Leica
GEOSYSTEMS

Leica
Rugby 60DG

Quick Guide



Kuker-Ranken
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English
Version 1.0

HEXAGON

1 Important Information about your Instrument



Read and follow the User Manual of the main product before using the product or the accessories delivered with the product.



Keep for future reference!

Intended use

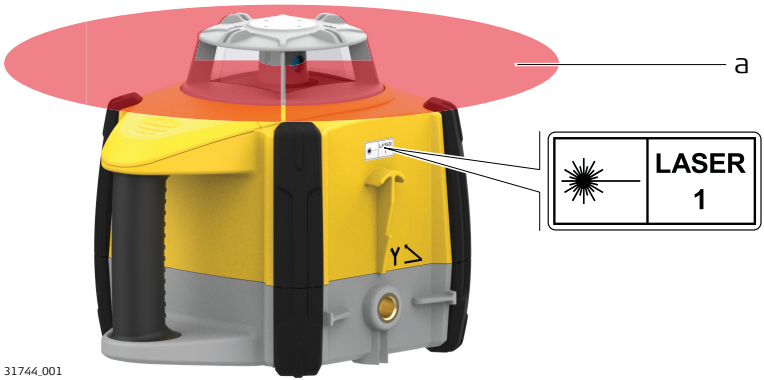
- The product casts a horizontal laser plane or a laser beam for the purpose of alignment
- The laser beam can be detected by means of a laser detector
- Remote control of product
- Data communication with external appliances

Laser products

The Rugby 60DG instrument contains the following laser product:

Laser product	Laser class	Classification
Rugby 60DG	Class 1	IEC 60825-1 (2014-05)

Labelling



a) Laser beam

For the AC/DC power supply and the battery charger:

⚠ WARNING

Electric shock due to use under wet and severe conditions

If unit becomes wet, it may cause you to receive an electric shock.

Precautions:

- If the product becomes humid, it must not be used!
- Use the product only in dry environments, for example in buildings or vehicles.



- Protect the product against humidity.

For the AC/DC power supply and the battery charger:

⚠ WARNING

Unauthorised opening of the product

Either of the following actions may cause you to receive an electric shock:

- Touching live components
- Using the product after incorrect attempts were made to carry out repairs.

Precautions:

- ▸ Do not open the product!
- ▸ Only authorised Leica Geosystems Service Centres are entitled to repair these products.



The product must not be disposed of with household waste.

EU	 Hereby, Leica Geosystems AG declares that the product/s is/are in compliance with the essential requirements and other relevant provisions of the applicable European Directives. The full text of the EU declaration of conformity is available at the following Internet address: http://www.leica-geosystems.com/ce.
USA	Contains FCC ID: RFD-CT301 15
Canada	CAN ICES-003(A)/NMB-003(A) Contains IC: 3177A-CT301
Others	The conformity for countries with other national regulations has to be approved prior to use and operation.

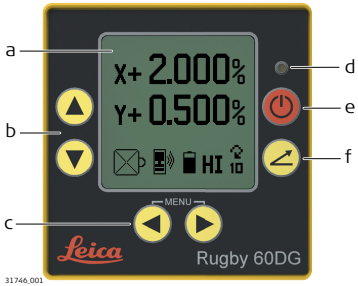
2 Instrument Components

Rugby 60DG laser components



a	Plate for optional scope
b	Carry Handle
c	LCD Display
d	Control Panel
e	Battery compartment
f	Charge LED (for Li-Ion battery pack)

Overview



a	LCD display
b	Up and down arrow buttons
c	Left and right arrow buttons
d	Status LED
e	Power button
f	Grade button

Description

Component	Function
LCD display	Displays all required user information.
Grade button	Press to start grade entry mode.
Left and right arrow buttons	Press to display and move the cursor for grade entry. Press both simultaneously to enter the Rugby 60DG menu.

