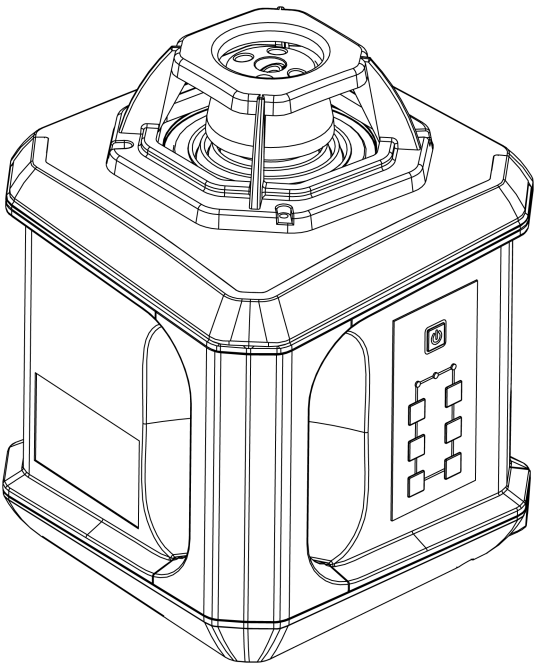
AGATEC

RL110

User manual



User Manual

English

Introduction

Purchase
Congratulations on the purchase of a new Rotating Laser from Agatec.

Product

This manual contains important safety directions as well as instructions for setting up the product and operating it. Refer to "Safety Directions" for further information.

Read carefully through the User Manual before you switch on the product.

Symbols
The symbols used in this manual have the following meanings:

⚠ DANGER
Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING
Indicates a potentially hazardous situation or an unintended use which, if not avoided, could result in death or serious injury.

⚠ CAUTION
Indicates a potentially hazardous situation or an unintended use which, if not avoided, may result in minor or moderate injury and / or appreciable material, financial and environmental damage.

Contents

Features

The Agatec **RL110** laser offers the interior contractor many great features to make work easier and more accurate.
A complete laser, with all needed functions, a bright beam for high visibility, with very compact dimensions.

Laser Overview {A}

See the inside front cover for a diagram of the laser **{A}** and keypad **{B}** corresponding to these callouts.

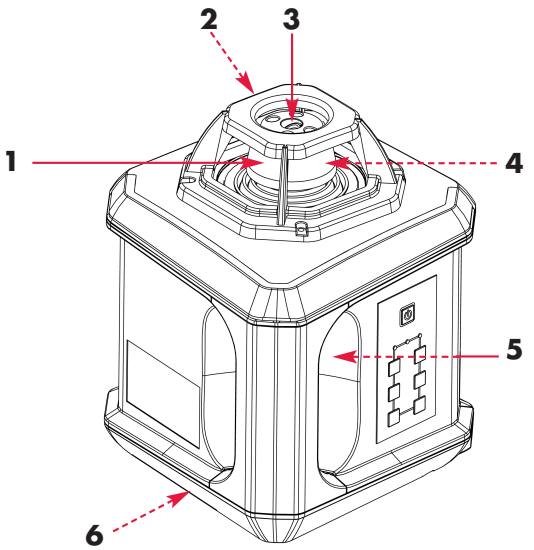
1) Rotating head
2) Axes indications
3) Plumb or square beam laser beam aperture
4) Rotating laser beam aperture
5) Batteries
6) 5/8"-11 Tripod mount for horizontal setup

Keypad Overview {B}

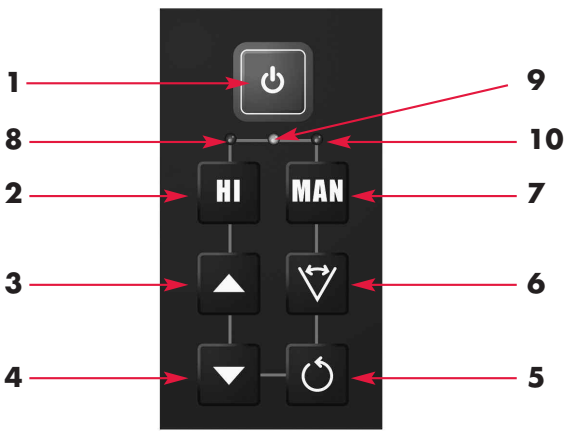
The keypad for the Agatec RL110 laser has seven buttons and three LED indicators.

