

DTM/NPL -602 Series

DTM-652 and NPL-632 Total Stations

Highly accurate angle and distance measurements



The Nikon® DTM/NPL-602 Series total stations from Tripod Data Systems™ (TDS) deliver a versatile, easy-to-use platform to help you get the job done right. Popular features of the DTM-652 and NPL-632 total stations include Nikon's world-renowned optics that give you brighter, clearer images. The fast, accurate EDM helps you move quickly from point to point. A long-lasting battery means you can work all day with no battery changes. And lightweight, all-weather construction ensures reliable performance in tough field conditions.

Speed, accuracy and extras

The DTM-652 total station is one of the fastest total stations in its class, with highly accurate 1" angle and 2+2 ppm distance measurement capabilities. This fast EDM helps you move quickly through your survey routines, so you spend less time in the field. The NPL-632 features 2" angle accuracy and prismless operation with 3+2 ppm distance measurement accuracy.

Both the DTM-652 and NPL-632 total stations come with a CompactFlash (CF) slot and a USB port, enabling you to transfer stored data to a CF card (Type I and II) or USB stick. When the field data is needed in the office, just remove the card or memory stick, and that's all you need to carry.

See brighter, sharper, clearer images

You'll see the difference when you look through a Nikon total station. Nikon's legendary optics effectively let in more light. The result is brighter, sharper images, even in the low-visibility conditions typical in the field. You'll see much more detail and much less distortion, especially over longer distances. Better optics help you aim more precisely, and they're much easier on your eyes—something you'll really appreciate on long workdays.

All Nikon telescopes use a unique linear focusing mechanism that improves focusing at both short and long distances. And the large focusing knob is easy to use even when you're wearing gloves.



