



# **RANGEMASTER CRF R**

Instruction manual



## FOREWORD

Dear Customer,  
we wish you a great deal of enjoyment and every success with your new Leica product.

Please read this manual to familiarize yourself with the full scope of functions your product has to offer.

Please use this product only as described in this manual. Only then can safe and easy operation be guaranteed.

Your Leica Camera AG

**The device uses an invisible laser beam. Please read the chapters “Safety Remarks” and “Important Information” before using the product for the first time. Knowledge of the content will prevent inadvertent damage to the product, possible injuries and other risks.**

## SCOPE OF DELIVERY

The standard scope of delivery\* contains the following:

Leica Rangemaster CRF R
3 V lithium cell (type CR2)
Carry strap
Cordura case
Warranty card
Test certificate

## REPLACEMENT PARTS / ACCESSORIES

Contact Leica Customer Care or your specialist Leica retailer for details on the latest replacement parts / accessory range:

<https://leica-camera.com/dealer-locator>

\*The actual scope of delivery may vary depending on model.

## LEGAL INFORMATION

### LEGAL INFORMATION ABOUT THIS MANUAL

#### COPYRIGHT

All rights reserved.

All text, images and graphics are subject to copyright and other laws to protect intellectual property. They must not be copied, modified or used for any purpose including trade purposes.

#### TECHNICAL DATA

Product changes with regards to the product or services may have occurred after the editorial deadline. The manufacturer reserves the right to effect structural or shape changes, color deviations and changes to the scope of delivery or service, where these changes or deviations are reasonably acceptable for the customer, while taking into consideration the interests of Leica Camera AG. To that extent, Leica Camera AG reserves the right to changes and errors. The images in this manual may depict accessory, special features or other items that are not part of the standard scope of delivery or service. Some pages may contain model types and services, which are not offered in specific countries.

#### BRANDS AND LOGOS

The brand names and logos used in this document are protected trademarks. These brands or logos must not be used without prior approval by Leica Camera AG.

### LICENSE RIGHTS

Leica Camera AG intends to provide you with innovative and informative documentation. Due to the amount of creativity that has gone into its design, we ask for your understanding that Leica Camera AG must protect its intellectual property, including patents, trademarks and copyrights, and that possession of the documentation does not infer any licensing rights of the intellectual property of Leica Camera AG.

### REGULATORY INFORMATION

You will find the manufacturing date of your product on the stickers of the packaging. The date format is year/month/day.

#### CE MARK

The CE mark on our products documents compliance with the fundamental requirements of applicable EU guidelines.

<b>English</b>		
<b>Declaration of Conformity (DoC)</b>		
"Leica Camera AG" hereby declares that this product is in compliance with the basic requirements and other relevant provisions of Directive 2014/53/EU.		
Customers can download a copy of the original DoC for our Radio Equipment products from our DoC server: <a href="http://www.cert.leica-camera.com">www.cert.leica-camera.com</a>		
Please contact Leica Camera AG, Am Leitz-Park 5, 35578 Wetzlar, Germany in case of any further questions		
<b>Depending on product (see technical data)</b>		
<b>Type</b>	Frequency band (center frequency)	Maximum output (dBm E.I.R.P.)
<b>Bluetooth® Wireless Technology</b>	2402 - 2480 MHz	20





## TECHNICAL DATA (LASER)

Laser class	IEC/EN Class 1
Wavelength (nm)	905
Pulse duration (ns)	57
Output (mW)	1,5
Beam divergence (mrad)	Vertical 0,8, horizontal 1,8

**CLASS 1  
LASER PRODUCT**

With the exception of the characteristics permitted under Variance Number IEC 60825-1 Ed. 3, effective May 8, 2019, this product complies with the performance standards for laser products under 21 CFR 1040.10 and 1040.11.

## DISPOSAL OF ELECTRICAL AND ELECTRONIC EQUIPMENT

(Applies within the EU and for other European countries with active waste separation policies.)



This device contains electrical and/or electronic components which must not be disposed of in general household waste. Instead, it should be disposed of at a recycling collection point provided by your local authority.

This service is free of charge. Any standard or rechargeable batteries used in this device must be removed and disposed of separately in accordance with local regulations.

Please contact your local authorities, waste disposal collection point or the retailer, from whom you purchased the device for more information on correct waste disposal.