1) On / Off
2) H.I. (Elevation) Alert
3) UP
4) DOWN
5) Rotation Mode
6) Scan
7) Manual Mode
8) LED – H I indication
9) LED – Level Status / Battery
10) LED – Manual mode indication

Laser Overview {A}



Keypad Overview {B}



How to use your Agatec RL110

Horizontal Setup
The laser can be mounted on a 5/8"-11 tripod or placed directly on a solid, stable surface. Agatec **RL110** can be suspended from a ceiling grid using the wall mount.

Vertical Setup
The laser can be placed directly on its back (opposite the handle) on a solid, stable surface. For more stability, it is recommended to use the wall mount.

Turning on the laser
Turn on the laser with the On/Off key **{B-1}**. It does a self-test and the beam blinks while the laser is self- leveling. After it is leveled, the head rotates. You can choose H.I. Alert mode or change to manual mode (see later sections).
The laser has a wide self-leveling range; however, if the laser is set up out of the leveling range, the laser beam will continue to blink and the rotation will not start.

LED indication
The LED indicator **{B-9}** slowly blinks green and red while the axes are leveling and stays on when both axis has reached a level position.

Button Functions

The UP/DOWN buttons on the laser and the remote control buttons have multiple functions depending on the mode of operation. Please refer to the chart below to better understand their functionality.

Mode	RIGHT / LEFT	UP / DOWN
Automatic mode - rotating	Moves CW/CCW mode	Cycle through the rotating speed
Automatic mode - scanning	Moves scan CW/CCW	Cycle through the scanning width
Laydown mode - rotating	Slope	Cycle through the rotating speed
Laydown mode - scanning	Slope	Cycle through the scanning width
Manual mode - rotating	Slope	Cycle through the rotating speed
Manual mode - scanning	Slope	Cycle through the scanning width

Automatic / Manual modes

The Agatec **RL110** is in automatic, self-leveling mode when turned on. Once the instrument has self-leveled, the laser head will start rotating with 600 rpm.

In manual mode, the laser does not self-level; this means that the beam will rotate even if the laser is not leveled. It can therefore be used on inclined planes such as stairs, roofs, or when manual grade setting is required. See later section on setting slope in manual or semi-automatic modes.

H.I. Alert mode

The H.I. feature stops the laser automatically if the laser is disturbed, preventing inaccurate readings. It functions only when activated.

• To activate this safeguard feature, keep pressed the H.I. key **{B-2}** after turning on the laser. The H.I. LED **{B-8}** will blink rapidly while the laser is initializing the H.I. mode.

• Thirty seconds later, the LED will blink slowly, indicating the H.I. Alert function is activated.

• If the laser is disturbed while in H.I. Alert mode, the head will stop rotating, the beam will turn off, all LEDs will blink red.

• Press the ON/Off key to turn off the H.I. Alert function. Press again the ON/OFF key to have the unit going back to the default settings (600 rpm, automatic mode).

Rotation mode

The head rotates at three speeds: 0, 300, 450, 600 rpm. The default setting is 600 rpm. The laser beam is more visible at slower rotation speeds.

• To cycle through the rotation speeds press the key **{B-5}**. Press once to get to point mode, twice to 300 rpm, three times to get to 450 rpm. One more time to get back to 600 rpm.
• When in point mode, the point can be moved to the right or left using the UP/DOWN keys **{B-3** and **B-4}**. It is also possible to move the head manually to position the beam point.
To start rotation again, press the key **{B-5}**.

Scanning mode

For interior applications, scanning mode allows you to see the beam easier at a distance.
The default width has medium dimension. The laser beam is more visible at small width.

