Product Features

he numbering of the product features hown refers to the illustration of the easuring tool on the graphic page. (see ages 3 – 6)

Reception lens for remote control
On/Off button
Automatic leveling indicator
Button for rotational operation and selection of the rotation speed (RL25HV)
Button for line operation and line length selection (RL25HV)
Charge-control indicator
ADS (Anti-Drift system) indicator
ADS button
Lower direction button
). Upper direction button
1. Indicator for single-axis slope operation
2. Button for single-axis slope operation
3. Exit opening for laser beam
4. Variable laser beam
5. Plumb beam (RL25HV)
6. Battery compartment
7. Nut for battery compartment/battery pack
18. Tripod mount 5/8"
19. Serial number
20. Laser warning label
21. Laser detector*
22. Construction laser measuring rod*
23. Tripod**
24. Remote control*
25. Laser viewing glasses*
26. Wall mount/alignment unit**
27. Case*
28. Laser target plate*

* The accessories illustrated or described are not included as standard

***Illustrated accessory may be optional on some models and not included in standard package.**

Assembly

ower Supply

he measuring tool uses (3) D Alkaline atteries, which are inserted in battery ompartment **16**.

peration: To insert the batteries loosen nut **7** and remove the battery compartment **16**. /hen inserting the batteries pay attention to the orrect polarity according to the representation n the inside of the battery compartment.

lways replace all batteries at the same time. o not use different brands or types of batteries igether.

lount the battery compartment **16** again.

Pay attention that the nose of the battery compartment engages in the corresponding recess in the housing (see illustration on the graphic pages). Firmly tighten the battery compartment with nut **17**.

In case the batteries have been inserted incorrectly, the measuring tool cannot be switched on. Insert the batteries with correct polarity.

Operation

Initial Operation

Do not subject the measuring tool to extreme temperatures or variations in temperature. As an example, do not leave it in vehicles for long time. In case of large variations in temperature, allow the measuring tool to adjust to the ambient temperature before putting it into operation. In case of extreme temperatures or variations in temperature, the accuracy of the measuring tool can be impaired.

Avoid heavy impact to or falling down of the measuring tool. After severe exterior effects to the measuring tool, it is recommended to carry out an accuracy check (see "Accuracy Check of the Measuring Tool", page 16) each time before continuing to work.

Setting Up the Measuring Tool

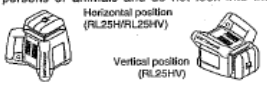
Position the measuring tool on a firm surface in the horizontal or vertical position, mount it to a tripod or to the wall mount **26** with alignment unit. Due to the high leveling accuracy, the measuring tool reacts sensitively to ground vibrations and position changes. Therefore, pay attention that the position of the measuring tool is stable in order to avoid operational interruptions due to re-leveling.

Switching On and Off

To switch on the measuring tool, press the On/Off button **2**. This is confirmed by brief flashing of all indicators.

– RL25H: Immediately after switching on, the measuring tool laser beam **14** flashes.

– RL25HV: Immediately after switching on, the measuring tool laser beam **14** and the plumb beam **15** flash. Do not point the laser beam at persons or animals and do not look into the



laser beam yourself, not even from a large distance. The measuring tool immediately starts automatic leveling after switching on. During leveling, the leveling indicator **3** flashes green, the laser flashes.

The measuring tool is leveled in as soon as leveling indicator **3** continuously lights up green and the laser beam is steady. The measuring tool automatically starts in rotational operation, the ADS function is switched on (ADS indicator **7** lights up green).

To switch off the measuring tool, press the On/Off button **2** again.

Do not leave the switched on measuring tool unattended and switch the measuring tool off after use. Other persons could be blinded by the laser beam.

When not using the measuring tool, switch it off in order to extend the battery life.

The measuring tool is switched off automatically to extend the battery life

–When not within the self-leveling range for more than 30 minutes

– When the ADS function has been actuated longer than 2 h

– When it is not switched on again within 2 h while in hibernation mode (only possible with remote control).

If required, reposition the measuring tool and switch it on again.

Hibernation Mode with Storage of the Operating Mode

With the remote control **24**, the measuring tool can be switched to hibernation mode to conserve energy. This is confirmed by flashing of the power LED **3**.