602 Series Specifications		NPL-632	DTM-652
Telescope	Tube Length	6.02 in (153 mm)	6.22 in (158 mm)
	Image	Erect	Erect
	Magnification	26x (16x/32x with optional eyepieces)	33 x (21 x/41 x with optional eyepieces)
	Effective diameter of objective	1.57 in (40 mm)	1.77 in (45 mm)
	Field of view	EDM: 1.97 in (50 mm)	EDM: 1.97 in (50 mm)
	Resolving power	1°30' (2.6 ft at 100 ft) (2.6 m at 100 m)	1°20' (2.3 ft at 100 ft) (2.3 m at 100 m)
	Minimum focusing distance	3"	2.5"
	Reticle illumination	5.3 ft (1.6 m)	4.26 ft (1.3 m)
		3-level variable	3-level variable
Distance measurement		Range with Nikon specified prisms	
	Reflectorless mode (white target)*	5.3 ft to 680 ft (1.6 m to 210 m)	--
	Good conditions	(no haze, visibility of over 25 miles (40 km))	
	With reflector sheet	5.3 ft to 980 ft (1.6m to 300 m)	16.4 ft to 328.1 ft (5 m to 100 m)
	With mini prism	5.3 ft to 9800 ft (1.6 m to 3,000 m)	3,600 ft (1,100 m)
	With single prism	5.3 ft to 16,400 ft (1.6 m to 5,000 m)	8,900 ft (2,700 m)
	With triple prism	--	11,800 ft (3,600 m)
	With nine prisms	--	14,400 ft (4,400 m)
	Normal conditions	(ordinary haze, visibility approx. 12.5 miles (20 km))	
	With reflector sheet	5.3 ft to 980 ft (1.6m to 300 m)	16.4 ft to 328.1 ft (5 m to 100 m)
	With mini prism	5.3 ft to 9800 ft (1.6 m to 3,000 m)	3,100 ft (950 m)
	With single prism	5.3 ft to 16,400 ft (1.6 m to 5,000 m)	7,900 ft (2,400 m)
	With triple prism	--	10,200 ft (3,100 m)
	With nine prisms	--	12,100 ft (3,700 m)
	Accuracy (Prism/Precise mode)	±(3+2 ppm x D) mm	±(2 + 2 ppm x D) mm
	-4 to +14°F, 104 to 122°F (-20 to -10 C, 40 to 50 C)	±(3+3 ppm x D) mm	±(4 + 2 ppm x D) mm
	Accuracy (Reflectorless/Precise mode)	±(3 + 2 ppm x D) mm	--
	-4 to +14°F, 104 to 122°F (-20 to -10 C, 40 to 50 C)	±(3 + 3 ppm x D) mm	--
	Readout display	29999.999 ft (9999.9999 m)	29999.999 ft (9999.9999 m)
	Prism offset	-999 mm to 999 mm	-999 mm to 999 mm
Measuring interval**			
	Prism mode	Precise mode	1.3 sec. (initial 2.0 sec.)
		Normal mode	0.5 sec. (initial 1.6 sec.)
	Reflectorless mode	Precise mode	1.6 sec. (initial 2.6 sec.)
		Normal mode	0.8 sec. (initial 2.0 sec.)
Least count	Precise mode	0.0005 ft/0.002ft (0.1 mm/1 mm) selectable	0.0005 ft/0.002 ft (0.1 mm/1 mm) selectable
	Normal mode	0.002 ft/0.02 ft (1 mm/10 mm) selectable	0.002 ft/0.02 ft (1 mm/10 mm) selectable
Environmental specifications		IP54	IP54
Ambient temperature range		-4 °F to +122 °F (-20 C to 50 C)	-4 °F to 122 °F (-20 C to 50 C)
Atmospheric correction			
	Temperature range	-40 °F to +140 °F (-40 C to 60 C)	-40 °F to 140 °F (-40 C to 60 C)
	Barometric pressure	400 mm Hg to 999 mmHg	400 mm Hg to 999 mmHg
		533 hPa to 1,332 hPa/15.8 in.Hg to 39.3 in.Hg	533 hPa to 1,332 hPa/15.8 in.Hg to 39.3 in.Hg
Angle measurement			
	Reading system	Photoelectric detection by incremental encoder	Photoelectric detection by incremental encoder
	Circular diameter	3.1 in (79 mm)	3.1 in (79 mm)
	Horizontal angle	Diametrical	Diametrical
	Vertical angle	Diametrical	Diametrical
	Minimum increment (Degree, Gon, MIL6400)	Degree: 1/5/10"	Degree: 0.5/1/5"
		Gon: 0.2/1/2 mgon; MIL6400: 0.005/0.02/0.05 mil	Gon: 0.1/0.2/1 mgon; MIL6400: 0.002/0.005/0.02 mil
	DIN 18723 accuracy (horizontal and vertical)	2"/0.5 mgon	1"/0.3 mgon
Tilt sensor	Type	Dual-axis	Dual-axis
	Method	Liquid-electric detection	Liquid-electric detection
	Compensation range	±3'	±3'
	Setting accuracy	1"	1"
Lumi-Guide			
	Visible range	330 ft (100 m)	330 ft (100 m)
	Positioning accuracy	within approx. 2.4 in (6 cm) at 330 ft (100 m)	within approx. 2.4 in (6 cm) at 330 ft (100 m)
Level vials			
	Plate level vial	30"/2 mm	30"/2 mm
	Circular level vial	10/2 mm	10/2 mm
Optical plummet			
	Magnification	3x	3x
	Focusing range	1.6 ft (0.5 m) to ∞	1.6 ft (0.5 m) to ∞
	Field of view	5°	5°
Display		Graphic LCD (128 x 64 dot); both sides	Graphic LCD (128 x 64 dot); both sides
Point memory		10,000 records	10,000 records
Dimensions (W x D x H)		6.5 in x 6.6 in x 14.4 in (166 mm x 168 mm x 365 mm)	6.5 in x 6.6 in x 14.4 in (166 mm x 168 mm x 365 mm)
Weight (approx.)			
	Main unit (without battery)	11.2 lb (5.1 kg)	11.2 lb (5.1 kg)
	BC-80 clip-on battery	1.3 lb (0.6 kg)	1.3 lb (0.6 kg)
	Carrying case	8.8 lb (4.0 kg)	8.8 lb (4.0 kg)
On-board Ni-MH battery BC-80	Operating time	approx. 6 hours (continuous distance/angle meas.) approx. 12 hours (distance/angle meas. every 30 sec.) approx. 25 hours (angle meas. only)	approx. 10 hours (continuous distance/angle meas.) approx. 27 hours (distance/angle meas. every 30 sec.) approx. 28 hours (angle meas. only)
	Output voltage	7.2V DC	7.2V DC
	Recharging time	approx. 3 hours for full recharge	approx. 3 hours for full recharge
Communication ports		1 x serial, 1 x USB	1 x serial, 1 x USB

*White objects with high reflectivity. Measuring distance may vary depending on targets and measuring conditions. **Measuring time may vary depending on measuring distance and conditions.

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