• To scan press the key **{B-6}**.
• To cycle through the scan width, press the key **{B-6}**.
• The scanning beam can be moved to the right or left using the UP/DOWN keys **{B-3** and **B-4}**.

Wall Mount

For interior application, such as drywall installation, it is recommended to use the wall mount.
Use the tripod thread to fix the mount to the laser.

Set-up for manual slopes

The Agatec **RL110** can be used to manually create slopes for special applications, stairways, sloped ceilings, etc.

For slopes up to 10%, set up the laser in horizontal mode and use the keypad or remote to set the slope following the instructions below.

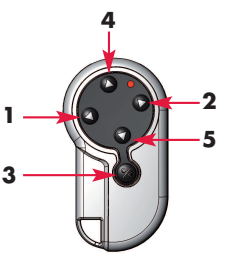
In full manual mode, the unit will not self-level on both axis, meanwhile the head will continue to rotate. The plane of laser light can be tilted in either one or both planes.

To use the laser in full manual mode:
• After turning the laser on and allowing it to self-level, press the Manual button **{B-7}**. The LED **{B-10}** indicates that the laser is in manual mode and you can set slope in the X-axis.
• Press UP/DOWN keys to adjust the slope of the X-axis.

Press the Manual key **{B-7}** once more to set slope on Y-axis. The LED **{B-10}** blinks to indicate that the laser is in manual mode and you can set slope in the Y-axis.
Keep pressed the MAN key to exit the manual mode and return to the automatic mode.

Accessories

Remote Control



The Remote Control has five buttons.

1) LEFT
2) RIGHT
3) Scan / Rotation Mode
4) UP
5) DOWN

Please refer to the table in "Button Functions" to better understand their functionality.

- The red LED at the top of the remote will flash each time a button is pressed, indicating that the remote is transmitting to the laser.
- Battery - To open the battery compartment and change the battery, push the battery cover in the direction of the arrow. The remote control requires alkaline battery.

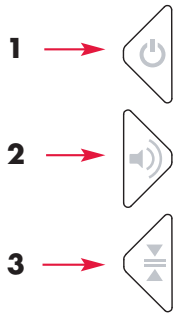
Receiver

The **receiver** indicates elevation information from rotating laser levels.

1) Power on/off
Press once to turn On.
Press and hold to turn off.

2) Audio
Select the sound level,
from Normal, Loud, Off.

3) Bandwidth
Cycle through detection accuracy,
from Normal, Fine.



Other accessories

- Laser enhancing glasses improve the visibility of the laser beam in bright light conditions.
- The ceiling grid targets are used to view the beam on suspended ceiling applications. The target attaches magnetically to the grid.

Batteries

Low battery Indicator

When the battery power is low, the LED **{B-9}** will blink red during operation. Batteries have to be replaced as soon as possible. When battery is empty, the laser head will stop rotating and the low battery LED **{B-9}** will stay on.

Replacing alkaline batteries

Follow the steps below to replace the alkaline batteries in your laser.

• To access the battery compartment, loosen the knobs connecting the laser to the wall mount.

• Use a coin or small screwdriver to remove the cover of the battery compartment at the back of the laser.

• Insert two fresh alkaline batteries (D size or LR20), following the polarization indicated at the bottom of the battery compartment. The plus contact is rounded and raised. When replacing batteries, change both at the same time.

• Replace the compartment and tighten with a coin or screwdriver.

Check and Adjust

Notes and Responsibilities

• It is the responsibility of the user to follow operating instructions and to periodically check the accuracy of the instrument and work as it progresses.

• The laser is adjusted to the defined accuracy specifications at the factory. It is recommended to check your laser for accuracy upon receipt and periodically thereafter to ensure accuracy is maintained. If your laser requires adjustment, contact the nearest authorized service center.

• Accuracy adjustment should only be performed by a qualified individual that understands basic adjustment principles.

Checking level accuracy

To check the level accuracy of your laser, place the unit on a flat, level surface or tripod approximately 30 meters (100 ft.) from a wall.