The operating mode set on the measuring tool is retained. When the ADS function is switched on, the position of the measuring tool is also monitored during hibernation mode.

To end hibernation mode, press any button on the remote control or the keypad

Operation Modes

ourse of X- and Y-Axis

he course of the X- and Y-axis is marked on e housing above the rotation head.

otational Operation (RL25H)

he measuring tool exclusively operates with fixed rotational speed in rotational operation, hich is also suitable for use of a laser detector.

verview (RL25HV)

ll three operating modes are possible with ie measuring tool in horizontal and vertical osition.

Rotational Operation

Rotational operation is especially recommended when using the laser detector. You can select between different rotational speeds. 600 is optimal for use with detector.

Line Operation (Sweep/ Scanning Mode)

In this operation mode, the variable laser beam moves within a limited aperture angle. This increases the visibility of the laser beam in comparison to rotational operation. You can select between different aperture angles.

Point Operation (Spot mode)

This operation mode enables the best visibility of the variable laser beam. As an example, it is sed for easy projecting of heights or checking uilding lines.

Rotational Operation, Point Operation (RL25HV) (600/300/150/0 RPM)

ach time after switching on, the measuring ool is in rotational operation with the highest otational speed. To switch from line operation o rotational operation, press the rotational peration button **4**. Rotational operation starts ith the highest rotational speed. To change he rotational speed, press the rotational peration button **4** again. The rotational speed is ecreased each time after pressing the button. fter the lowest rotational speed, the measuring ool switches to point operation. Pressing button takes you back again to rotational operation ith the highest rotational speed. When working ith the laser detector, the highest rotational peed should be set. When working without aser receiver, reduce the rotational speed for nproved visibility of the laser beam and use the aser viewing glasses **25**.

Line Operation (RL25HV) (10°/25°/50°)

To switch to line operation, press the line operation button **5**. The measuring tool starts with the smallest aperture angle. To change the aperture angle, press the line operation button **5**. The aperture angle is increased in two steps; Pressing button **5** again takes you back to line operation with the smallest aperture angle.

Note: Due to inertia, it is possible for the laser to slightly move beyond the end point of the laser line.

Rotating the Laser Point/Laser Line in the Rotational Plane (RL25HV)

When automatic leveling is switched on (indicator **11** is lit), the laser point or laser line can be rotated by 360° in steps within the rotational plane, no matter if the measuring tool is in horizontal or vertical position. To rotate the rotational plane in clockwise direction, press button **10**; to rotate counter clockwise, press button **9**. Pressing and holding the buttons increases the speed of the rotation head in the desired direction (See Fig. G).

Aligning the Rotational Plane in the Vertical Position (RL25HV)

When the measuring tool is in the vertical position, it is possible to rotate the laser point, laser line or rotational plane around the X-axis for easy layout or parallel alignment. For this, press the button for single-axis slope operation **12**; indicator **11** flashes. Then, press button **10** to rotate the rotational plane in clockwise direction, and button **9** to rotate in counter clockwise direction. Pressing and holding the buttons increases the speed of the rotation head in the desired direction. Rotation is possible within a range of ±8 % (See Fig. H).

Automatic Leveling RL25H

After switching on, the measuring tool checks the horizontal position and automatically compensates irregularities within the self-leveling range of approx. 8 % (±5°). When the measuring tool is inclined by more than 8 % after switching on or after a position change, leveling is no longer possible. In this case, the rotor is stopped, the laser flashes, indicators **3** and **11** flash green. In this case, switch the measuring tool off, re-align it and switch the measuring tool on again. Without repositioning, the laser is automatically switched off after 30 Min.

Operation Modes

Automatic leveling RL25H (Continued)

When the measuring tool is leveled in, it continuously checks the horizontal position. Automatic re-leveling takes place after position changes. To avoid faulty measurements, the rotor stops during the leveling process, the laser flashes and the leveling indicator **3** flashes green.

Because the largest difference in temperature layers is close to the ground, the laser tool should always be mounted on a tripod when measuring distances exceeding 65 ft. If possible, also set up the laser tool in the center of the work area.

Automatic Leveling RL25HV

After switching on, the measuring tool automatically detects the horizontal or vertical position. To change between the horizontal and vertical position, switch the measuring tool off, reposition it and switch on again. After switching on, the measuring tool checks the horizontal and vertical position and automatically levels out any unevenness within the self-leveling range of approx. 8 % (±5°).

