

SOKKIA

# LP310

Leveling Laser

**Renowned SOKKIA reliability,  
plus fast, convenient *self-leveling*.**



# From foundation work to interior finishing and civil engineering projects, the LP310 can satisfy any leveling requirements. As well as market-proven reliability and precision, you can now look forward to greater work efficiency.

## ➤ High-precision self-leveling

The LP310 is equipped with high-performance tilt sensors. So precise is this technology that even when self-leveling is repeated several times, the LP310 will always find the true horizontal, generating a laser plane accurate to within 10 arc seconds.

## ➤ Press-button simplicity

All you have to do is place the LP310 on a tripod or level arm, set it roughly level (the unit has a wide self-leveling range) and press a button. It will automatically find the horizontal and emit the laser beam. This means you can start work without delays.

## ➤ Tough construction

The LP310 is not fussy about where it works. Compliant with the **IP55** (IEC60529) standard, it offers superb resistance to dust (so you can safely use it in places with sawdust and other airborne particulates) and excellent water-resistance, sufficient to withstand a sudden downpour.

## ➤ H.I. Alert & Windy functions

**H.I. ALERT** The **H.I. Alert function**, which is normally active, ensures that the laser beam is shut off and a warning lamp flashes if the unit is tilted or jarred while in operation. Self-leveling is not repeated until the unit has been checked, so there is no danger that work might continue using incorrect heights.

**WINDY** Alternatively, you can activate the **Windy function**: this is designed to ignore slight movements, as when the unit is buffeted by the wind. Self-leveling is only repeated if there has been a significant movement. This helps to save time on sites that are windy or subject to vibration, since it reduces interruptions to work.

## ➤ Three power packages

The LP310 can operate for up to 100 hours powered by four D (R20) size alkaline batteries, while the rechargeable Ni-Cd battery provides sufficient power for 40 hours. There is also an optional AC adapter (AC 100 to 240V) for continuous operation.



**Stadium**

Leveling work on outdoor construction sites. Teamwork is possible using multiple detectors.



**Drainage**

When used with a leveling rod, it's easy to measure the height difference of runoff ditches, sewage pipes and drains.



**Floor**

For floor leveling.



**Ceiling**

A level arm facilitates one man leveling operations at elevated positions.



**Wall**

Simplifies interior work. Using an elevating tripod, the height of the unit can be easily adjusted.



## Easy-to-handle Compact Detectors

**Advanced functions  
packaged in a rugged  
compact body which fits  
nicely into your palm.**



### ► Choice of detectors

In addition to the high-precision LR100 detector, the LR105 detector is also available to handle a wider range of applications.

### ► Dual displays

LR100 and LR105 have displays on both front and reverse faces.

### ► Auto illumination

The LCD displays are automatically illuminated when the laser beam is detected. This function enables you to work in low-light conditions while saving power.

### ► Waterproof structure

The LR100 and LR105 are fully protected from water penetration in compliance with IPX7 (IEC60529) enabling it to be handled with wet hands.

### ► Three buzzer settings

The buzzer volume can be set to "Loud", "Normal" or "Off".

► **Bubble tube** is equipped as standard for precision leveling.

### ► Protector LRP1A

Optional rubber protector LRP1A protects the detector from hard shocks.

### ► 100 hours continuous use

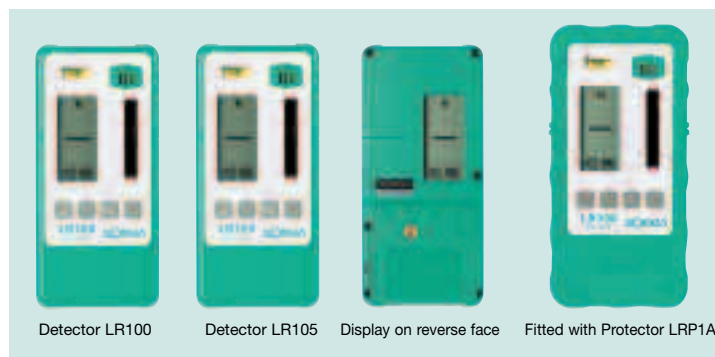
With two alkaline batteries, the LR100 and LR105 operate continuously for approx. 100 hours. The AA (R6) size Ni-MH rechargeable batteries power it for approx. 75 hours. To save the battery, the power is turned off automatically if the unit does not receive the laser beam for 10 minutes.