• Align the X-axis so that it is square to the wall. Allow the laser to self-level completely (approximately one minute after the laser begins to rotate). Then mark the position of the beam (Position 1).

• Rotate the laser 180°, allow it to self level and mark the opposite side of the first axis (Position 2).
• Align the Y-axis by rotating the laser 90° so that this axis is now square to the wall. Allow the laser to self- level completely, and then mark the position of the beam (Position 3).
• Rotate the laser 180°, allow it to self level and mark the opposite side of the Y-axis (Position 4).
• The laser is within its accuracy specification if the four marks are within ± 3 mm (± 1/8") from the center.

Checking vertical accuracy

To check the vertical accuracy of your laser, place the unit in the laydown position on a flat, level surface approximately 15-30 meters (50-100 ft.) from a wall.

• Hang a plumb line on the wall.
• Move the laser until the vertical, rotating beam is aligned to the plumb line.
• If the rotating beam is not plumb, adjustment is necessary.

Adjusting level accuracy - The X-axis

After checking the accuracy of your laser, perform the following steps to adjust the accuracy of the X-axis.
Turn off the laser.
• Press and hold the H.I. key **{B-2}**, then press the ON/OFF key **{B-1}**.
• After the three LEDs blink three times simultaneously, release the H.I. key.
    - The X-axis LED will flash rapidly (red) while leveling
    - The X-axis LED will flash slowly (red) when ready for adjustment.
    - The head will not be rotating.
    - Press the Scan/Rotation key **{C-3}** to start rotation mode.

• Press a UP/DOWN Key **{C-4** or **C-5}** to adjust the beam up or down. Five presses of the key will move the beam approximately 0.75 mm at 30 meters (1/32" at 100 feet).

After completing the changes to the X-axis, do one of the following steps:

• Press the Right key **{C-2}** after completing adjustment to switch to the Y-axis.

• Press the Left key **{C-1}** to exit adjustment mode, save changes and turn off the laser.

• Press the ON/OFF key **{B-1}** at any time to turn off the laser without saving any changes.

Adjusting level accuracy - The Y-axis

After checking the accuracy of your laser, perform the following steps to adjust the accuracy of the Y-axis.

• If already in adjustment mode for the X-axis, press the Right key **{C-2}** to switch to the adjustment of the Y-axis.

• If not in adjustment mode, follow the steps above for entering adjustment mode, then press the Right key **{C-2}** to switch to the adjustment of the Y-axis.

- The Y-axis LED will flash rapidly (red) while leveling
- The Y-axis LED will flash slowly (red) when ready for adjustment.
- The head will not be rotating.
- Press the Scan/Rotation key **{B-5}** to start rotation mode.

• Press a UP/DOWN Key **{C-4** or **C-5}** to adjust the beam up or down. Five presses of the key will move the beam approximately 0.75 mm at 30 meters (1/32" at 100 feet).

After completing the changes to the Y-axis, do one of the following steps:

• Press the Left key **{C-1}** to exit adjustment mode, save changes and turn off the laser.

• Press the ON/OFF key **{B-1}** at any time to turn off the laser without saving any changes.

Adjusting level accuracy - The Z-axis

After checking the accuracy of your laser, perform the following steps to adjust the accuracy of the Z-axis.

• Turn off the laser.
• Place the laser in the laydown position approximately 6 meters (20 feet) from a plumb line on a wall.
• Press and hold the H.I. Alert key **{B-2}**, then press the ON/OFF key **{B-1}**.
• After the three LEDs blink three times simultaneously, release the H.I. key.
  - The Z-axis (Y-axis) LED will flash rapidly (red) while leveling
  - The Z-axis (Y-axis) LED will flash slowly (red) when ready for adjustment.
  - The head will not be rotating.
  - Press the Scan/Rotation key **{C-3}** to start rotation mode.
• Press a UP/DOWN Key **{C-4** or **C-5}** to adjust the beam to the plumb line.

After completing the changes to the Z-axis, do one of the following steps:
• Press the Left key **{C-1}** to exit adjustment mode, save changes and turn off the laser.
• Press the ON/OFF key **{B-1}** at any time to turn off the laser without saving any changes.