## SAFETY REMARKS

### WARNING

**Non-compliance with the following points may result in serious injury or death.**

#### LASER

- The use of any operations not described in this manual or any alterations on the device may result in hazardous radiation exposure.
- The laser device is active and emitting an invisible laser beam as long as the display in the eyepiece is active. Never point the laser focusing optics at a person or animal.
- Do not depress any of the two buttons while aiming at a human eye or while looking into the optics from the lens side.
- Never aim the laser at an eye.
- Do not aim the laser at people or animals.

#### GENERAL INFORMATION

- Avoid looking directly at bright light sources with your Leica Rangemaster to prevent eye injury.

### CAUTION

**Non-compliance with the following points may result in personal injury or damage to the device.**

#### LASER

- Avoid touching any of the two buttons while the distance measurement function is not in use to prevent an accidental activation of the laser beam.
- Do not attempt to disassemble, reassemble or repair the Leica Rangemaster yourself. Emitting laser radiation may pose a serious health risk. The manufacturer warranty is void, once a device was disassembled, reassembled or repaired.
- Remove the battery immediately and stop using the device if the device housing is damaged or if it emits a strange sound after being dropped or behaves unexpectedly for any other reason.

#### GENERAL INFORMATION

- Keep the device out of the reach of small children.
- Do not use the device while walking. You might trip and fall.
- Do not combine the operation of your Leica Rangemaster with other optical components, e.g. lenses or binoculars. Using the Leica Rangemaster in conjunction with another optical device increases the danger of damaging your eyes.
- Do not attempt to disassemble or modify the device; exposing the internal electronics may cause damage, injury or electric shock.



## BATTERY

- Only the battery type stated and described in this manual must be used. Any improper use of the batteries or the use of unapproved battery types may result in an explosion!
- Do not expose the batteries to direct sunlight, heat, humidity or moisture for prolonged periods of time. They must not be placed in a microwave oven or a high-pressure container as this would pose a fire or explosion hazard!
- Never dispose of batteries in fire and never attempt to heat, recharge, dismantle or break open a battery.
- Batteries must always be stored out of the reach of children. Do not leave batteries lying around, as they could be swallowed by children or pets.

## CARRY STRAP

- Carry straps are usually made of very robust material. You should therefore keep it out of the reach of children. A carry strap is not a toy and poses a strangulation risk.
- Use the carry strap only for its intended purpose on a camera or on binoculars. Any other use poses the risk of injury and may possibly result in damage to the carry strap and is therefore not permitted.
- Carry straps should also not be used for cameras/binoculars during sports activities that pose a risk of entanglement (e.g. when mountain climbing and similar outdoor activities).

## IMPORTANT INFORMATION

### GENERAL INFORMATION

- Do not attempt to take the device apart yourself. Repairs must only be carried out by authorized workshops.
- Remove the battery from the housing if you will not be using the product for an extended period of time.
- Low temperatures impair battery performance. Carry the device close to the body in cold conditions and use a fresh battery.
- Make sure to store the batteries in a cool, dry place.
- Depleted batteries must never be disposed of in household waste as they contain toxic materials that are harmful to the environment. Battery collection points are provided at most large retail outlets; alternatively, you can dispose of old batteries at a local special waste collection point to ensure correct recycling.
- Do not touch the glass surfaces with your fingers, especially if you have previously applied hand cream, insect repellent, etc. These substances may contain chemicals that damage or destroy the coatings on the glass surfaces.
- Make a note of the serial number of your device, as this information will be extremely important in case of loss.

### EYEPIECE

- An eyepiece can have the effect of a magnifying glass when exposed to direct frontal sunlight. The device must therefore be protected against extended exposure to direct sunlight. Storing the device in the shade or ideally in its case will help prevent damage to the device interior.

## MEASURING VALUES

- The influence of all ballistically relevant influencing factors is greatly increased at longer ranges and considerable variations may occur. The ballistic values displayed should therefore only be viewed as a guideline.
- Regardless of whether this information is used, you are responsible for assessing the relevant hunting situation.
- Leica Camera AG does not accept liability for the accuracy of values transmitted from third-party devices.
- Powerful electric fields, e.g. emanating from radar systems, may cause errors and/or faulty values.
- The geomagnetic field can similarly cause value deviations.

### Definition of the various categories of information found in this manual

#### Note

- Additional information

#### Caution

- Non-compliance may result in damage to the device and accessories
- Non-compliance may result in personal injury

#### Warning

- Non-compliance may result in serious injury or death



## WARRANTY

Dear Leica Customer, congratulations on the purchase of your new Leica product – you are now the proud owner of a world-class brand product.

