Leica GKL341

User Manual

EN

Version 1.0
EN

- when it has to be right

Leica Geosystems

Introduction

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.

Product identification

The type and serial number of your product are indicated on the type plate.
Always refer to this information when you need to contact your agency or Leica Geosystems authorised service workshop.

1 Description of the System

Main Components

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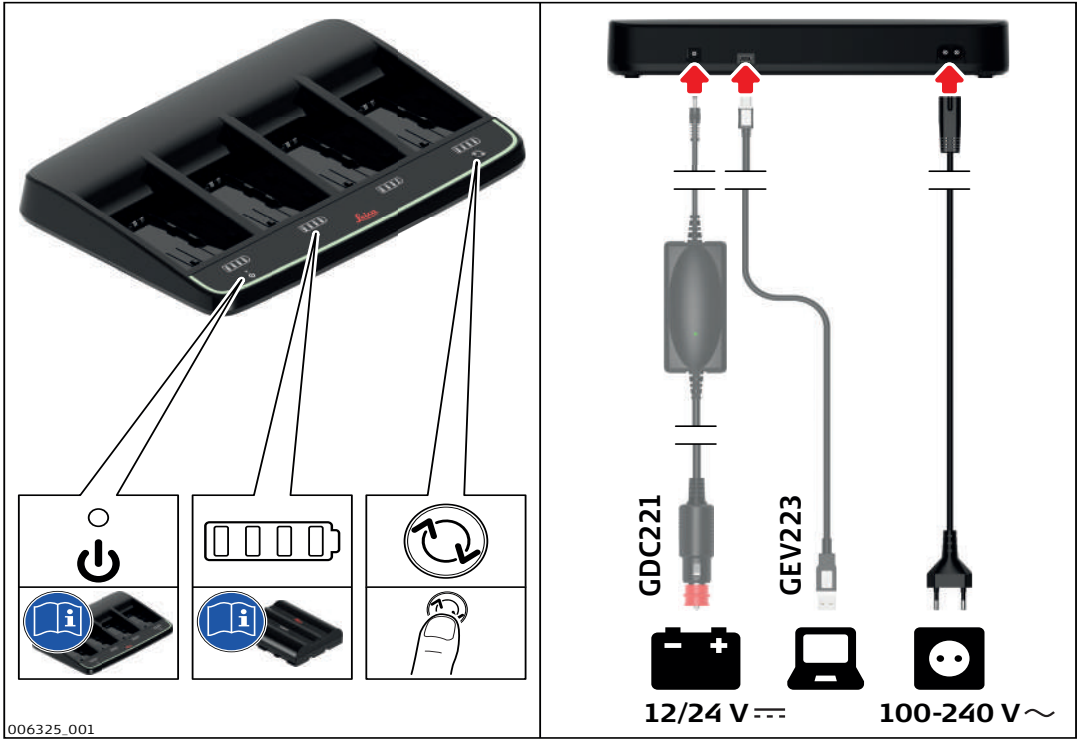
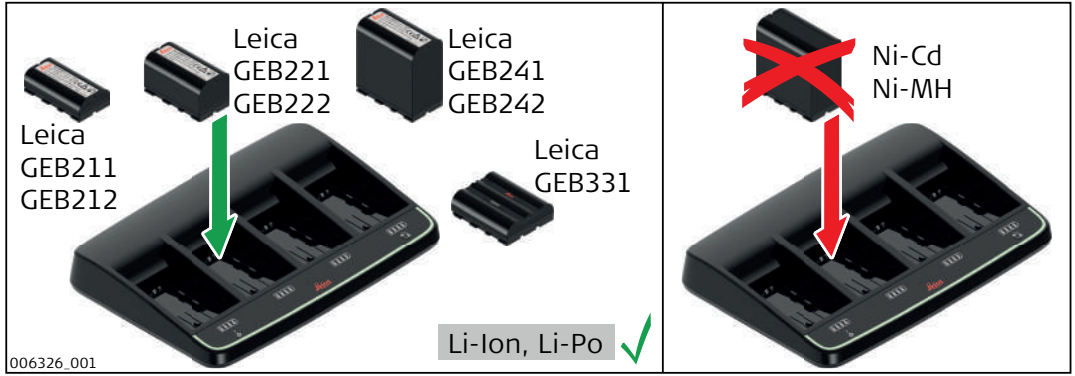
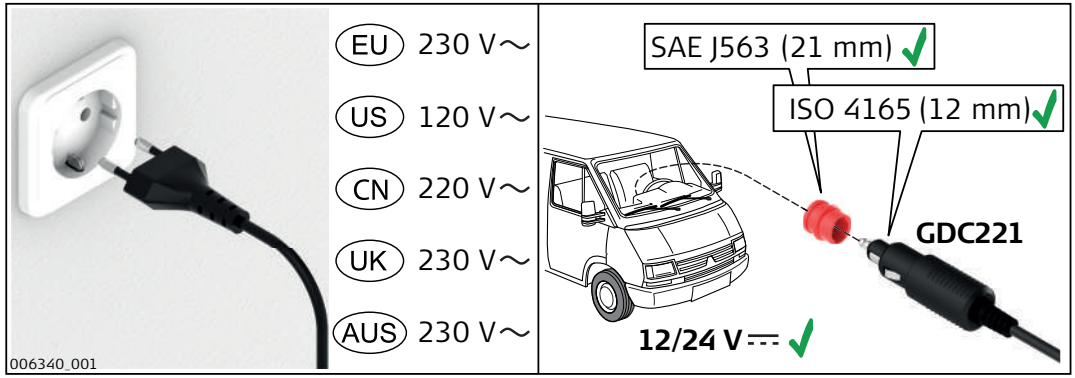
Charger Components