When the measuring tool is inclined by more than 8 % after switching on or after a position change, leveling is no longer possible. In this case, the rotor is stopped, the laser flashes, indicators **3**, **11** flash green. In this case, switch the measuring tool off, re-align it and switch the measuring tool on again. Without repositioning, the laser is automatically switched off after 30 min. When the measuring tool is leveled in, it continuously checks the horizontal and vertical position. Automatic re-leveling takes place after position changes. To avoid faulty measurements, the rotor stops during the leveling process, the laser flashes and the leveling indicator **3** flashes green.

Single-Axis Slope Operation

When the measuring tool is in horizontal position, the X-axis is automatically leveled in while in single-axis slope operation, the Y-axis is not. With the ADS function switched on, only the leveling of the X-axis is monitored.

Position changes of the measuring tool alongside the Y-axis are not detected in single-axis slope operation.

To switch to single-axis slope operation, press the button for single-axis slope operation **12**. This is confirmed by flashing (green) of the indicator for single-axis slope operation **11**. When the ADS function is switched on, only the X-axis is monitored; the ADS indicator is solid green. To switch the automatic leveling on again for both axes, press button **12** again. The indicator for full auto-leveling operation turns solid green. To slope the rotational plane of the Y-axis, press the direction up **10** or down button **9**. The direction of slope corresponds with the arrow direction on buttons **10** and **9**.

Anti-Drift System (ADS)

The measuring tool has an ADS function; after position changes or shock to the measuring tool, or in case of ground vibrations, it keeps the measuring tool from leveling in at changed heights, and thus prevents vertical errors. After switching on the measuring tool, the ADS function is switched on by default; the ADS indicator **7** lights up green. The ADS is activated approx. 30 s after switching on the measuring tool or the ADS function. When the leveling-accuracy range is exceeded after a position change of the measuring tool or when heavy ground vibrations are detected, the ADS function is actuated: The rotation is stopped, the laser flashes, the leveling indicator **3** goes out and the ADS indicator **7** flashes red. The current operating mode is stored. After the ADS function has actuated, press the ADS button **8**.

The ADS function is restarted and the measuring tool starts leveling. As soon as the measuring tool is leveled in (leveling indicator **3** is solid green), it starts in the stored operating mode. Now, check the height of the laser beam with a reference point and correct the height, if required. To switch off the ADS function, press ADS button **8** once, or, when the ADS has actuated (ADS indicator flashing red). Press ADS once to switch off or to reset after ADS has been actuated. The laser is automatically switched off after 2 minutes and the measuring tool after 2 hours.

Accuracy Check

ıfluences on Accuracy

he ambient temperature has the greatest ıfluence. Especially temperature differences ccurring from the ground upward can divert ıe laser beam. The deviations play a role in xcess of approx. 65-ft measuring distance and an easily reach two to four times the deviation t 330-ft. Because the largest difference in emperature layers is close to the ground, the ieasuring tool should always be mounted on tripod when measuring distances exceeding 5-ft. If possible, also set up the measuring tool ı the center of the work area.

:hecking the Leveling Accuracy

,part from exterior influences, device-specific ıfluences (such as heavy impact or falling own) can lead to deviations. Therefore, check ıe accuracy of the measuring tool each time efore starting your work. A free measuring istance of 50-ft on a firm surface between wo walls **A** and **B** is required for the check. ı reversal measurement must be carried out ver both axes **X** and **Y** (each positive and egative; 4 complete measurements).

· Mount the measuring tool in the horizontal osition onto a tripod **23** (accessory) or place it n a firm and level surface near wall **A**. Switch ıe measuring tool on.

· After the leveling, mark the center of the laser eam on wall A (point I).

· Rotate the measuring tool by 180°, allow it to avel in and mark the center point of the laser beam on the apposing wall **B** (point II).