In addition to your statutory warranty claims against your seller, we, Leica Camera AG ("LEICA"), grant you voluntary warranty services for your Leica product in accordance with the following stipulations ("Leica Warranty"). The Leica warranty therefore does not limit your statutory rights as a consumer under applicable law or your rights as a consumer against the dealer with whom you have concluded the purchase contract.

### THE LEICA-GUARANTEE

You have purchased a Leica product that has been manufactured according to special quality guidelines and tested by experienced specialists during the various stages of production. We provide the following Leica Warranty, valid as of April 1, 2023, for this Leica product and including the accessory parts in the original packaging. Please note that we do not offer any warranty for commercial use.

We offer an extended warranty for some Leica products, provided you register for a Leica account. Please visit [www.leica-camera.com](http://www.leica-camera.com) for more details.

### SCOPE OF THE LEICA-GUARANTEE

During the warranty period, complaints based on manufacturing and material defects will be remedied free of charge, at LEICA's discretion, by way of repair, replacement of defective parts, or exchange for a similar Leica product in perfect condition. Replaced parts or products become the property of LEICA.

Further claims of any kind and on any legal grounds whatsoever in connection with this Leica Warranty are excluded.

### EXCLUDED FROM THE LEICA WARRANTY

Parts subject to wear and tear (e.g. eyecups, leather coverings, carry straps, armoring, batteries), and parts under mechanical stress are excluded from the Leica Warranty, unless the defect was caused by manufacturing or material defects. That also applies to any exterior damage.

### LAPSE OF CLAIMS UNDER THE LEICA-GUARANTEE

Claims under the warranty are void if the defect in question is due to improper handling; they may also be void if e.g. third-party accessories have been used, the Leica product has not been opened professionally or has not been repaired professionally. Claims for warranty services shall similarly be void if the serial number is unrecognizable.

### ASSERTION OF THE LEICA-GUARANTEE

We require a copy of the proof of purchase of your Leica product from a LEICA-authorized dealer ("Authorized Leica Dealer") before we can accept any claim under the warranty. The purchase receipt must show the date of purchase, the Leica product with its article number and serial number, and details about the Authorized Leica Dealer. We reserve the right to request the original receipt. Alternatively, you may send us a copy of the warranty card; please note that the Warranty Card must be filled out correctly, and the product must have been purchased from an Authorized Leica Dealer.

Please send your Leica product with a copy of your purchase receipt or the Warranty Card alongside a description of the issue:

**Leica Camera AG, Customer Care, Am Leitz-Park 5, 35578 Wetzlar, Germany**  
**Email: [customer.care@leica-camera.com](mailto:customer.care@leica-camera.com), phone: +49(0)6441 2080-189**

Leica Product Sport Lenses	Warranty Term Lenses/Mechanics	Warranty Term Electronics
Monocular Rangefinders	3 years	3 years

### PICK-UP SERVICE FOR REPAIR SUBMISSIONS

(Applies for EU only)

We will organize the shipping of your device to our Customer Care department if you should notice a problem with your device during the warranty period. Please contact our service hotline to make the necessary arrangements (+49 (0)6441 2080 189). Our pick-up service will collect your Leica product at the agreed time from your premises free of charge and transport it to our Customer Care location for evaluation.