Component	Function
Up and down arrow buttons	Press to change the grade displayed. Press both simultaneously to reset the grade value to zero.
Power button	Press to turn on or off the Rugby 60DG.
Status LED	Indicates the level status of the Rugby 60DG.

3 Technical Data

Operating range

Operating range (diameter):

Rugby 60DG:	900m/3000ft

Environmental specifications

Temperature

Type	Operating temperature	Storage temperature
Rugby 60DG	–20 to +50 °C –4 to +122 °F	–30 to +70 °C –22 to +158 °F

Protection against water, dust and sand

Type	IP class
Rugby 60DG	IP67 (IEC 60529) Dust tight

Pollution degree

Type	Pollution degree
Rugby 60DG	2

Humidity

Type	Protection
All instruments	Max 95% non-condensing.

Altitude

Type	Range
Rugby 60DG	0-2000 m

Sound level

Type	Value
Rugby 60DG	< 70 db(A)

4 Care and Transport

Field adjustment

Exposing the product to high mechanical forces, for example through frequent transport or rough handling, or storing the product for a long time may cause deviations and a decrease in the measurement accuracy. Periodically carry out test measurements and perform the field adjustments indicated in the User Manual before using the product.

Care and Transport

Carry the product in its original container or carry the tripod with its legs splayed across your shoulder, to protect the product against shock and vibration.

5 Operation

Charging the Li-Ion battery pack step-by-step

The rechargeable Li-Ion battery pack on the Rugby 60DG can be charged without removing the battery pack from the laser.



1.	Slide the locking mechanism on the battery compartment to the centre position to expose the charge jack.
2.	Plug the AC connector into the appropriate AC power source.
3.	Connect the charger plug into the charge jack on the Rugby 60DG battery pack.
4.	The small LED next to the charge jack flashes indicating that the Rugby 60DG is charging. The LED is on solid when the battery pack is fully charged.

5.	When the battery pack is fully charged, disconnect the charger plug from the charge jack.
6.	Slide the locking mechanism to the left position to prevent dirt from getting into the charging jack.
☞	The battery pack reaches a full charge in approximately 5 hours if completely empty. A one-hour charge should allow the Rugby 60DG to run for a full 8 hours.

Changing the Li-Ion battery pack step-by-step

With the rechargeable Li-Ion battery pack the battery indicator on the Rugby 60DG LCD display shows when the battery pack is low and needs to be charged. The

charge indicator LED on the Li-Ion battery pack indicates when the pack is being charged (flashing slowly) or fully charged (on, not flashing).



1.	The batteries are inserted in the front of the laser.
2.	The rechargeable battery pack can be recharged without being removed from the laser. Refer to Charging the Li-Ion battery pack step-by-step for further information.
3.	Slide the locking mechanism on the battery compartment to the right and open the cover of the battery compartment.
4.	Remove the batteries from the battery compartment and/or insert the batteries into the battery compartment.

5. Close the cover of the battery compartment and slide the locking mechanism to the left until it locks into position.

Changing the alkaline batteries step-by-step

With alkaline batteries the battery indicator on the Rugby 60DG LCD display flashes when the batteries are low and need to be replaced. If no battery icon is shown, the batteries are okay.



Step	Description
☞	The batteries are inserted in the front of the laser.
1.	Slide the locking mechanism on the battery compartment to the right and open the cover of the battery compartment.

Step	Description
2.	Remove the batteries from the battery compartment or insert the batteries into the battery compartment ensuring that the contacts are facing in the right direction.
	☞ The correct polarity is displayed on the battery holder.
3.	Close the cover of the battery compartment and slide the locking mechanism to the left until it locks into position.

Turn on and off

Press the Power button to turn the Rugby 60DG on or off.