CHECK YOUR WORK
After any accuracy adjustments always double check your work, by making a final check of the laser.

Troubleshooting

Symptom	Possible Causes and Solutions
The laser beam blinks, but the unit will not self-level or rotate.	The unit is most likely out of its 10% self-leveling range. • Check your set up and re-level the tripod if necessary. • If this does not solve the problem, the laser should be returned to an authorized service center for service.
The laser does not turn on.	The symptom may be caused by low or dead batteries. • Check or change the batteries. • If not the batteries, the laser should be returned to an authorized service center for service.
The laser's distance is reduced.	Dirt may be reducing the output of the laser. • Clean the windows of the laser and receiver to improve distance. • If not the windows, the laser should be returned to an authorized service center for service.
The IR Remote is not working.	Check for proper operation of the remote. • Check that the laser is turned on. • The remote may be outside the usable distance. • Aim the remote more directly at the laser for maximum distance. • The remote's battery may be low.
The laser's receiver is not functioning properly.	Check for proper operation of the receiver. • The laser is not rotating. It is leveling or in elevation alert. • The laser is in scanning mode. • The receiver may be outside the usable distance. • The receiver's battery may be low.
ALL three LED's are flashing in sequence.	The unit has been moved or pushed as HI was active. Press ON/OFF to restart the unit.

Transport

Transport in the field
When transporting the equipment in the field, always make sure that you
• either carry the product in its original transport container,
• or carry the tripod with its legs splayed across your shoulder, keeping the attached product upright.

Transport in a road vehicle
Never carry the product loose in a road vehicle, as it can be affected by shock and vibration. Always carry the product in its transport container and secure it.

Shipping
When transporting the product by rail, air or sea, always use the complete original Agatec packaging, transport container and cardboard box, or its equivalent, to protect against shock and vibration.

Shipping, transport of batteries
When transporting or shipping batteries, the person in charge of the product must ensure that the applicable national and international rules and regulations are observed. Before transportation or shipping, contact your local passenger or freight transport company.

Field Adjustment
After transport inspect the field adjustment parameters given in this user manual before using the product.

Storage

Product
Respect the temperature limits when storing the equipment, particularly in summer if the equipment is inside a vehicle. Refer to "Technical Data" for information about temperature limits.

Field Adjustment
After long periods of storage inspect the field adjustment parameters given in this user manual before using the product.

Alkaline Batteries
If the equipment is to be stored for a long time, remove the alkaline batteries from the product in order to avoid the danger of leakage.

Cleaning and Drying

Product and Accessories

• Blow dust off optical parts.
• Never touch the glass with your fingers.
• Use only a clean, soft, lint-free cloth for cleaning. If necessary, moisten the cloth with water or pure alcohol.
• Do not use other liquids; these may attack the polymer components.

Damp Products

• Dry the product, the transport container, the foam inserts and the accessories at a temperature not greater than 40°C / 104°F and clean them.
• Do not repack until everything is completely dry.

Damp Products

• Dry the product, the transport container, the foam inserts and the accessories at a temperature not greater than 40°C / 104°F and clean them.
• Do not repack until everything is completely dry.

Safety Directions

General

Description

The following directions should enable the person responsible for the product, and the person who actually uses the equipment, to anticipate and avoid operational hazards.

The person responsible for the product must ensure that all users understand these directions and adhere to them.

Intended Use

Permitted Use

• The instrument casts a horizontal laser plane for the purposes of alignment.
• The unit can be set up on its own base plate, wall- mount or on a tripod.
• The laser beam can be detected by means of a laser detector.
• This product is intended for indoor use and applica- tions.

Adverse Use

- Use of the product without instruction.
- Use outside of the intended limits.
- Disabling safety systems.
- Removal of hazard notices.
- Opening the product using tools, for example screw- driver, unless this is specifically permitted for certain functions.
- Modification or conversion of the product.
- Use after misappropriation.
- Use of products with obviously recognizable damages or defects.
- Use with accessories from other manufacturers without the prior explicit approval of Agatec.
- Inadequate safeguards at the work site, for example when using on or near roads.
- Deliberate dazzling of third parties.
- Controlling of machines, moving objects or similar monitoring application without additional control and safety installations.