Contact: <https://leica-camera.com/contact>

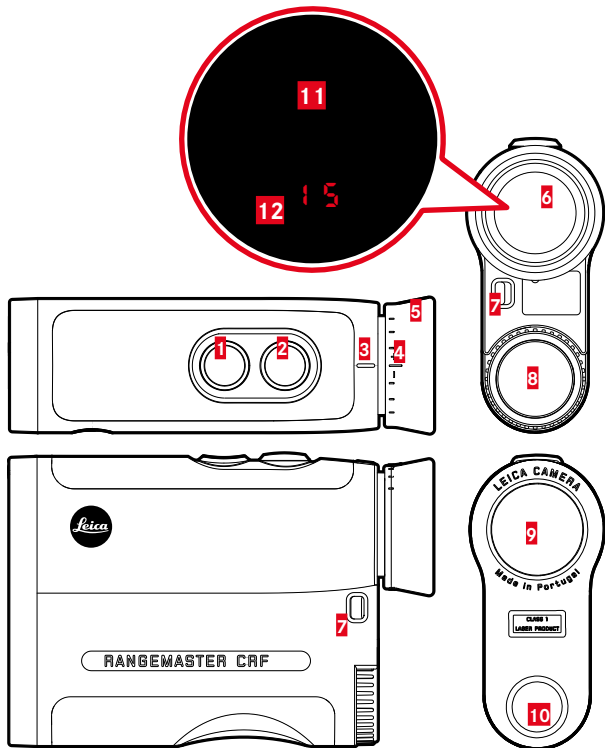


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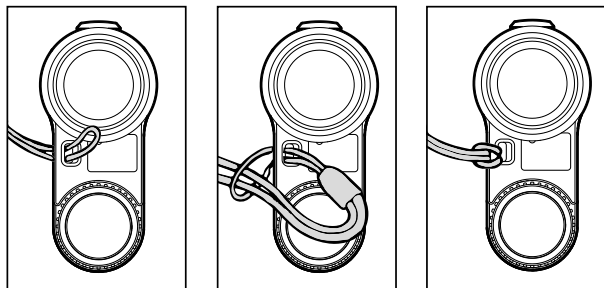
**i** PART DESIGNATIONS



- 1** **Menu Selection Button**  
EU.US (meter/yard display), EHz (equivalent horizontal range)
- 2** **Main button**  
Switching the device ON/OFF
- 3** **Index for diopter setting**
- 4** **Diopter scale**
- 5** **Eyecup**
- 6** **Eyepiece**
- 7** **Strap lugs**
- 8** **Battery compartment**  
3V lithium cell (type CR2)
- 9** **Lens**
- 10** **Laser transmission lens**
- 11** **Target mark** □
- 12** **Display** 0 0 (value)

## PREPARATION

### ATTACHING THE CARRY STRAP



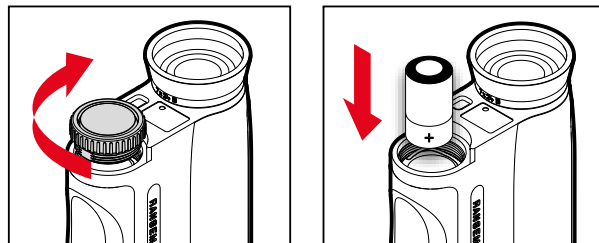
- ▶ Thread the small loop of the carry strap through the strap lug
- ▶ Thread the strap through the small loop
- ▶ Pull tight
  - The loop created should lie tightly around the strap lug.

#### Caution

- Check the correct attachment of the carry strap by pulling at it with some force. The length of the carry strap must not change.

### INSERTING/CHANGING THE BATTERY

A cylindrical 3V lithium cell (type CR2) is required for power supply.



- ▶ Turn the lid over the battery compartment in anti-clockwise direction
- ▶ Remove the lid
- ▶ Insert the battery with the plus contact first
- ▶ Attach the lid
- ▶ Tighten the lid by turning it in clock-wise direction

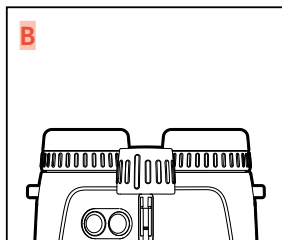
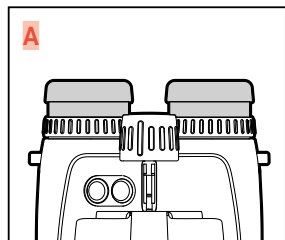
### BATTERY CHARGE LEVEL

The measured value and reticule display will flash when the battery nears depletion. You will still have enough power for another 50 measurements – but with a gradually reducing range – once the display begins flashing.



## SETTING THE EYECUPS

The position of the eyecups will depend on whether you wear eye-glasses or not. Contact lens wearers can make the settings just like anyone not wearing any eyeglasses.



### FOR USE WITHOUT EYE GLASSES

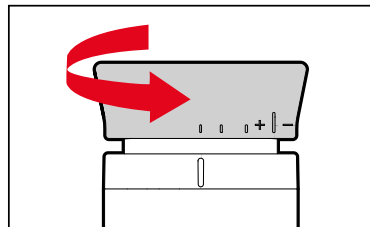
- ▶ Fold eyecup out (Fig. A)

### FOR USE WITH EYE GLASSES

- ▶ Fold eyecup down (Fig. B)

## DIOPTER SETTINGS

A diopter compensation function for up to  $\pm 3.5$  diopter is available to allow wearers of glasses the use of this product without eye glasses.



