SOKKIA

LDT50

LASER DIGITAL THEODOLITE

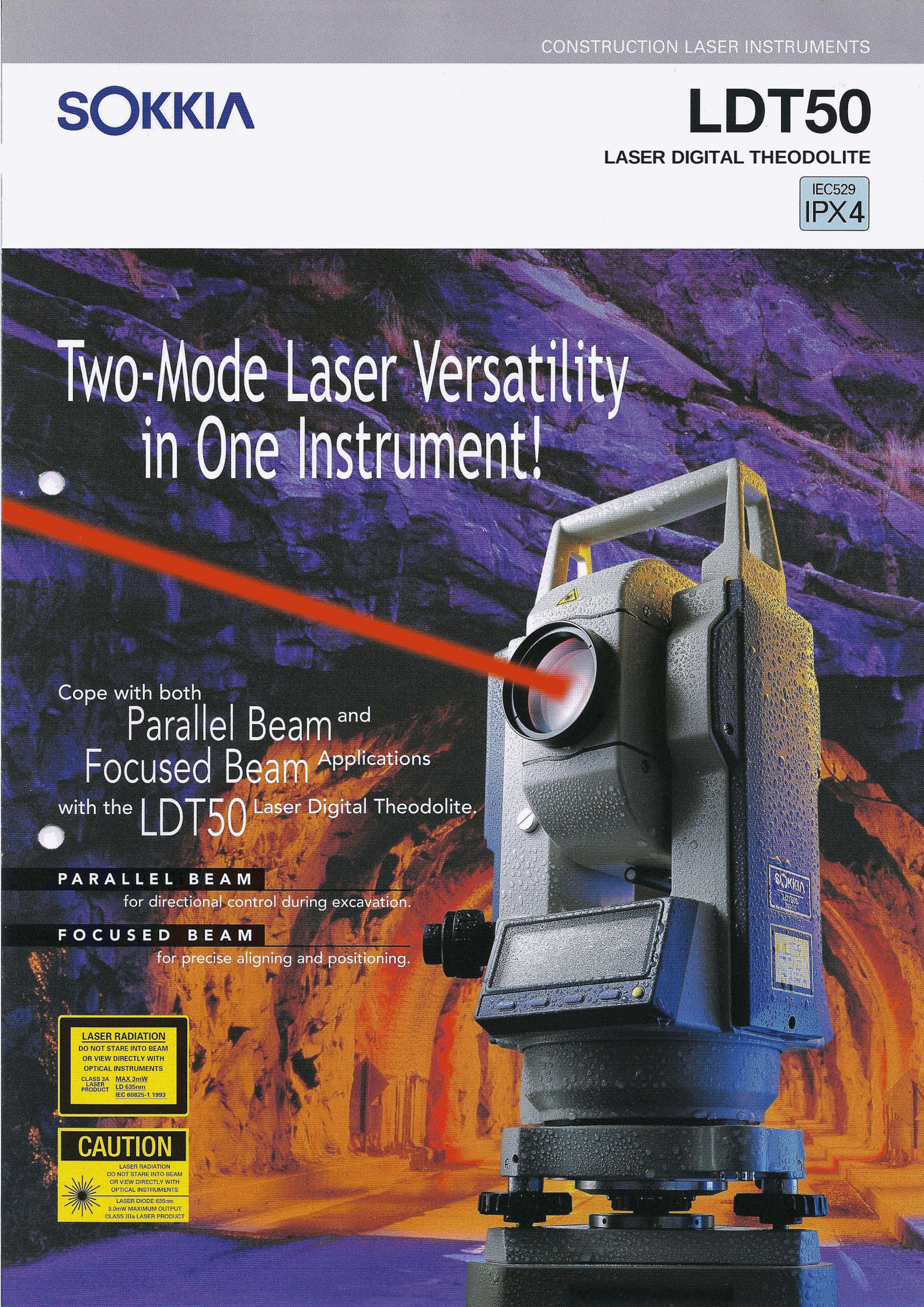
IEC529
IPX4

Two-Mode Laser Versatility in One Instrument!

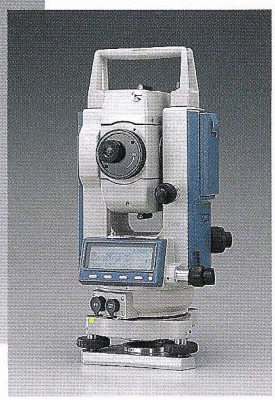
Cope with both
Parallel Beam and
Focused Beam Applications
with the LDT50 Laser Digital Theodolite.

PARALLEL BEAM
for directional control during excavation.