Supported batteries



Power supply



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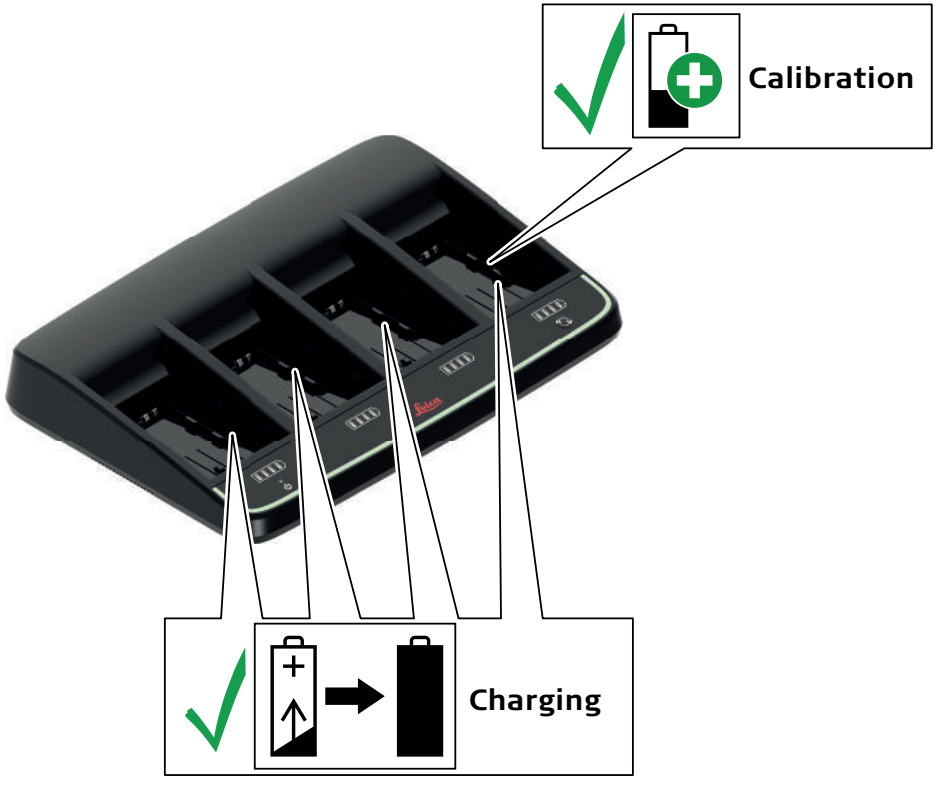
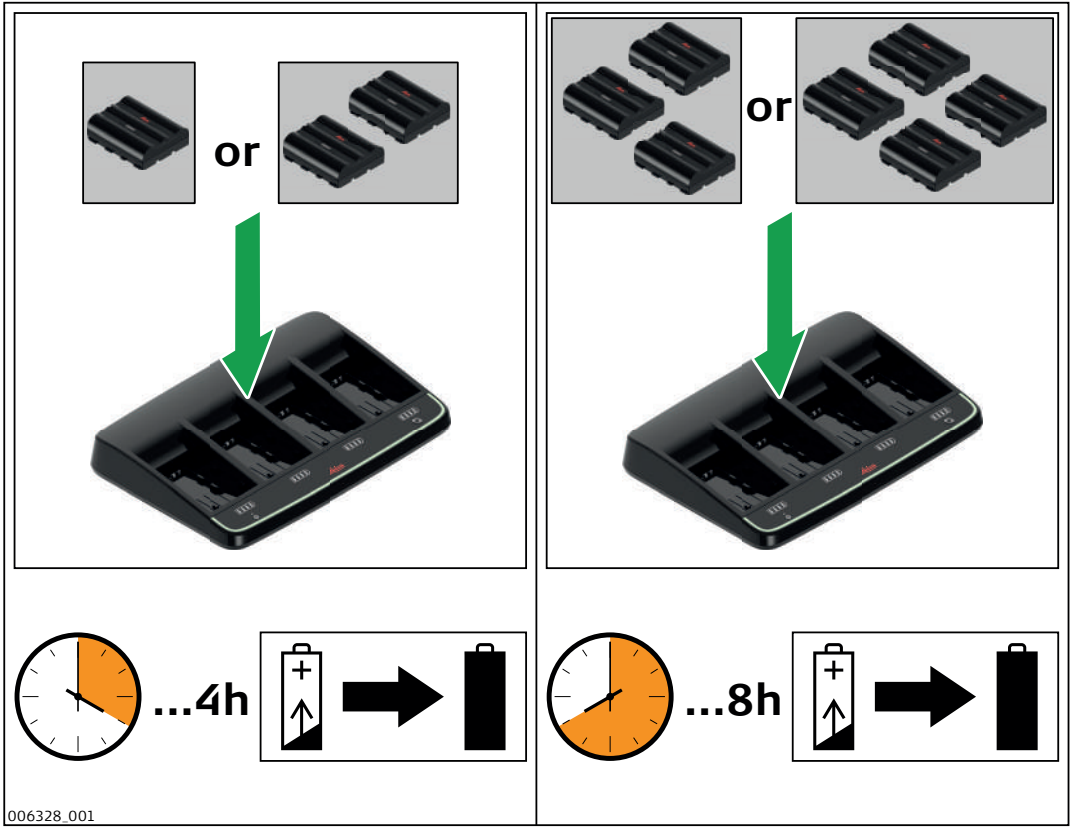
Charging function / Calibration function