Diopter compensation allows you to adjust the sharpness of the reticule to a value that is best for your vision.

- ▶ Start device
  - The reticule appears.
- ▶ Aim at a distant object
- ▶ Turn the eyecup until the target mark is in sharp focus
  - Check the set value on the diopter scale.

### Caution

Never look directly at the sun or other bright sources of light through your Leica optics! Doing so may seriously damage your eyes.

## SETTINGS AND OPERATION

### ACTIVATING THE RANGEFINDER

- ▶ Press the main button
  - The device switches on and the target mark appears.

### MENU CONTROL

#### ACCESSING THE MAIN MENU

- ▶ Press and hold the menu selection button **1** (≥3 s)
  - **EU.US** appears.

#### NAVIGATING IN THE MAIN MENU

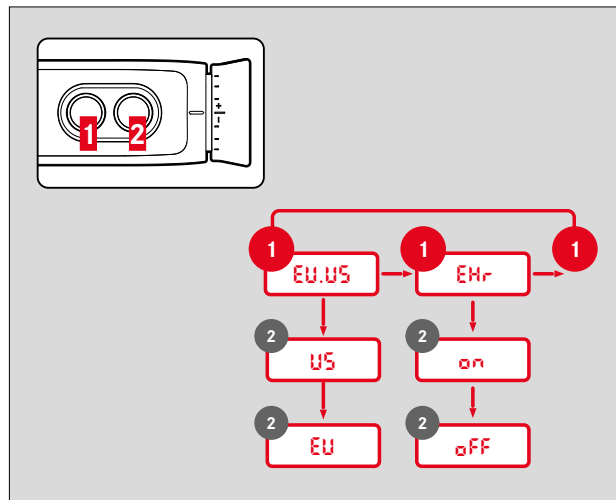
- ▶ Press the menu selection button repeatedly (<2 s each time) until the desired menu item appears

Menu item	Options	Description
EU.US	US	Yard display
	EU	Meter display
EHR	oN	Activate EHR
	oFF	Deactivate EHR

### SELECTING SETTINGS

- ▶ Press the main button repeatedly (<2 s each time) until the desired menu item appears
  - The selected setting is initially lit continuously as confirmation, then the display switches to the next menu item and then disappears if no further settings are made.

### MENU OVERVIEW



Subject to changes in design and model features.



## SETTING THE UNIT OF MEASURE

The device can be set to imperial units of measure (**US**) or metric units of measure (**EU**).

- ▶ Press and hold the menu selection button
  - **EU.US** appears.
- ▶ Press the main button several times briefly until the desired setting appears

<b>EU</b>	Display in meters
<b>US</b>	Display in yards

### Note

- The current setting is always visible in the display: a dot will be shown at the bottom right next to the reticule if metric values are selected.

## MEASUREMENT RANGEMASTER CRF R

### DISTANCE MEASUREMENT MADE EASY



- ▶ Press the main button briefly
- ▶ Aim the target mark at the object
- ▶ Press the main button again
  - The target mark disappears briefly and the measured value is displayed.
  - Pressing the main button at any time while the target mark is lit will start a new measurement.

--- will appear in the following scenarios:

- Distance to the object is less than 10 meters
- Range capability is exceeded
- Object is not sufficiently reflective

## SCAN MODE (OBJECT TRACKING)



- ▶ Press the main button briefly
- ▶ Aim at the object while target mark is lit
- ▶ Press and hold the main button for approx. 2.5 seconds
  - The device switches to scan mode and will then measure continuously. Scan mode is indicated by a change in the display. A new measured value appears after approx. 0.5 seconds.

## MEASURING RANGE / ACCURACY

Maximum range is achieved in the following scenarios.

- Highly reflective target objects
- at a visual range of about 10 km

Long ranges can be reliably measured or achieved by holding the rangefinder very steady and/or placing it on a solid surface.

Maximum ranges are:

- on highly reflective targets = approx. 1800 m
- Trees = approx. 1400 m
- Game = approx. 900 m

The measuring range is influenced by the following factors:

Range	higher	lower
Color	white	black
Angle to lens	perpendicular	acute
Object size	large	small
Sunlight	low light (cloudy)	high light (midday sun)
Atmospheric conditions	clear	hazy
Object structure	homogeneous (house wall)	inhomogeneous (underbrush, tree)

The following range/accuracy applies in sunlight and with good visibility:

Range (in meters)	Accuracy (1 $\sigma$ ) Normal Operation	Accuracy (1 $\sigma$ ) Scan mode
10–200	±0.5 m	±1.5 m
200–1000	±1 m	±2 m
Above 1000	0.5%	0.5%

## EQUIVALENT HORIZONTAL RANGE (EH<sub>r</sub>)

Shots at higher or lower elevation targets are subject to changed ballistic conditions. They require knowledge of the equivalent horizontal range, which is relevant for hunting. Knowledge of the equivalent horizontal range is important, for example when using ballistic reticles. EH<sub>r</sub> values are indicated by the additional EH<sub>r</sub> display.