WARNING

Adverse use can lead to injury, malfunction and damage. It is the task of the person responsible for the equipment to inform the user about hazards and how to counteract them. The product is not to be operated until the user has been instructed on how to work with it.

Limits of Use

Environment

Suitable for use in an atmosphere appropriate for permanent human habitation: not suitable for use in aggressive or explosive environments.

DANGER

Local safety authorities and safety experts must be contacted before working in hazardous areas, or in close proximity to electrical installations or similar situations by the person in charge of the product.

Responsibilities

Manufacturer of the product

Agatec SAS - 60, route de Sartrouville - 78230 Le Pecq - France, hereinafter referred to as Agatec, is responsible for supplying the product, including the user manual and original accessories, in a completely safe condition.

Manufacturers of non Agatec accessories

The manufacturers of non Agatec accessories for the product are responsible for developing, implementing and communicating safety concepts for their products, and are also responsible for the effective- ness of those safety concepts in combination with the Agatec product.

Person in charge of the product

The person in charge of the product has the following duties

• To understand the safety instructions on the product and the instructions in the user manual.

• To be familiar with local regulations relating to safety and accident prevention.

• To inform Agatec immediately if the product and the application becomes unsafe.

WARNING

The person responsible for the product must ensure that it is used in accordance with the instructions. This person is also accountable for the training and the deployment of personnel who use the product and for the safety of the equipment in use.

Hazards of Use

WARNING

The absence of instruction, or the inadequate imparting of instruction, can lead to incorrect or adverse use, and can give rise to accidents with far-reaching human, material, financial and environmental conse- quences.

Precautions:

All users must follow the safety directions given by the manufacturer and the directions of the person respon- sible for the product.

CAUTION

Watch out for erroneous measurement results if the product has been dropped or has been misused, modified, stored for long periods or transported.

Precautions:

Periodically carry out test measurements and perform the field adjustments indicated in the user manual, particularly after the product has been subjected to abnormal use and before and after important measurements.

DANGER

Because of the risk of electrocution, it is very dangerous to use grade rods and staffs in the vicinity of electrical installations such as power cables or electrical railways.

Precautions:

Keep at a safe distance from electrical installations. If it is essential to work in this environment, first contact the safety authorities responsible for the electrical installa- tions and follow their instructions.

WARNING

If the product is used with accessories, for example masts, staffs, poles, you may increase the risk of being struck by lightning.

Precautions:

Do not use the product in a thunderstorm.

WARNING

Inadequate securing of the working site can lead to dangerous situations, for example in traffic, on building sites, and at industrial installations.

Precautions:

Always ensure that the working site is adequately secured. Adhere to the regulations governing safety and accident prevention and road traffic.

CAUTION

If the accessories used with the product are not properly secured and the product is subjected to mechanical shock, for example blows or falling, the product may be damaged or people may sustain injury.

Precautions:

When setting-up the product, make sure that the accessories are correctly adapted, fitted, secured, and locked in position. Avoid subjecting the product to mechanical stress.

CAUTION

During the transport, shipping or disposal of batteries it is possible for inappropriate mechanical influ- ences to constitute a fire hazard.

Precautions:

Before shipping the product or disposing of it, discharge the batteries by running the product until they are flat. When transporting or shipping batteries, the person in charge of the product must ensure that the applicable national and international rules and regulations are observed. Before transportation or shipping contact your local passenger or freight transport company.

WARNING

High mechanical stress, high ambient tempera- tures or immersion into fluids can cause leackage, fire or explosions of the batteries.

Precautions:
Protect the batteries from mechanical influences and high ambient temperatures. Do not drop or immerse batteries into fluids.