After turning on:

- The LCD display turns on and displays the current status of the Rugby 60DG.
- If set up within the +/-6° self-levelling range (horizontal or vertical), the Rugby 60DG automatically levels to create an accurate horizontal plane of laser light.
- Once levelled, the head starts rotating and the Rugby 60DG is ready for use.
- The H.I.Alert system becomes active 30 seconds after completing the self-levelling. The H.I.Alert system protects the Rugby 60DG against changes in elevation caused by any movement or settling of the tripod.
- The self-levelling system and the H.I.Alert function continue to monitor the position of the laser beam to ensure consistent and accurate work.



The H.I.Alert function turns on automatically every time the Rugby 60DG is turned on.

Receiver
Rod Eye 105B



Beam Catching

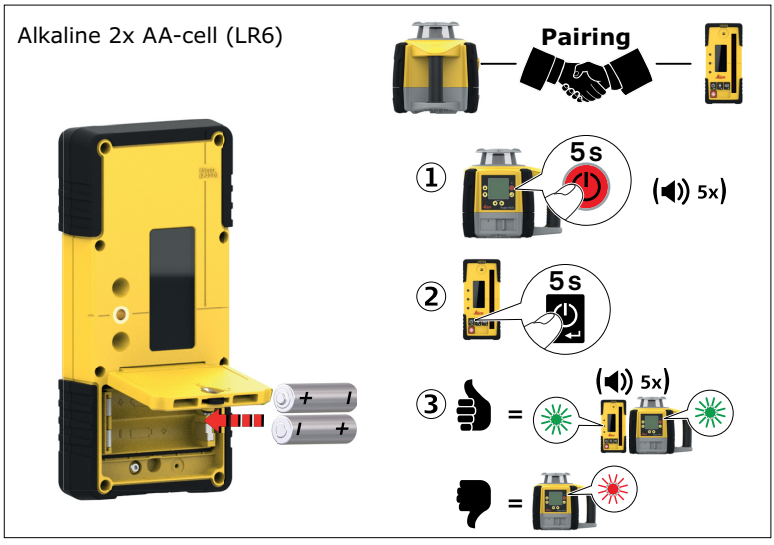
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Beam Lock

Section 8.5

	%/‰
	±0.5 mm, ±1 mm, ±2 mm, ±3 mm, ±5 mm
1x	
1.5 s	**Beam Catching** SMT ▶ XSC
5 s	**Beam Lock** SML ▶ XSL ▶ LOC

Battery and Pairing

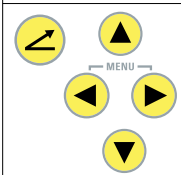


Remote Control RC60



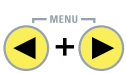
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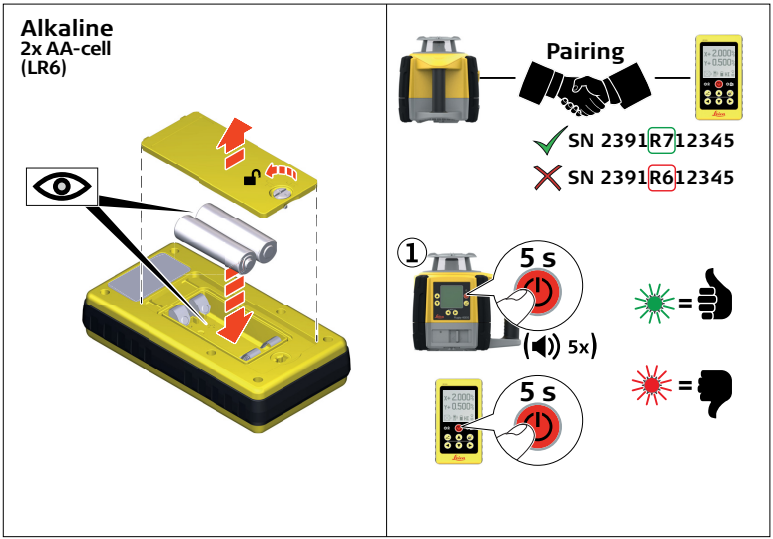




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Battery and Pairing



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