- ▶ Press and hold the menu selection button
- ▶ Press the menu selection button 1x briefly
  - EH<sub>r</sub> appears.
- ▶ Press the main button several times briefly until the desired setting appears  
(ON, OFF)
- ▶ Press the menu selection button briefly

### Note

- EH<sub>r</sub> values are provided only between 10 m and 1100 m for safety reasons. Beyond that, only the actually measured, linear range is provided.



## CARE/CLEANING

- Your Leica rangefinder requires no special care.
- Coarse dirt particles like sand can be removed with a soft brush or simply blown off.
- Do not use excessive force when cleaning a severely soiled lens surface. The coating is abrasion resistant, but not impervious to sand or salt crystals.
- Always rinse off any traces of salt water! Dried salt crystals could damage the surfaces.
- Fingerprints, etc. on front lenses and eyepiece lenses can be pre-cleaned with a damp cloth and then wiped dry with a clean leather or lint-free cloth.
- The rangefinder should be stored in a well-ventilated, dry and cool place to prevent fungal growth (particularly important in humid climates).
- Do not use alcohol or chemical cleaning solutions on the optics or housing.

## TECHNICAL DATA

<b>Designation</b>	<b>Leica Rangemaster CRF R</b>
<b>Device type</b>	Rangefinder
<b>Type No.</b>	4032
<b>Order No.</b>	40504
<b>Scope of delivery</b>	Rangefinder, carry string, carry case, lens cleaning cloth, quick start guide, certificate, 3V lithium cell (Type CR2)
<b>Magnification</b>	7x
<b>Lens diameter</b>	24 mm
<b>Exit pupil</b>	3.4 mm
<b>Twilight factor</b>	13
<b>Relative brightness</b>	11.8
<b>Field of view (at 1,000 m/yds)</b>	115 m
<b>Subjective viewing angle</b>	6.6°
<b>Eye relief</b>	15 mm
<b>Prism system</b>	Roof
<b>Coating</b>	On lenses: High Durable Coating (HDC™) On prisms: phase correction coating P40
<b>Diopter compensation</b>	±3.5 dpt
<b>Compensation for eye glasses users</b>	Yes, equipped with fold-down rubber eyecup
<b>Maximum range</b>	1800 m/2000 yds
<b>Minimum range</b>	Approx. 10 m
<b>Measuring accuracy</b>	10–200 m: ±0,5 m, 200–1000 m: ±1 m, > 1000 m: 0,5 %
<b>Display/Unit of measure</b>	4 seven-segment LEDs plus additional icons, optional display setting in yard/inch or meter/centimeter
<b>Max. measurement time</b>	Approx. 0.3 s
<b>Metering methods</b>	Single measurement, scan mode
<b>Laser</b>	Invisible, safe for eyes in compliance with EN and FDA Class 1
<b>Material</b>	Impact resistant plastic (ABS)
<b>Waterproofing</b>	waterproof to 1 m deep
<b>Operating temperature</b>	-20 to +55°C
<b>Storage temperature</b>	-40 to +85°C
<b>Battery</b>	3V lithium cell (type CR2)
<b>Dimensions (WxHxD)</b>	Approx. 113x78x35 mm
<b>Weight (with battery)</b>	Approx. 180 g

Subject to changes in design, production, and scope of delivery.



## LEICA CUSTOMER CARE

Please contact the Customer Care department of Leica Camera AG for the maintenance of your Leica equipment and for help and advice regarding Leica products and how to order them. You can also contact the Customer Care department or the repair service provided by your regional Leica subsidiary for repairs or warranty claims.

### **Leica Camera AG**

Leica Customer Care  
Am Leitz-Park 5  
35578 Wetzlar  
Germany

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**Fax:** +49(0)6441 2080-339

**Email:** [customer.care@leica-camera.com](mailto:customer.care@leica-camera.com)

[www.leica-camera.com](http://www.leica-camera.com)