WARNING
Short circuited battery terminals can overheat and cause injury or fire, for example by storing or transporting in pockets if battery terminals come in contact with jewellery, keys, metallized paper or other metals.
Precautions:
Make sure that the battery terminals do not come into contact with metallic objects.

CAUTION
During the operation of the product there is a hazard of squeezing extremities by moving parts.
Precautions:
Keep extremities in a safe distance from the moving parts.

WARNING
If the product is improperly disposed of, the following can happen:
• If polymer parts are burnt, poisonous gases are produced which may impair health.
• If batteries are damaged or are heated strongly, they can explode and cause poisoning, burning, corrosion or environmental contamination.
• By disposing of the product irresponsibly you may enable unauthorized persons to use it in contravention of the regulations, exposing themselves and third parties to the risk of severe injury and rendering the environment liable to contamination.

Precautions:
The product must not be disposed with household waste.
Dispose of the product appropriately in accordance with the national regulations in force in your country.

WARNING
Only Agatec authorized service workshops are entitled to repair these products.

Laser Classification

General
The following directions (in accordance with the state of the art - international standard IEC 60825-1 (2007-03) and IEC TR 60825-14 (2004-02)) provide instruction and training information to the person responsible for the product and the person who actually uses the equipment, to anticipate and avoid operational hazards.

The person responsible for the product must ensure that all users understand these directions and adhere to them.
Products classified as laser class 1, class 2 and class 3R do not require
• laser safety officer involvement,
• protective clothes and eyewear,
• special warning signs in the laser working area if used and operated as defined in this user manual due to the low eye hazard level.

Products classified as laser class 2 or class 3R may cause dazzle, flash blindness and afterimages, particularly under low ambient light conditions.

Agatec RL110 is a Class 2 laser product in accordance with:
• IEC60825-1 : 2007 "Radiation safety of laser products"

Laser Class 2 products:
Do not stare into the laser beam or direct it towards other people unnecessarily. Eye protection is normally afforded by aversion responses including the blink reflex.

WARNING:
Looking directly into the beam with optical aids
(e.g. binoculars, telescopes) can be hazardous.
Precautions:
Do not look directly into the beam with optical aids.

CAUTION:
Looking into the laser beam may be hazardous to the eyes.
Precautions:
Do not look into the laser beam. Make sure the laser is aimed above or below eye level. (particularly with fixed installations, in machines, etc.)

Description	Value
Maximum radiant power	2,0 mW
Pulse duration (effective)	Continuous, 2,23 ms; 1,49 ms; 1,11 ms
Pulse repetition frequency	0, 5, 7.5, 10 U/s
Wavelength	635 ± 5 nm
Beam divergence	< 1.5 mrad
NOHD (Nominal Ocular Hazard Distance) at 0.25s	35 m / 115 ft
Scan angle	5 to 35 (± 10%)

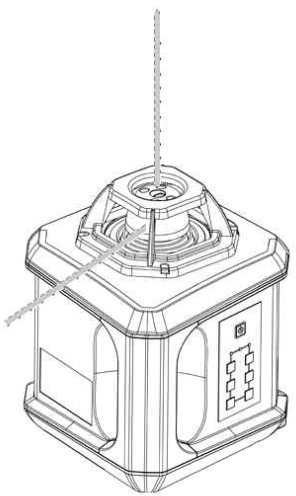
WARNING

Potential hazards are not only related to direct beams but also to reflected beams aimed at reflecting surfaces such as prisms, windows, mirrors, metallic surfaces etc.

Precautions:

Do not aim at areas that are essentially reflective, such as mirror, or which could emit unwanted reflections.

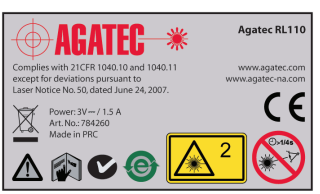
Labelling, Laser Class 2



Laser Radiation
Avoid direct eye exposure

Class 2 Laser Product
according to
IEC 60825-1

$P_0 \leq 1\,mW$ c.w.
$\lambda = 620 - 690$ nm



Electromagnetic Compatibility (EMC)

Description
The term Electromagnetic Compatability is taken to mean the capability of theproduct to function smoothly in an environment where electro-magnetic radiation and electrostatic discharges are present, and without causing electromagnetic disturbances to other equip- ment.

