



Rugged and waterproof, plus high-power telescope with superior Nikon optics

Nikon The Nikon® AS-2/AE-7 Series automatic levels from Tripod Data Systems™ (TDS) deliver performance, ruggedness and accuracy to help you get the job done right. Airtight and filled with dry nitrogen gas, they provide reliability in driving rain and high humidity. Nikon's world-renowned optics give you brighter, clearer images and an improved minimum focusing distance for working in close quarters. Plus it offers rugged construction and a unique wire-suspended compensator with air damper that automatically levels the line of sight and absorbs fine vibrations.

Gas-filled telescope, automatic compensator ensure reliability

Every telescope in the AS-2/AE-7 Series is airtight and filled with dry nitrogen gas to provide waterproof, fogproof reliability in the most humid or wet environment. Rugged construction makes them highly shock resistant, plus Nikon's unique automatic compensator uses a wire-suspended pendulum and air damper to prevent magnetic interference. The AS-2 and AS-2C offer a compensation range of $\pm 12'$; the AE-7 and AE-7C range is $\pm 16'$. All offer highly accurate 1-km double-run leveling (AS-2 and AS-2C is ± 0.8 mm, AE-7 and AE-7C is ± 1.0 mm).

See brighter, sharper images with improved minimum focusing

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

The AS-2 and AS-2C feature a 34x high-magnification telescope with optional 22x low-power and 43x high-power eyepiece lenses. The AE-7 and AS-7C feature a



The waterproof telescope for the AS-2/AE-7 Series automatic levels is also airtight and filled with dry nitrogen gas to eliminate fogging in wet or humid environments.

30x telescope with optional 19x low-power and 37x high-power eyepiece lenses. An improved minimum focusing distance gives you better performance in tight spots. The AS-2 and AS-2C offer minimum focusing down to 3.28 ft (1 m); the minimum focusing distance for the AE-7 and AE-7C is 0.98 ft (0.3 m).

Easy to set up and use

The AS-2/AE-7 Series helps you get to work quickly. All four models can attach to both flat- and spherical-head tripods. Their endless horizontal fine drive ensures smooth, precise pointing and angular measurement. The new friction brake eliminates the need for horizontal alignment clamps, allowing for rapid rotation.

The standard optical sight lens helps you find your target quickly, easily and accurately. In addition, a mirror with a pentaprism lets you view the circular bubble as an erect image during setup and sighting.



Data Collection



GPS/GIS



Office Software



Construction

Automatic Levels

AS-2/AS-2C/AE-7/AE-7C Specifications

Add accessories for specific survey applications

The AS-2/AE-7 Series models include a carrying case with shoulder strap, adjusting pins, lens cap and a plumb bob on the AS-2C and AE-7C. You can also choose from several optional accessories to help you work more productively in some of the most challenging survey environments. Choose the accessories you need to get the most out of your automatic level.

Plane parallel micrometer-3—Recommended for high-precision leveling applications such as machinery installation, the plane parallel micrometer attaches to the front of the telescope. When the parallel glass plane is tilted, it displaces the line of sight parallel to itself to measure the fractions of graduation interval on a leveling rod. The measurement range is 0.4 in (10 mm) with the smallest unit of measurement 0.004 in (0.1 mm).

Illuminator-3—For working in tunnels or in other extremely low-light conditions, the compact, one-piece illuminator attaches to the front of the telescope to provide light to the built-in reticle. You can adjust the brightness using a rotary switch. The illuminator is powered by two AA (R6) batteries.

Diagonal eyepiece prism—The diagonal eyepiece prism is useful for steep sighting, plumbing and other applications where you're using the automatic level in a confined space.

High- and low-power eyepiece lenses—Low-power eyepiece lenses offer a very bright field when viewing in low-light conditions, and they also offset heat shimmer. High-power eyepieces provide a sharp, high magnification for fine measurements.

