ft)	250 m (820 ft)

Shortest possible range ..... 1.5m (4.9 ft)

Accuracy<sup>vi</sup> (Precise mode)  
(Standard deviation based on ISO 17123-4)

Prism ..... ±(2+2 ppm × D) mm

Reflectorless ..... ±(3+2 ppm × D) mm

Measuring interval<sup>vii</sup>

Prism mode	Precise mode	Normal mode
Nivo <sup>2.M</sup>	1.6 s	0.8 s
Nivo <sup>3.M</sup> , Nivo <sup>5.M</sup>	1.5 s	0.8 s
Reflectorless mode <sup>viii</sup>		
Nivo <sup>2.M</sup>	2.1 s	1.2 s
Nivo <sup>3.M</sup> , Nivo <sup>5.M</sup>	1.8 s	1.0 s
Least count	1 mm (0.002 ft)	10 mm (0.02 ft)

### ANGLE MEASUREMENT

ISO 17123-3 accuracy (horizontal and vertical) ..... 2"/0.6 mgon Nivo<sup>2.M</sup>  
3"/1 mgon Nivo<sup>3.M</sup>  
5"/1.5 mgon Nivo<sup>5.M</sup>

Reading system ..... Absolute encoder

Circle diameter ..... 62 mm (2.4 in)

Horizontal/Vertical angle ..... Diametrical Nivo<sup>2.M</sup>, Nivo<sup>3.M</sup>  
Single Nivo<sup>5.M</sup>

Minimum increment ..... Degree: 1/5/10"  
Gon: 0.2/1/2 mgon  
MIL6400: 0.005/0.02/0.05 mil

### TELESCOPE

Tube length ..... 125 mm (4.9 in)

Image ..... Erect

Magnification ..... 30× (18×/36× with optional eyepieces)

Nivo<sup>2.M</sup> Effective diameter of objective ..... 40 mm (1.6 in)

Nivo<sup>2.M</sup> EDM diameter ..... 45 mm (1.8 in)

Nivo<sup>3.M</sup>, Nivo<sup>5.M</sup> Effective diameter of objective ..... 45 mm (1.8 in)

Nivo<sup>3.M</sup>, Nivo<sup>5.M</sup> EDM diameter ..... 50 mm (2.0 in)

Field of view ..... 1°20'

Resolving power ..... 3"

Minimum focusing distance ..... 1.5 m (4.9 ft)

Laser Pointer ..... Coaxial Red Light

- <sup>i</sup> Good conditions (good visibility, overcast, twilight, underground, low ambient light).
- <sup>ii</sup> Measuring distance may vary depending on targets and measuring conditions.
- <sup>iii</sup> Kodak Gray Card, Catalog number E1527795
- <sup>iv</sup> Normal conditions (normal visibility, object in the shadow, moderate ambient light).
- <sup>v</sup> Difficult conditions (haze, object in direct sunlight, high ambient light).
- <sup>vi</sup> ±(3+3 ppm × D) mm -20 °C to -10 °C, +40 °C to +50 °C (-4 °F to +14 °F; +104 °F to +122 °F)
- <sup>vii</sup> Measuring time may vary depending on measuring distance and conditions. For the initial measurement, it may take a few more seconds.
- <sup>viii</sup> Measured to KG<sup>C</sup> 90% at 20 m (65 ft).
- <sup>ix</sup> Battery life specification at 25 °C (77 °F). Operation time may be shorter in low temperatures or if the battery is not new.

### TILT SENSOR

Type ..... Dual-axis

Method ..... Liquid-electric detection

Compensation range ..... ±3.5'

### COMMUNICATIONS

Communication ports ..... 1 x serial (RS-232C)

Wireless communications ..... integrated Bluetooth

### POWER

Internal Li-ion battery (x2)

Output voltage ..... 3.8 V DC

Operating time<sup>ix</sup>

Nivo <sup>2.M</sup>	approx. 19 hours (continuous distance/angle measurement)
	approx. 57 hours (distance/angle measurement every 30 seconds)
	approx. 62 hours (continuous angle measurement)
Nivo <sup>3.M</sup> , Nivo <sup>5.M</sup>	approx. 10 hours (continuous distance/angle measurement)
	approx. 26 hours (distance/angle measurement every 30 seconds)
	approx. 31 hours (continuous angle measurement)

Charging time

Full charge ..... 4 hours

### GENERAL SPECIFICATIONS

Level vials

Sensitivity of circular level vial ..... 10'/2 mm

Optical plummet

Image ..... Erect

Magnification ..... 3×

Field of view ..... 5°

Focusing range ..... 0.5 m (1.6 ft) to ∞

Display face 1 ..... backlit, graphic LCD (128x64 pixel)

Display face 2 (Nivo<sup>2.M</sup> only) ..... backlit, graphic LCD (128x64 pixel)

Laser plummet (optional) ..... 4 levels

Point memory ..... 10,000 records

Dimensions (W x D x H) ..... 149 mm x 145 mm x 306 mm  
(5.8 in x 5.7 in x 12.0 in)

Weight (approx.)

Nivo<sup>2.M</sup> Main unit (without batteries) ..... 3.8 kg (8.4 lb)

Nivo<sup>3.M</sup>, Nivo<sup>5.M</sup> Main unit (without batteries) ..... 3.6 kg (8.0 lb)

Battery ..... 0.1 kg (0.2 lb)

Carrying case ..... 2.3 kg (5.1 lb)

### ENVIRONMENTAL

Operating temperature range ..... -20 °C to +50 °C (-4 °F to +122 °F)

Nivo<sup>5.M</sup> ..... -30 °C to +50 °C (-22 °F to +122 °F)

Storage temperature range ..... -25 °C to +60 °C (-13 °F to +140 °F)

Nivo<sup>5.M</sup> ..... -30 °C to +60 °C (-22 °F to +140 °F)

Atmospheric correction

Temperature range ..... -40 °C to +60 °C (-40 °F to +140 °F)

Barometric pressure ..... 400 mmHg to 999 mmHg/533 hPa to 1,332 hPa/15.8 inHg to 39.3 inHg

Dust and water protection ..... IP66

### CERTIFICATION

Class B Part 15 FCC certification, CE Mark approval. C-Tick.

Laser safety IEC 60825-1 am2:2007

Nivo<sup>2.M</sup> Prism mode: Class 1 laser

Nivo<sup>2.M</sup> Reflectorless / Laser Pointer: Class 3R laser

Nivo<sup>3.M</sup>, Nivo<sup>5.M</sup> Reflectorless / Prism mode: Class 1 laser

Nivo<sup>3.M</sup>, Nivo<sup>5.M</sup> Laser Pointer: Class 2 laser

Laser Plummet (optional): Class 2 laser

Bluetooth type approvals are country specific.

Specifications subject to change without notice.



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