### ► Choice of sensitivity settings

To meet different requirements, site conditions, etc., you can use the  $\frac{H}{L}$  key to select high or low sensitivity; exact values depend on the current configuration. A separate switch inside the battery cover allows you to choose between Setting No. 1 (default) and 2.

Detector		LR100	LR105
Sensitivity	Setting No. 1	H:±0.7 mm, L:±2.0 mm	H:±1.8 mm, L:±3.2 mm
	Setting No. 2	H:±2.0 mm, L:±2.6 mm	H:±3.2 mm, L:±3.7 mm

H : High sensitivity  
L : Low sensitivity



Detector LR100

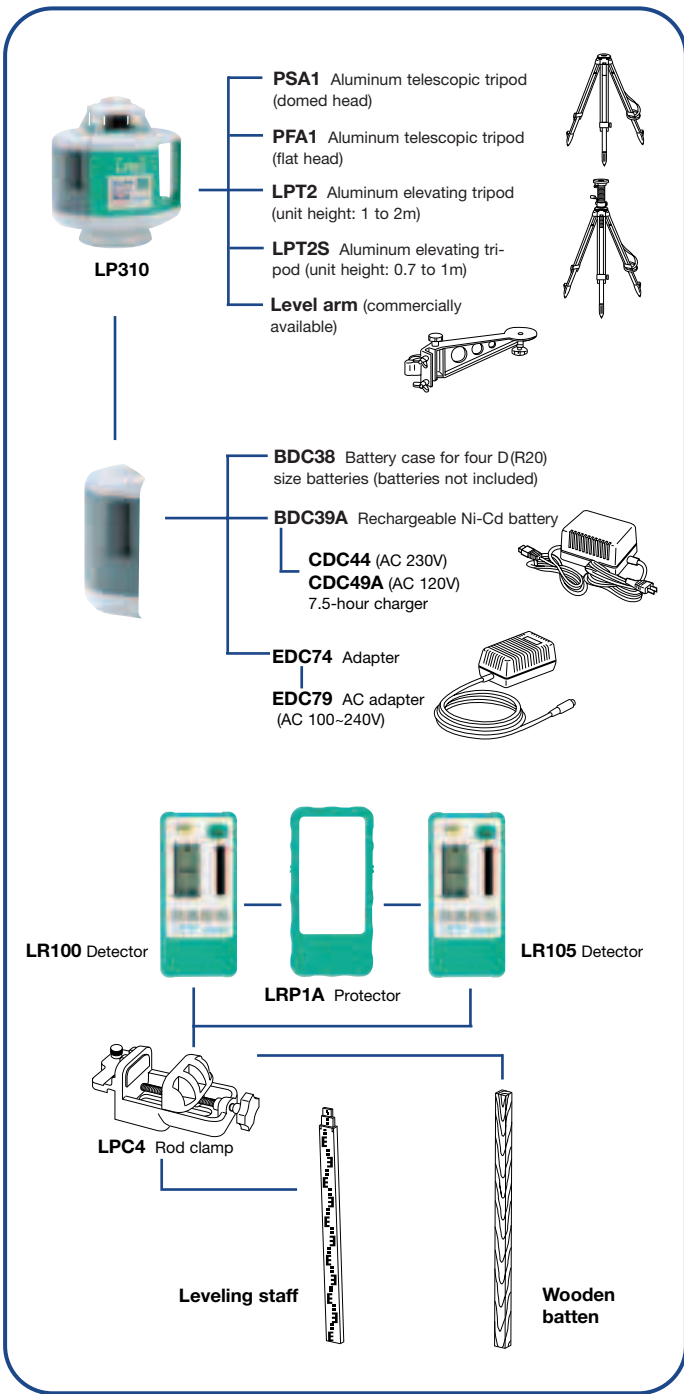
Detector LR105

Display on reverse face

Fitted with Protector LRP1A



# LP310 Leveling Laser System



# LP310 Specifications

Horizontal accuracy*1	10 arc seconds (1.5mm/30m, 4.8mm/100m) (0.06in./100ft., 0.17in/300ft.)		
Typical measuring range*2	LR100	LR105	
	radius	120m (400ft.)	300m (1,000ft.)
	diameter	240m (800ft.)	600m (2,000ft.)
Beam diameter	10mm dia. (at projection point)		
Rotation speed	600rpm		
Light source	Laser diode, 785nm wavelength		
Beam output	0.95mW ±0.05mW (at point of output)		
Laser class	Class 1*3		
Self-leveling range	±4°		
H.I. Alert function	Yes		
WINDY function	Yes		
"Battery Low" Alarm	Yes		
Tilt Alarm Light	Yes		
Base	5/8in. setting screw, Concave and flat		
Dust and water resistance	Conforms to IP55 (IEC60529:2001)		
Operating temperature	-10 to +50°C (14 to 122° F)		
Dimensions	W194 x D150 x H217 mm (W7.6 x D5.9 x H8.5 in.)		
Weight including batteries	Approx. 2.3kg (5.1lbs)		
Power supply	Four D (R20) size batteries or Ni-Cd rechargeable battery		
Operating duration at 25°C (77°F)	100 hours with alkaline batteries		
	40 hours with Ni-Cd rechargeable battery BDC39A		
AC adapter EDC79 with EDC74*4	AC100 to 240V input voltage		

\*1 Conforms to JSIMA104:2002. JSIMA:Japan Surveying Instruments Manufacturers Association

\*2 Actual measuring range depends on local environmental conditions.

\*3 IEC 60825-1 Amd.2:2001/FDA CDRH 21 CFR Part1040.10 and 1040.11

(Complies with FDA performance standards for laser products except for deviations pursuant to Laser Notice No.50,dated July 26, 2001.

\*4 Option

Detector	LR100	LR105
Display	LCD with illumination, on both faces	
Detection sensitivity	Setting 1	H:±0.7mm, L:±2.0mm
	Setting 2	H:±1.8mm, L:±3.2mm
		H:±2.0mm, L:±2.6mm
