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# Artec RAY II

Quick Start Guide  
Scanning with Artec Ray II



English

Version 2025.05A

## In this document you will find a short description of how to scan with Artec Ray II.

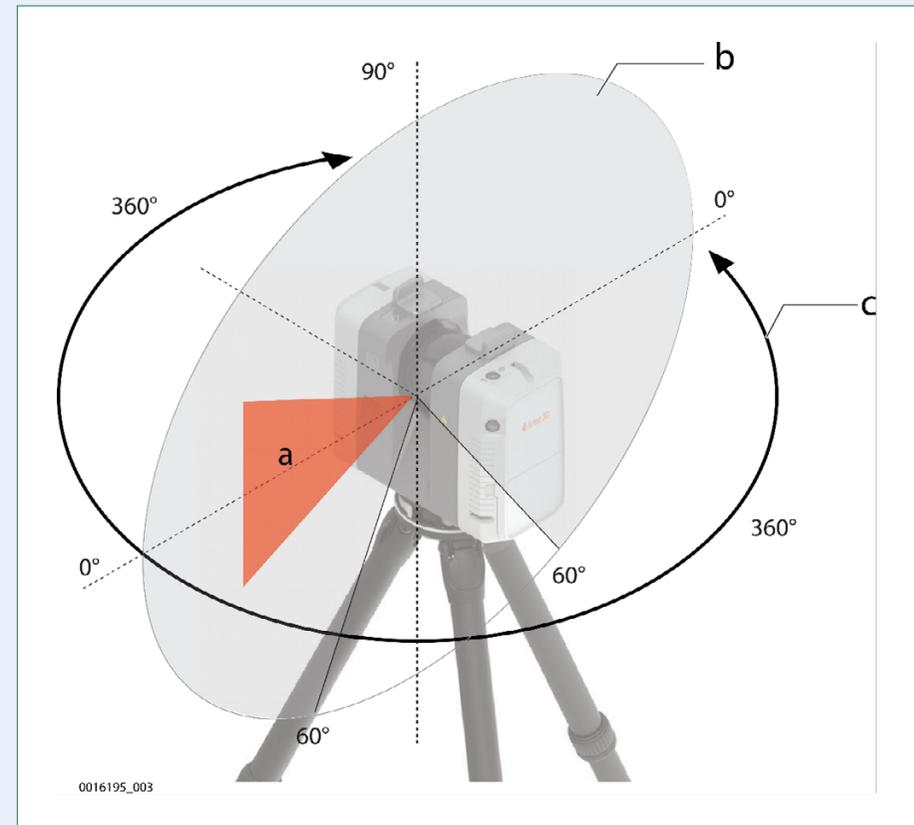
A detailed description of the complete functionality can be found in the English manual that is installed on the computer during the installation of Artec Studio. You can open this with CTRL-F1. We strongly advise you to take time for this and especially to read the practical tips carefully.

### How the Scanner works

- a. Laser beam
- b. Vertical laser scanning area
- c. Horizontal laser scanning area

Ray II shoots a safe laser beam (Laser class 1) 360 degrees horizontally and 240 degrees vertically.

It then collects data from all objects in the visible area.



### Technical Data

#### Temperature

#### Artec Ray II

Operating temperature -5 to +40 °C

Storage temperature -40 to +70 °C

Extended low temperature operation is possible down to  $-10\text{ }^{\circ}\text{C}$  if **internal temperature** is at or above  $-5\text{ }^{\circ}\text{C}$  when powered on. When the device is operated in the extended low temperature range, redundant measurements and plausibility checks are recommended to verify the measurement results.

Internal temperature can be checked in the System Information screen on the device. Refer to the user manual.

### Battery for Artec Ray II

**Charging**  $0\text{ }^{\circ}\text{C}$  to  $+50\text{ }^{\circ}\text{C}$  /  $-40$  to  $+70\text{ }^{\circ}\text{C}$

**Discharging**  $-20\text{ }^{\circ}\text{C}$  to  $+60\text{ }^{\circ}\text{C}$

### Power supply for Artec Ray II

????  $0\text{ }^{\circ}\text{C}$  to  $+40\text{ }^{\circ}\text{C}$

??????  $-10$  to  $+80\text{ }^{\circ}\text{C}$

## Protection against water, dust and sand

### Artec Ray II

- IP class**
- IP54 (IEC 60529), upright  $\pm 15^{\circ}$ /upside down  $\pm 15^{\circ}$
  - Dust protected
  - Protection against splashing water from any direction
  - IP51 (IEC60529), in any other position
  - Dust protected
  - Protection against dripping water