WARNING
Electromagnetic radiation can cause disturbances in other equipment. Although the product meets the strict regulations and standards which are in force in this respect, Agatec cannot completely exclude the possibility that other equipment may be disturbed.

CAUTION
There is a risk that disturbances may be caused in other equipment if the product is used in conjunction with accessories from other manu-facturers, for example field computers, personal computers, two-way radios, non- standard cables or external batteries.
Precautions:
Use only the equipment and accessories recommended by Agatec. When combined with the product, they meet the strict requirements stipulated by the guide- lines and standards. When using computers and two- way radios, pay attention to the information about electromagnetic compatibility provided by the manufacturer.

CAUTION
Disturbances caused by electromagnetic radia- tion can result in erroneous measurements.
Although the product meets the strict regulations and standards whichin this respect, Agatec cannot completely exclude the possibility product may be disturbed by very intense electromagnetic radiation, near radio transmitters, two-way radios or diesel gener- ators.
Precautions:
Check the plausibility of results obtained under these conditions.

FCC Statement, Applicable in U.S.

WARNING
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication.

However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encour- aged to try to correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and the receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV techni-cian for help.

WARNING
Changes or modifications not expressly approved by Agatec for compliance could void the user's authority to operate the equipment.

REMOTE CONTROL

IR Remote range	up to 30 m (100 ft)
Batteries	one AA alkaline battery

REMOTE RECEIVER CONTROL

Batteries	a 9-volt type alkaline battery

RECEIVER

Batteries	a 9-volt type alkaline battery

AGATEC SAS
60, route de Sartrouville - 78230 Le Pecq - France,
Phone +33 1 34 93 35 80 - www.agatec.com

International Limited Warranty

This product is subject to the terms and conditions set out in the International Limited Warranty which you can download from the Agatec home page at www.agatec.com or collect from your Agatec distributor. The foregoing warranty is exclusive and is in lieu of all other warranties, terms or conditions, express or implied, either in fact or by operation of law, statutory or otherwise, including warranties, terms or conditions of merchantability, fitness for a particular purpose, satisfactory quality and non-infringement, all of which are expressly disclaimed.

Technical Data

SPECIFICATIONS	Agatec RL110
Operating Range Ø	up to 60 m (200 ft) w/out receiver up to 200m (656 ft) w/ receiver
Self-leveling Accuracy*	± 1 mm at 10 m (± 0.04"at 33 ft)
Automatic Leveling	Horizontal/Vertical
Self-leveling Range	± 10%; 6°
Rotation Speeds	0, 300, 450, 600 rpm
Scanning Angle	variable from 2° to 36°
Laser Diode Type	635 nm (red) Class 2, < 1 mW
Dimensions (H x W x D)	156 mm x 154 mm x 197 mm (6.1" x 6.06" x 7.75")
Weight with Batteries	Approx 1.5 kg (3.3 lbs)
Batteries	Alkaline D-cells 2 x 1.5 V
Battery life**	60 hrs. (Alkaline)
Operating temperature	-10°C to 50°C (14°F to +122°F)
Storage temperature (w/o batteries)	-20°C to 80°C (-4° F to 176°F)
Protection against water	IP54, dust-proof, splash-proof

* Accuracy is defined at 25°C

** Battery life is dependent upon environmental conditions

AGATEC
60, route de Sartrouville
78230 Le Pecq - France
Tel: +33 1 34 93 35 80
Fax: +33 1 34 93 35 89
info@agatec.com
www.agatec.com

AGATEC Construction Lasers
2202 Redmond Rd.,
Jacksonville, AR 72076 -USA
Tel: (800) 643-9696; (501) 982-4433
Fax: (501) 982-0880
sales@agatec-na.com
www.agatec-na.com

Your dealer

RL110- 2011 - V 2.1