FOCUSED BEAM
for precise aligning and positioning.



Unprecedented versatility a
brought to you by Sokkia's superior



Two-mode Laser for Two-way Usage

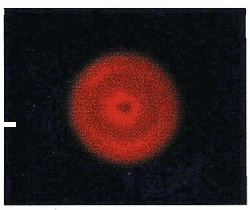
Long-life Laser Diode

- By employing a laser diode instead of an He-Ne laser tube, the telescope has been made compact and fully transiting.
- The laser diode also assures dependable long-term use.

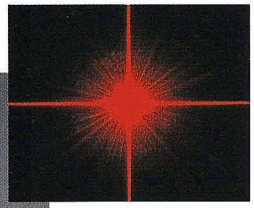
Sharp Beam - Round Spot

- Breakthrough technology has achieved a laser beam spot extremely close to a perfect circle.
- The spot center is easily determined for quick and accurate results.

Parallel Beam Spot (actual size) →



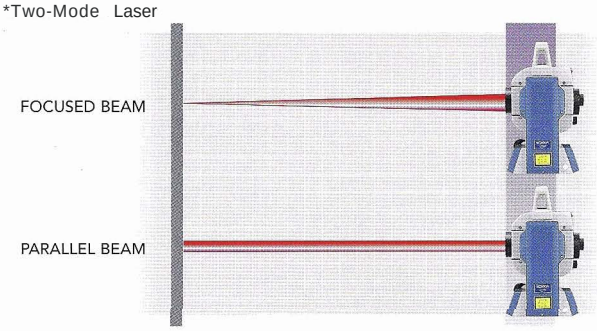
- A cross-shaped beam can be emitted using the LCA2 optional laser adapter.



One-touch Switching FOCUSED BEAM / PARALLEL BEAM

- FOCUSED BEAM - beam spot becomes smallest at the focused position.
- PARALLEL BEAM - as the diameter remains constant over any distance, the parallel beam is convenient for direction control during excavation.
- With the LDT50, a parallel beam can be emitted without the need of accessories by simply adjusting the focusing ring to the parallel beam mark, resulting in a bright circular beam reaching up to 200 meters (656 feet).

*Two-Mode Laser



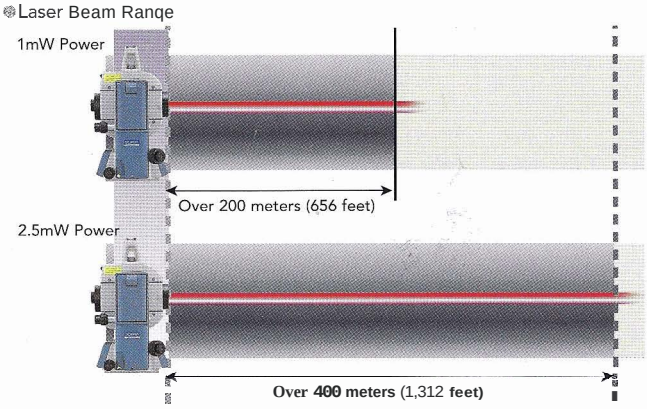
Two-stage Output Power

- The laser output power can be set to either 1 mW or 2.5 mW as required.
- The instrument employs a safe Class 3A laser so there is no need for special safety precautions during use.

Laser Range Over 400meters(1,312feet)

- When working outdoors in cloudy daytime conditions, the laser beam reaches over 400 meters (1,312 feet).
- The LDT50's laser reaches even further in the dark -when working in tunnels or other underground sites for example.

Laser Beam Range



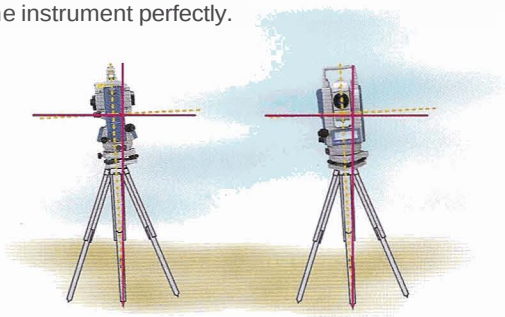
nd reliability
laser technology.

The LDT50 integrates breakthrough laser technology with a highly reliable digital theodolite. Standing in harsh operating conditions, its dependable laser dramatically enhances your job efficiency by providing a bright sharp beam.

Reliable Theodolite

Dual-axis Compensation for Maximum Angle Precision

- The LDT50 automatically detects tilt in two directions and compensates both horizontal and vertical angles.
- This reliable compensation eliminates time wasted trying to level the instrument perfectly.