Buzzer	Loud/Normal/Off selectable	
Auto illumination	Displays are automatically illuminated when laser beam is detected.	
Sensitivity of level	1° / 2mm	
Water resistance	Conforms to IPX7 (IEC60529:2001)	
Operating temperature	-10 to 50°C (14 to 122°F)	
Dimensions	W65 x D25 x H140mm (W2.6 x D1.0 x H5.5 in.)	
Weight including batteries	Approx. 200g (7.1 oz.)	
Power supply	Two AA (R6) size batteries (D-cell, Ni-MH or Ni-Cd)	
Operating duration at 25°C (77°F)	Alkaline: Approx. 100 hours	
	Ni-MH (1,900mAh) : Approx. 75 hours	
	Ni-Cd (1,000mAh) : Approx. 40 hours	
Auto power cut-off	10 minutes after operation	

The International Electrotechnical Commission standard IEC 60529: 2001 describes a system for classifying degrees of protection provided by enclosures of electrical equipment. The IP Code consists of the letters IP and two numerals. Larger numbers represent greater levels of protection.

Protection against ingress of solid foreign objects  
Highest level: 6  
7 levels: 0 to 6.  
X: unspecified.



Protection against ingress of water  
Highest level: 8  
9 levels: 0 to 8.  
X: unspecified.



Laser beam is invisible to the naked eye.

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**SOKKIA CO., LTD.** Head Office, Japan Phone +81-46-248-7984 www.sokkia.co.jp ISO9001 Certified (JQA-0557)  
**SOKKIA CORPORATION** Head Office U.S.A. Phone +1-913-492-4900 www.sokkia.com  
**SOKKIA CORPORATION** Head Office Canada Phone +1-905-238-5810 www.sokkia.com  
**SOKKIA LATIN AMERICA** Head Office Latin America Phone +1-305-599-4701 www.sokkia.com  
**SOKKIA PTY. LTD.** Head Office Australia, New Zealand and South Pacific Phone +61-2-9638-2400 www.sokkia.com.au  
**SOKKIA B.V.** Head Office Europe & other CIS countries Phone +31-(0)36-5496000 www.sokkia.net  
**SOKKIA KOREA CO., LTD.** Head Office Republic of Korea Phone +82-2-514-0491 www.sokkia.co.kr  
**SOKKIA SINGAPORE PTE. LTD.** Head Office South & Southeast Asia, Middle East, and Africa Phone +65-6479-3966 www.sokkia.com.sg  
**SOKKIA SURVEYING INSTRUMENTS TRADING (SHANGHAI) CO., LTD.** Shanghai Office, People's Republic of China Phone +86-21-63541844 www.sokkia.com.cn  
**SOKKIA SURVEYING INSTRUMENTS TRADING (SHANGHAI) CO., LTD.** Beijing Office People's Republic of China Phone +86-10-65056066 www.sokkia.com.cn