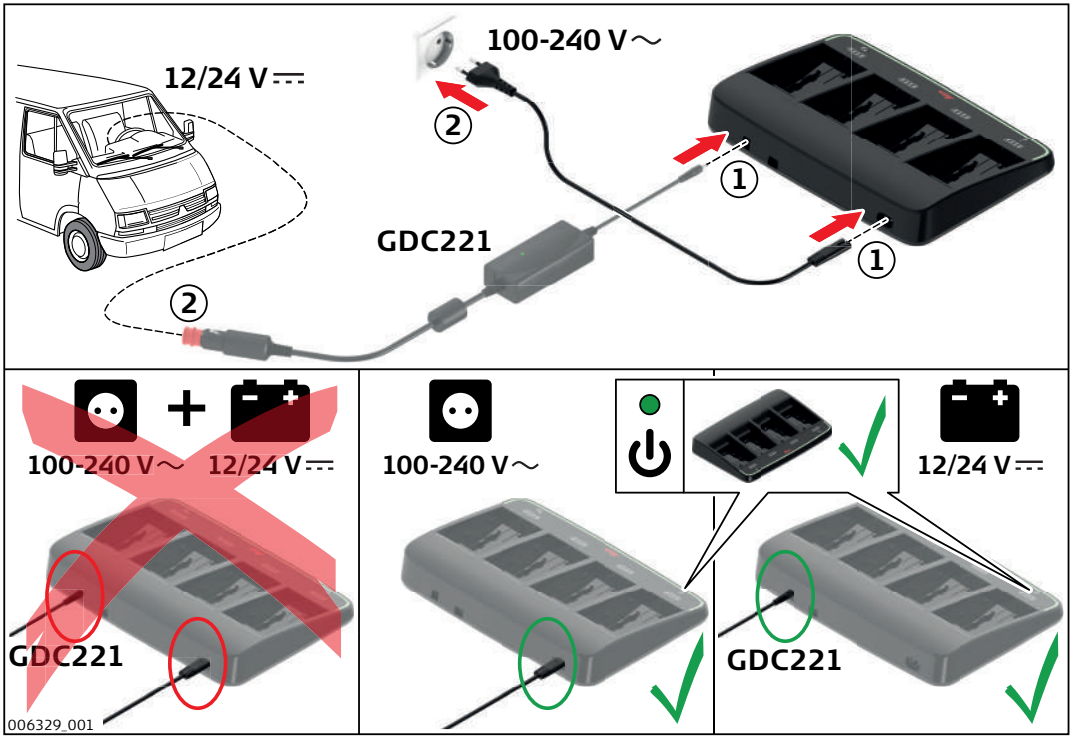


Charging times



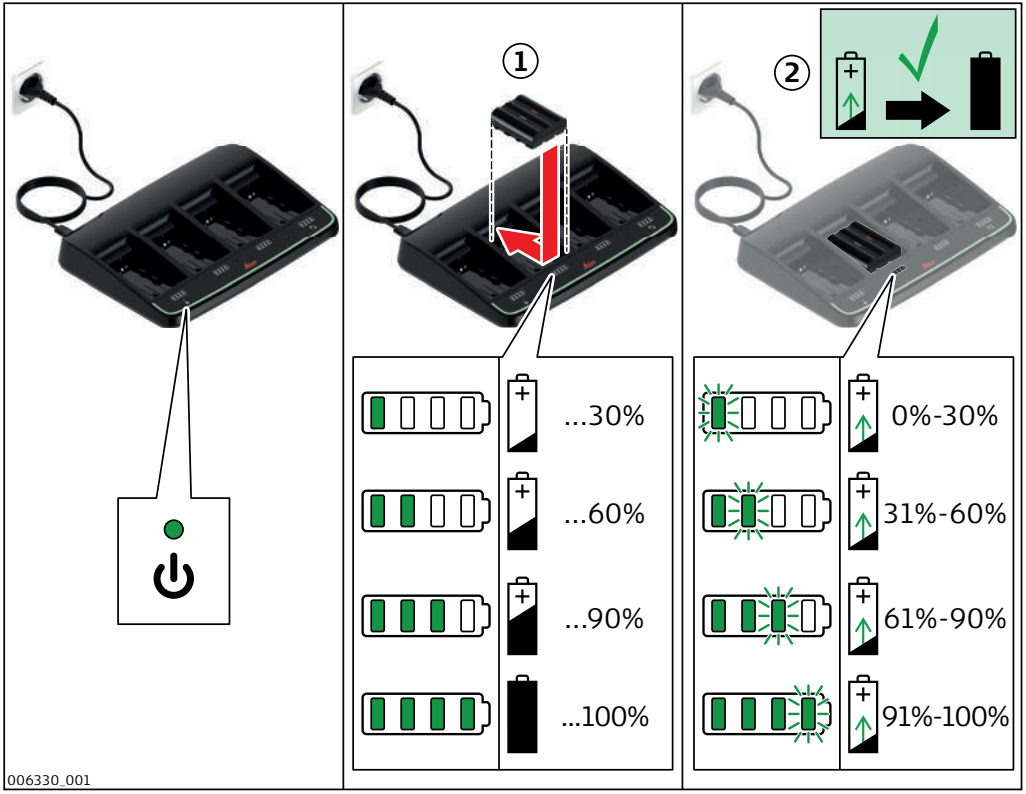
2 Operation