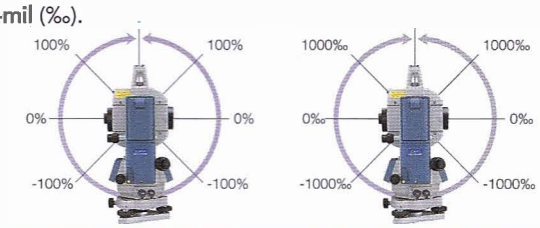


Tilt Warning

- When the instrument is tilted out of compensation range, the LDT50 provides clear audio and visual display warnings.

Slope in % and ‰

-The vertical angle reading can be switched to per-cent (%) or per-mil (‰).



Free Key Arrangement

- Any function can be freely assigned to any key of any page.

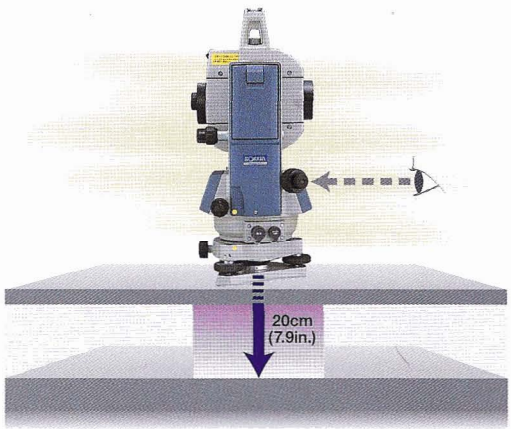
Compact Water-protected Body

Water Splash Protection

- The LDT50 is protected against water splash from any direction.
- Waterproof AC adapter EDC2B enables continuous use even in wet or humid environments.

Operable in Tight Spaces

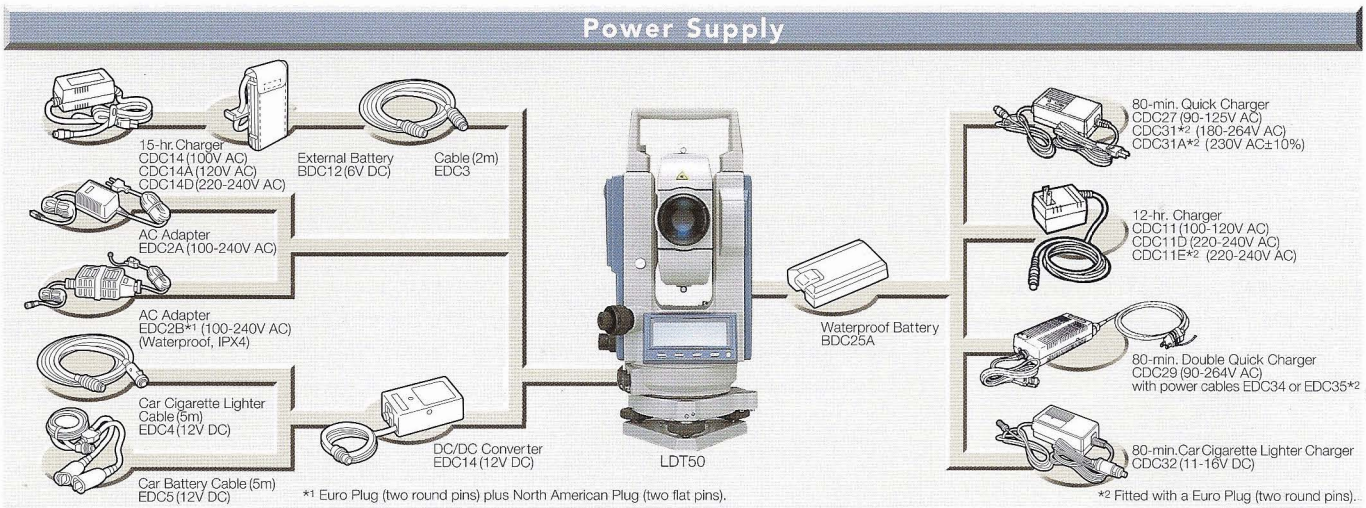
- The minimum focus of the optical plummet is a mere 20 cm (7.9 in.) - the LDT50 can easily be set up in tight spaces.



Convenient Power Supply

- The LDT50 operates for more than five hours with the BDC25A waterproof battery, and the optional BDC12 external battery extends battery life to provide more than thirty hours of continuous use.
- The instrument can also be operated from an AC power supply using the EDC2A/EDC2B AC adapters.
- When external power is down, the LDT50 instantly switches to internal battery power.
- The LDT50 provides clear audio and visual display warnings when battery power is low.