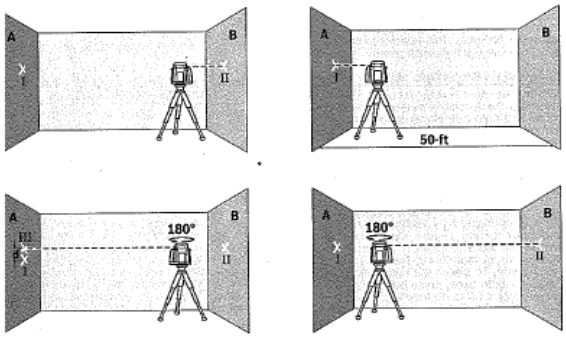
– Without turning the measuring tool, position it close to wall **B**. Switch the measuring tool on and allow it to level in.

– Align the height of the measuring tool (using the tripod or by propping), so that the center of the laser beam runs exactly against the previously marked point II on wall **B**.

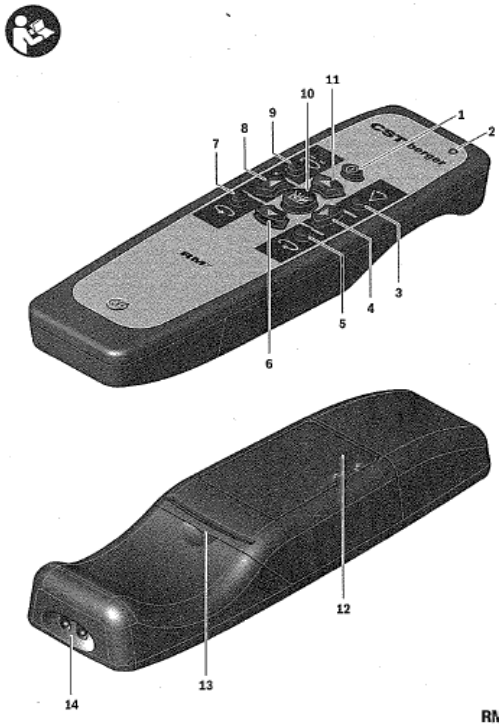
– Rotate the measuring tool by 180° without changing the height. Allow it to level in and mark the center point of the laser beam on wall **A** (point III). Take care that point III is as vertical as possible above or below point I.

– The difference **d** of both marked points I and III on wall **A** amounts to the actual deviation of the measuring tool for the measured axis.

Repeat the measuring procedure for the other three axes. For this, turn the measuring tool prior to each measuring procedure by 90°. On the measuring section of 2 x 65 ft (20 m) =130 ft (40 m), the maximum allowable deviation is: 130 ft (40 m) x ± 0.0001 in/ft (±0.08 mm/m) = ±0.125 in (±3.2 mm). Consequently, the difference **d** between points I and III for each of the four individual measurements may not exceed 0.25 in (6.4 mm) max. If the measuring tool should exceed the maximum deviation in anyone of the four measuring procedures, have it checked at a Bosch after-sales service agent.



RM7 Remote Control



RM7

Remote control

Safety Notes
Read and observe all instructions. SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

⚠ WARNING **Have the remote control repaired only through a qualified repair person and only using identical replacement parts.** This will ensure that the functionality of the remote control is maintained.

Do not operate the remote control in explosive atmospheres, such as in the presence of flammable liquids, gases or dusts. Sparks can be created in the remote control which may ignite the dust or fumes.

Read and strictly observe the safety warnings in the operating instructions of the rotational laser.

Product Description and Specifications

Intended Use
The remote control is intended for controlling CST/berger rotational laser levels with infra-red receivers, in indoor and outdoor use.

Product Features

The numbering of the product features refers to the illustration of the remote control on the graphics page. (see page 17)

1. Hibernation mode button
2. Operation indicator
3. Sweep mode button
4. Right direction button
5. Button for "rotation in clockwise direction"
6. Lower direction button
7. Button for "rotation in counter clockwise direction"
8. Left direction button
9. Button for rotational operation and selection of the rotation speed
10. Button for single-axis slope operation or full auto-leveling
11. Upper direction button
12. Battery lid
13. Latch of battery lid
14. Outlet opening for infra-red beam

The accessories illustrated or described are not included as standard delivery.

Technical Data

Remote Control	RM7
Article Number	F034H69014
Working Range	100-ft
Operating Temperature	+14°F to 122°F (-10°C to +50°C)
Storage Temperature	-4°F to 158°F (-20°C to +70°C)
Batteries	2 x AA1.5v Alkaline
Weight	3.8 oz.