### Battery for Artec Ray II

- IP class**
- IP54 (IEC 60529)
  - Dust protected Protection against splashing water from any direction

### Power supply for Artec Ray II

Only operate in dry environments, e.g. in buildings and vehicles

## Humidity

### Artec Ray II & Battery for Artec Ray II

**Protection** Max. 95% non-condensing

## Altitude

### Artec Ray II & Battery for Artec Ray II & Charger

Range	Unrestricted
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### Power supply

Range	0-2000 m
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## Sound Level

### Artec Ray II

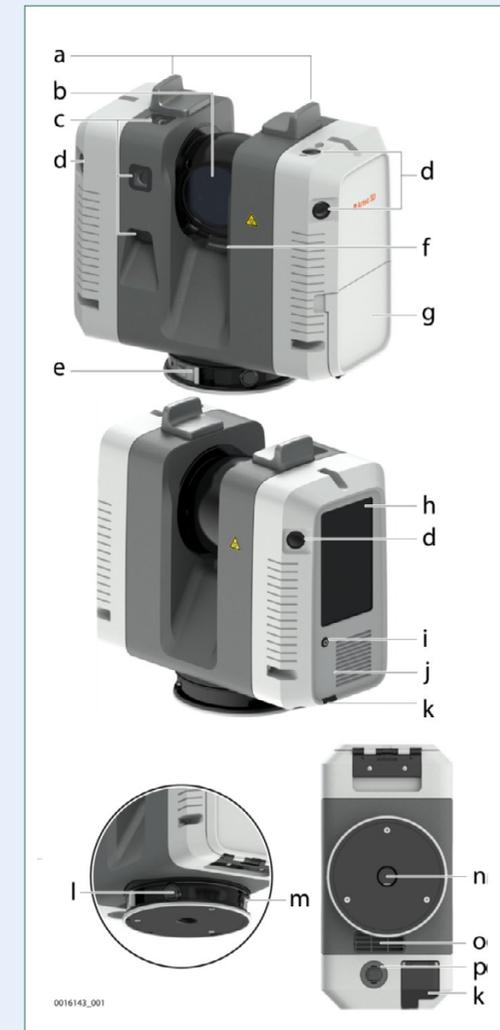
Value	< 70db(A)
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## Care and Transport

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

## Components of the scanner

- a. Antennas
- b. Rotating mirror/laser aperture
- c. HDR cameras
- d. Cameras for visual inertial system
- e. Quick release
- f. LED indicator
- g. Battery compartment
- h. Touch screen
- i. On/Off button
- j. Ventilation slots
- k. USB slot
- l. Socket for power supply, 5 pin female
- m. Ethernet socket, 8 pin female
- n. Quick release mount
- o. Ventilation slots
- p. Loudspeaker

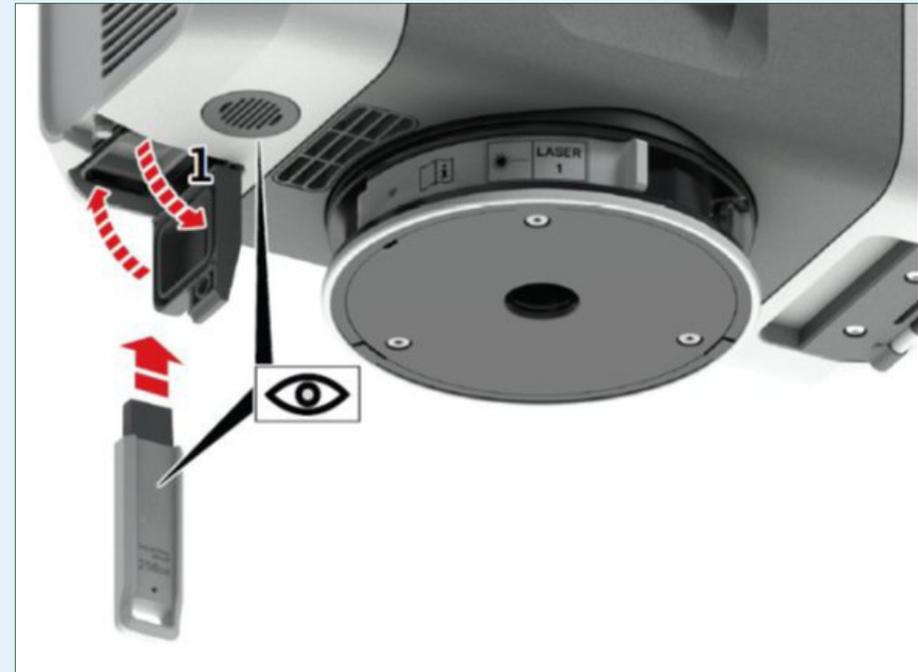
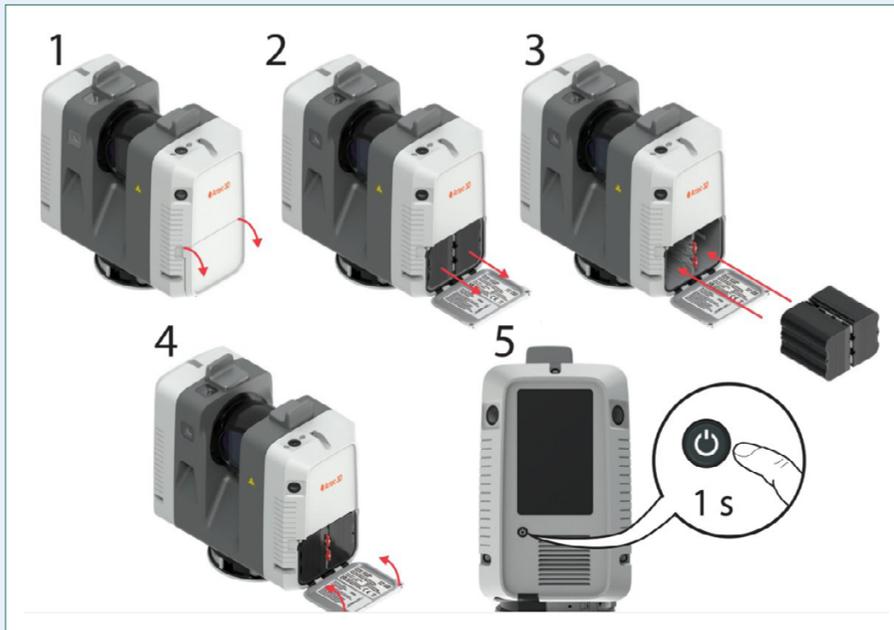