	AS-2/2C	AE-7/7C
TELESCOPE		
Tube length:	10.2 in (259 mm)	8.7 in (220 mm)
Image:	erect	erect
Effective aperture of objective:	1.77 in (45 mm)	1.57 in (40 mm)
Magnification:	34x	30x
Resolution power:	2.5"	3"
Field of view:	1°20' (2.3 ft @ 100 ft)	1°30' (2.6 ft @ 100 ft)
Minimum focusing distance:	3.28 ft (1.0 m)	0.98 ft (0.3 m)
Stadia ratio:	1:100	1:100
Stadia additive constant:	0	0
LEVEL VIAL SENSITIVITY		
Circular level:	10'/2 mm	10'/2 mm
STANDARD DEVIATION in 1-km double-run leveling		
Without micrometer:	±0.8 mm	±1.0 mm
With micrometer:	±0.4 mm	±0.45 mm
AUTOMATIC COMPENSATOR		
Type:	wire-hung, air damper	wire-hung, air damper
Compensation range:	±12'	±16'
Setting accuracy:	±0.3"	±0.35"
HORIZONTAL CIRCLE (AS-2C/AE-7C only)		
Diameter of circle:	3.2 in (80 mm)	4.6 in (118 mm)
Minimum increment:	1°/1 g	1°/1 g
Scale reading (direct):	10°/10 cg	1°/1 g
Reading by estimation:	1'/1 cg	0.1°/0.1 g
DIMENSIONS		
Instrument (L x W x H):	10.2 x 5.4 x 5.6 in (259 x 136 x 142 mm)	8.7 x 5.4 x 5.6 in (220 x 136 x 142 mm)
Carrying case (L x W x H):	14.9 x 7.7 x 7.8 in (379 x 195 x 197 mm)	14.9 x 7.7 x 7.8 in (379 x 195 x 197 mm)
WEIGHT		
Instrument:	AS-2: 4.0 lbs (1.8 kg) AS-2C: 4.2 lbs (1.9 kg)	3.7 lbs (1.7 kg)
Carrying case:	AS-2: 4.0 lbs (1.8 kg) AS-2C: 4.2 lbs (1.9 kg)	AE-7: 4.0 lbs (1.8 kg) AE-7C: 4.2 lbs (1.9 kg)

Your local TDS dealer

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TRIPOD DATA SYSTEMS
A TRIMBLE COMPANY

P.O. Box 947, Corvallis, OR 97339

SANDA 030909

Automatic Levels

AP-8/AC-2S/AX-2S Specifications

AP-8, AC-2S and AX-2S include:

- Carrying case with shoulder strap
 - Objective lens cap
 - Plumb bob
 - Adjustment tool
 - Vinyl dust cover
- Optional:**
- Diagonal eyepiece prism

	AP-8	AC-2S	AX-2S
TELESCOPE			
Tube length:	7.5 in (190 mm)	7.5 in (190 mm)	7.5 in (190 mm)
Image:	erect	erect	erect
Magnification:	28x	24x	20x
Effective diameter of objective lens:	1.2 in (30 mm)	1.2 in (30 mm)	1.2 in (30 mm)
Field of view:	1°30' (2.6 ft @ 100 ft)	1°30' (2.6 ft @ 100 ft)	1°30' (2.6 ft @ 100 ft)
Minimum focusing distance:	2.46 ft (.75 m)	2.46 ft (.75 m)	2.46 ft (.75 m)
Stadia line:	yes	yes	yes
LEVEL VIAL SENSITIVITY			
Circular level:	10'/2 mm	10'/2 mm	10'/2 mm
HORIZONTAL CIRCLE			
Diameter of circle:	4.3 in (110 mm)	4.3 in (110 mm)	4.3 in (110 mm)
Graduation interval:			
Degree	1°	1°	1°
Gon	1 gon	1 gon	1 gon
Reading estimation:			
Degree	0.1°	0.1°	0.1°
Gon	0.1 gon	0.1 gon	0.1 gon
AUTOMATIC COMPENSATOR			
Type:	wire-hung, magnetic damper	wire-hung, magnetic damper	wire-hung, magnetic damper
Working range:	±16'	±16'	±16'
Setting accuracy:	±0.5"	±0.5"	±0.5"
STANDARD DEVIATION			
per 1-km double-run leveling:	±1.5 mm	±2.0 mm	±2.5 mm
DIMENSIONS			
Instrument (L x H x W):	7.5 x 5.0 x 4.8 in (190 x 128 x 123 mm)	7.5 x 5.0 x 4.8 in (190 x 128 x 123 mm)	7.5 x 5.0 x 4.8 in (190 x 128 x 123 mm)
Carrying case (L x H x W):	11.5 x 6.7 x 6.4 in (292 x 170 x 163 mm)	11.5 x 6.7 x 6.4 in (292 x 170 x 163 mm)	11.5 x 6.7 x 6.4 in (292 x 170 x 163 mm)
WEIGHT			
Instrument:	2.8 lbs (1.25 kg)	2.8 lbs (1.25 kg)	2.8 lbs (1.25 kg)
Carrying case:	2.7 lbs (1.2 kg)	2.7 lbs (1.2 kg)	2.7 lbs (1.2 kg)