1) The working range can be decreased by unfavourable environmental conditions (e.g. direct sun irradiation).

Please observe the article number on the type plate of your remote control. The trade names of individual remote controls may vary. For clear identification of your remote control, see the serial number 13 on the type plate.

Assembly

Inserting/Replacing the Battery
Using alkaline batteries is recommended for operation of the remote control. To open the battery lid **12**, pull on the latch **13** and remove the battery lid. Insert the batteries. When inserting, pay attention to the correct polarity according to the representation on the inside of the battery compartment.

The batteries must be replaced when operation indicator **2** no longer lights up after pressing any button on the remote control.

Always replace all batteries at the same time. Only use batteries from one brand and with the identical capacity.

Remove the batteries from the remote control when not using it for longer periods. When storing for longer periods, the batteries can corrode and discharge themselves.

Operation

Initial Operation
Protect the remote control against moisture and direct sunlight.

Do not subject the remote control to extreme temperatures or variations in temperature. As an example, do not leave it in vehicles for longer periods. In case of large variations in temperature, allow the remote control to adjust to the ambient temperature before putting it into operation.

The remote control remains ready for operation as long as batteries with sufficient voltage are inserted.

Set up the rotational laser in such a manner that the signals of the remote control directly reach one of the reception lenses on

the rotational laser (for this, see the operating instructions of the rotational laser). When the remote control cannot be pointed directly against a reception lens, the working range is reduced. By reflecting the signal (e.g. against walls), the working range can be improved, even for indirect signals. After pressing a button

on the remote control, the illuminated operation indicator **2** indicates that a signal was sent out. Switching the rotational laser on/off with the remote control is not possible.

Operating Modes

Function of buttons that are both on the rotational laser level as well as on the remote control do not differ. With exception of the hibernation mode, no additional functions of the rotational laser level can be controlled with the remote control. Example: Pressing the rotation operation button switches the rotational laser level from line operation to rotation operation. This happens no matter if you press the rotation operation button on the rotational laser level or on the remote control. When the rotational laser level does not have different rotational speeds, then the rotational speed can also not be changed with the remote control.

The ADS function cannot be controlled with the remote control. For detailed information of the rotational laser functions, see the operating instructions of the rotational laser.

Hibernation Mode

The rotational laser level can be switched to hibernation mode for 2 hours (max.). For this, press the hibernation mode button **1** on the remote control. Rotation laser level is switched off, and the set operating mode is saved. hibernation mode can only be started with the remote control.

Press any button on the remote control to restart the rotational laser level in the saved operating mode.

Rotation, Line and Point Operation

By pressing the rotation operation button **9**, you can switch from line to rotation operation or decrease the rotational speed in steps down to zero (point operation). By pressing the line operation button **3**, you can switch from rotation to line operation or increase the aperture angle in steps.

Rotating the Laser Point/Laser Line in the Rotational Plane

The laser point or the laser line can be rotated in steps by 360° within the rotational plane. Press button **5** to rotate in clockwise direction, and button **7** to rotate in counter clockwise direction (See Fig. G).

Pressing and holding the buttons increases the speed of the rotation head in the desired direction. Rotating is (independent of the position of the rotational laser level) also possible in single-axis slope operation (See Fig. G).

Single-axis Slope Operation/Aligning the Rotational Plane in the Vertical Position

Depending on the position of the rotational laser level, you can rotate the rotational plane around the X or Y-axis by pressing upper direction button **11**, lower direction button **6**, right direction button **4** and left direction button **8**. For this, press the button for single-axis slope operation **10** first. When the rotational laser level is in the horizontal position, you can rotate the rotational plane around the Y-axis with the upper direction button **11** and lower direction button **6**. When the rotational laser level is in the vertical position, you can rotate the rotational plane around the X-axis with right direction button **4** and left direction button **8** (See Fig. G).

Maintenance and Service

Maintenance and Cleaning
Keep the remote control clean at all times.

Do not immerse the remote control into water or other fluids.

Wipe off debris using a moist and soft cloth. Do not use any cleaning agents or solvents.

If the remote control should fail despite the care taken in manufacture and testing, repair should be carried out by an authorised customer services agent for Bosch power tools. Do not open the remote control yourself.