## Batteries

The batteries must be fully charged before using it for the first time. Insert and remove the exchangeable battery.

### Note

Always place **two** batteries in the scanner for a correct weight distribution!



## Artec Ray II Storage

- All data is stored on a removable 3.0 USB flash drive.
- The capacity is 256 GB.
- Industrial Grade - durable and reliable enough to withstand harsh conditions such as extreme temperatures, vibrations, shocks, and humidity. The grade is confirmed by testing.
- Two USB flash drives are included with the scanner.
- No other USB drive can be used with Artec Ray II, only the ones provided by Artec 3D.

**Do not remove the USB stick during scanning!**

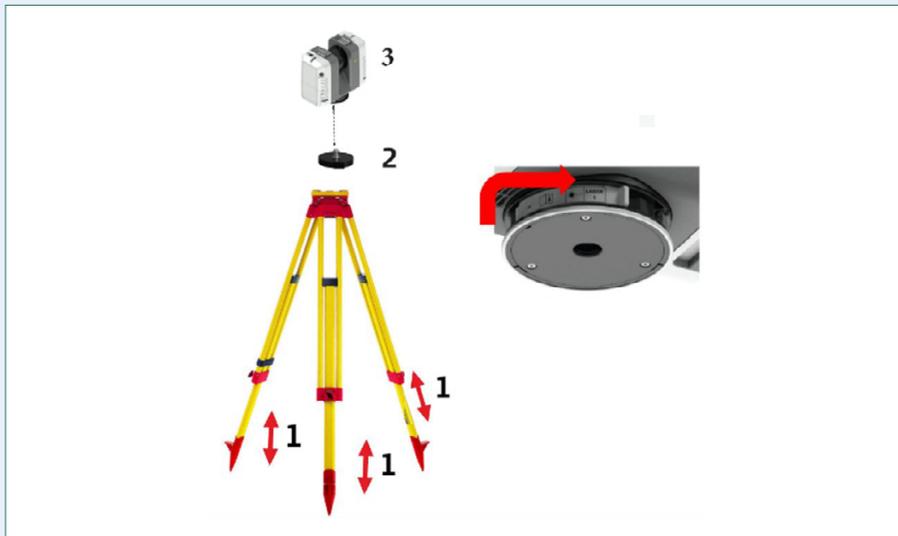
## Installation

The scanner should be mounted on a tripod to guarantee maximum stability during scanning:

1. Extend the tripod legs to allow for a comfortable working posture.
2. Set the adapter in place and secure it with the central fixing screw.
3. Place the scanner on the quick release mount and secure it.

### Note

You can use any suitable industrial tripod which allows mounting of female **5/8" thread** adapter.