Power Supply



*1 Euro Plug (two round pins) plus North American Plug (two flat pins).

*2 Fitted with a Euro Plug (two round pins).

Specifications

LASER			
Light Source / wavelength	Laser Diode / 635nm		
Output Power	1mW / 2.5mW, selectable		
Laser Class	Class 3A (IEC 60825-1), Class IIIa (FDA CFR21)		
Laser Beam Focusing	Coincides with telescope focusing. Parallel beam is generated when the focusing ring is adjusted to the mark.		
Laser Range (During daytime, under cloudy outdoor conditions)	Output power 1mW: over 200m (656ft.) Output power 2.5mW: over 400m (1,312ft.)		
Beam Spot Diameter	Distance	Focused Beam Diameter	Parallel Beam Diameter
	5m (16ft.)	0.5mm (.02in.)	15.0mm (.59in.)
	10m (33ft.)	1.0mm (.04in.)	15.0mm (.59in.)
	20m (66ft.)	2.1mm (.08in.)	15.1mm (.59in.)
	50m (164ft.)	5.2mm (.20in.)	15.2mm (.60in.)
	100m (328ft.)	10.3mm (.41in.)	15.3mm (.60in.)
	150m (492ft.)	15.5mm (.61in.)	15.5mm (.61in.)
	200m (656ft.)	20.7mm (.81in.)	25.7mm (1.01in.)
	300m (984ft.)	31.0mm (1.22in.)	
	400m (1,312ft.)	41.3mm (1.63in.)	
TELESCOPE			
Telescope	Length: 160mm (6.3in.), Objective Aperture: 42mm (1.7in.), Magnification: 30x, Resolving power: 3", Minimum focus: 1.3m (4.3ft.)		
Reticle Illumination	Built-in (bright or dim, seiectable)		

ANGLE MEASUREMENT	
Type	Incremental encoder, diametrical detection
Display Resolution	1"/5" (0.2mgon/1mgon) (0.005mil/0.02mil), selectable
Accuracy (DIN18723)	5" (1.5mgon) (0.02mil)
Measuring Time	Less than 0.5 seconds
Dual-axis Compensator	Liquid dual-axis tilt sensor, working range +3' (±55mgon)
Tilt Out-of-range Warning	Audio and Visual Display/Visual Display only, selectable
Measuring Mode	
Horizontal Angle	Clockwise/Counter-clockwise, Repetition, O-set, Hold
Vertical Angle	Zenith 0/Horizontal 0/Horizontal 0±/Slope % or ‰
GENERAL	
Display	LCD, 20 characters x 4 lines, on both faces with illumination
Keyboard	Five keys on both faces, free assignment of functions
Sensitivity of Levels	Plate level: 40"/2mm, Circular level: 10'/2mm
Optical Plummet	Image: erect, Magnification: 3x, Minimum focus: 20cm (7.9in.) from the tribrach bottom.
Interface	Asynchronous serial, RS-232C compatible, baud rate 1200/9600 bps
Water Protection	IPX4 (IEC529), when BDC25A battery and connector caps are installed.
Operating Temperature (Storage Temperature)	-20°C to 50°C (-4°F to 122°F), (-40°C to 70°C (-40°F to 158°F))
Size w/handle (w/o handle)	W150 x D160 x H353 (313) mm (W5.9 x D6.3 x H13.9 (12.3) in.)
Tilting/Trunnion axis height	236mm (9.3in.) from tribrach bottom
Weight with Battery BDC25A	5.7kg (12.6 lb.)
Total Carrying Weight	10.5kg (23.2 lb.), including an instrument, standard accessories and carrying case
POWER SUPPLY	6V DC
Working duration at 25°C (77°F) with Waterpoof Battery BDC25A	More than 5 hours (angle measurement and laser emission)
with External Battery BDC12	More than 30 hours (angle measurement and laser emission)
Battery Low Warning	Audio and Visual Display at less than 5.6V

LDT50 Standard Configuration

LDTSO Instrument, Two Waterproof Batteries BDC25A, Quick Charger CDC27/31/31A, Battery Charging Adapter EDC19, Circular Compass CP7, Plumb Bob, Lens Cap, Lens Hood, Tool Kit, Vinyl Cover, Silicon Cloth, Laser Caution Sign, Operator's Manual, and Carrying Case SC178.

For safety, please read through the operator's manual carefully before operating.
Designs and specifications are subject to change without notice.

Optional Accessories

- Diagonal Eyepiece DE24 (waterproof)
- Diagonal Eyepiece DE17A
- Laser Adapter LCA2 (for cross beam)

FIG Sokkia is a sponsor of the International Federation of Surveyors.

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