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SANDA 030910



Compact, lightweight and water resistant, plus superior Nikon optics

 The Nikon® AP-8/AC-2S/AX-2S automatic levels from Tripod Data Systems™ (TDS) deliver a high level of accuracy and ease of use for a variety of civil engineering and construction applications. Compact and lightweight, they are also built rugged and water resistant, giving you reliable performance in light rain or dusty job sites. Nikon's world-renowned optics provide brighter, clearer images and an improved minimum focusing distance for working in confined spaces. Plus, a built-in magnetic-dampened compensator automatically levels the line of sight.

See brighter, sharper images with improved minimum focusing

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

The AP-8 features a 28x magnification telescope, while the AC-2S has a 24x telescope and the AX-2S has a 20x telescope. All three offer improved minimum focusing distance—now 2.46 ft (0.75 m) for better performance in tight spots and on steep slopes.

Rugged construction with built-in reliability

The AP-8, AC-2S and AX-2S are compact and light, weighing just 2.8 lbs (1.25 kg) each for convenient field use. Rugged, water-resistant construction lets you work in light rain or dusty conditions. All AP-8, AC-2S and AX-2S levels feature a built-in magnetic-dampened automatic compensator to level the line of sight. The compensation range is $\pm 16'$, with a setting accuracy of within $\pm 0.5''$.



The lightweight, water-resistant AP-8, AC-2S and AX-2S automatic levels feature a built-in magnetic-dampened automatic compensator to level the line of sight.

Easy to set up and use

The AP-8, AC-2S and AX-2S help you get to work quickly. All three models can attach to both flat- and spherical-head tripods. Horizontal tangent knobs have an unlimited range to ensure smooth, precise pointing and angular measurement, and you can operate them with either hand. The new friction brake eliminates the need for horizontal alignment clamps, allowing for rapid rotation. And with the detachable eyepiece lens, you can use an optional diagonal eyepiece prism for working in extremely close quarters.



Data Collection



GPS/GIS



Office Software



Construction

Nikon Auto-Levels					
	AS-2/2C	AE-7/7C	AP-8	AC-2S	AX-2S
Telescope					
Magnification	34x	30x	28x	24x	20x
Minimum Focusing Distance	3.28ft	0.98ft	2.46ft	2.46ft	2.46ft
Automatic Compensator					
Range	+/- 12'	±16'	±16'	±16'	±16'
Accuracy	+/- 0.3"	±0.35"	±0.5"	±0.5"	±0.5"
Other					
Standard Deviation per 1 km double level run without micrometer	+/- 0.8 mm	+/- 1.0 mm	+/- 1.5 mm	+/- 2.0 mm	+/- 2.5 mm
With Micrometer	+/- 0.4 mm	+/- 0.45 mm	NA	NA	NA
Stadia?	Yes	Yes	Yes	Yes	Yes