## Starting the scanner

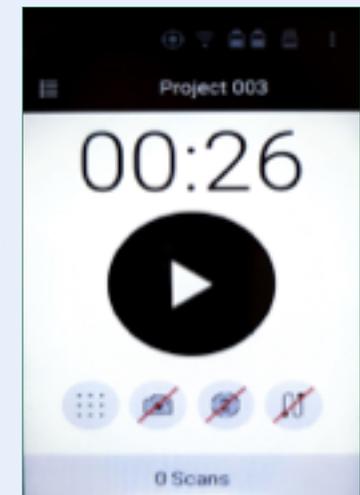
1. Press the power button to turn on Artec Ray II.
2. The scanner is starting: **Power** button is blinking green, and the LED is blinking yellow.
3. Screen is on, the button and LED indicator are green.



## Scan Start Screen

When the Ray II has powered up successfully, we get access to the **Scan Start Screen**. Here we have via the icons on the screen, quick access to the settings:

- Resolution
- HDR Imaging Acquisition
- Double Scan
- Visual inertial system





## 01

### Scanning Settings: Resolution

You can choose between 3 different resolution types:

1. **Low** > 12mm @ 10m over 130m
2. **Medium** > 6mm @ 10m over 130m
3. **High** > 3mm @ 10m over 65m

Resolution of 12mm @ 10 m means that at a distance of 10 meters Artec Ray II can detect and distinguish objects with a minimum size of 12 millimeters etc.

Higher resolution also means longer scanning time:

**Medium** adds about 25 seconds to the scanning time with the **Low** setting. **High** is about 1:15 min longer compared to Low.

These settings can be accessed from the **Scan start screen** via these icons Low, Medium and High. Alternatively, this can also be changed in the **Settings** screen.

02

### Scanning settings: HDR Imaging Acquisition

- Allows the user to take colored photos for texturizing the scans.
- It takes approximately **1 minute** to capture a **full spherical image**.
- Can be enabled by tapping on the camera icon on the Scan start screen. Alternatively, it is available via the Image feature in the Settings screen.

**Adaptive resolution** - image resolution gets automatically adapted to suit the selected scan resolution. By default, the **Adaptive resolution** is disabled. To get images with the highest resolution, keep the setting disabled.

03

### Scanning Settings: Double scan

- As the name implies, with this option on Artec Ray II scans the environment two times.
- It helps remove artifacts and ghosting caused by movement in the scene.
- Doubles scanning time.
- Can be accessed from the Scan start screen via the **"2"** icon, or via the **Double Scan** feature in **Settings**.

04

### Scanning Settings: VIS

VIS is the **Visual Inertial System**.

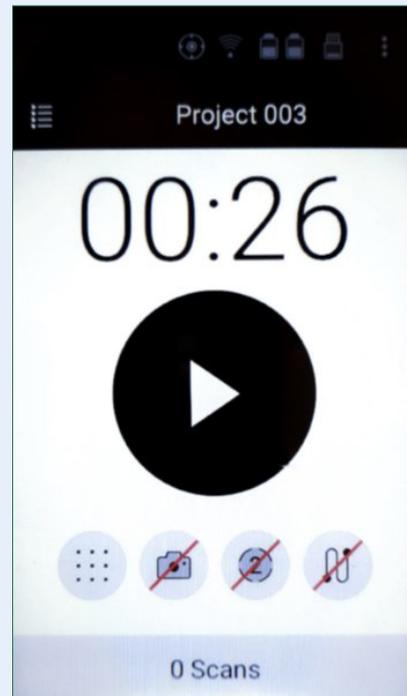
When enabled the movement of the scanner will be tracked relative to the previous position of the scanner. This is done in real time, and this means that the scanner "knows" how different scans should be aligned so they will fit.

#### Note

this all can be done in Artec Studio as well during postprocessing.

## Autonomous scanning

- To start a **Scan**, press the big round button in the center of the screen.
- The number on top describes the amount of time needed to complete the scan.
- The amount of time to complete a scan is influenced by the selected settings.
- Another possibility is to scan using the application on a smartphone or a Tablet using the scanner app.



### Note

Detailed information is available in the Manual in Artec Studio of the Ray II. Information about Postprocessing can be found in the available pdf-file.

Have fun scanning with  
**ARTEC RAY II**



## 4C Creative Cad Cam Consultants

4C Creative CAD CAM Consultants is a company specialized in 3D technologies and is located in Emmen, Drenthe. 4C is your partner for delivering professional hardware and software for 3D scanning, reverse engineering, AR & VR and quality control.

### Contact

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For more information, FAQ, updates, documents and videos about Artec Ray II go to [4cccc.nl/kennisbank/artec-ray-2](https://4cccc.nl/kennisbank/artec-ray-2)



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