Connecting the charger



2.1 Charging Function

Inserting and charging the batteries



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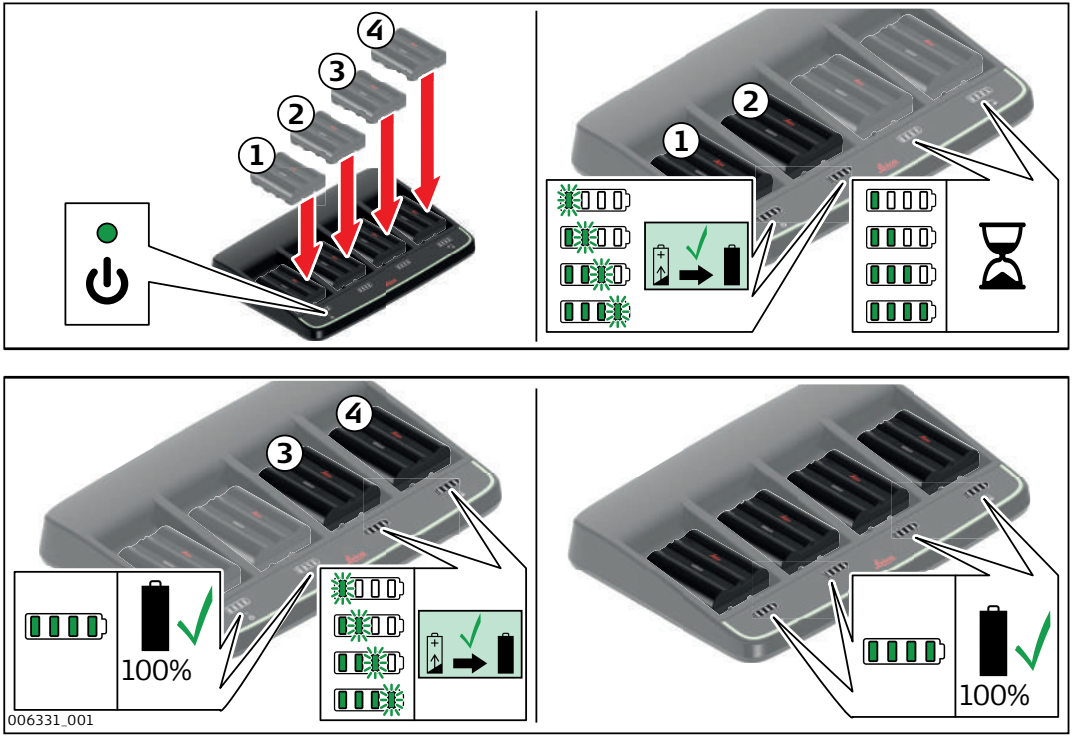
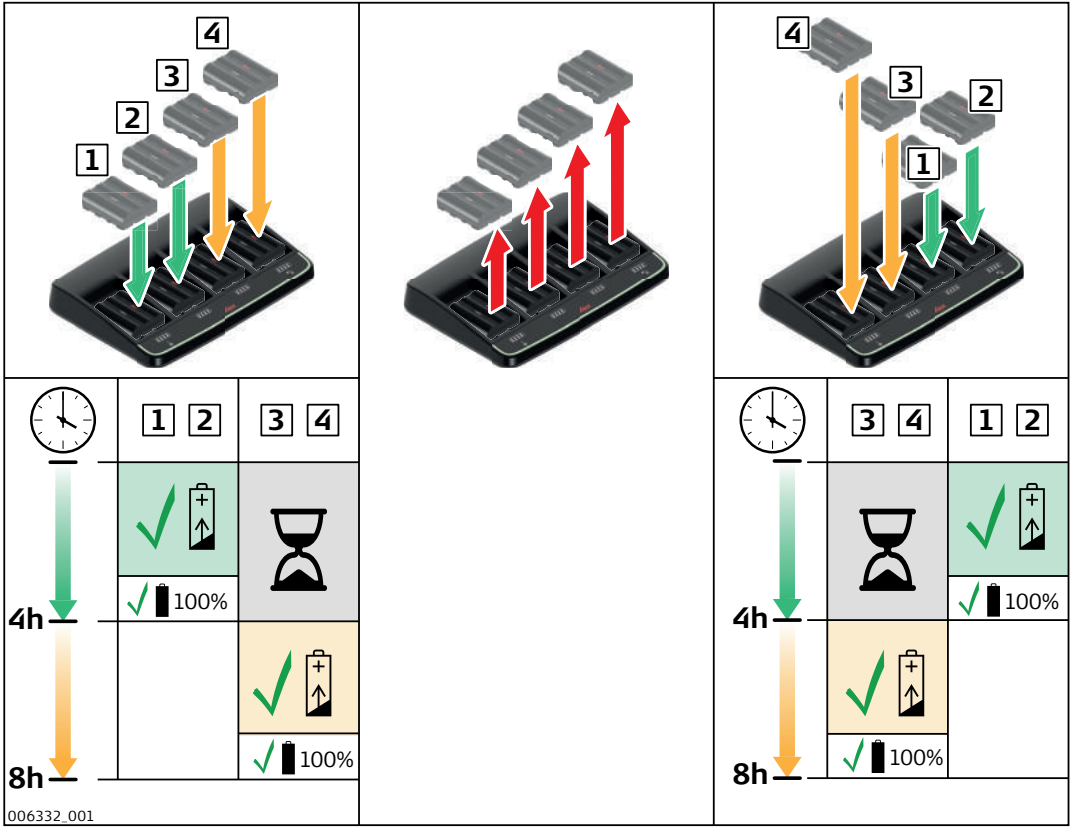
Charging priority

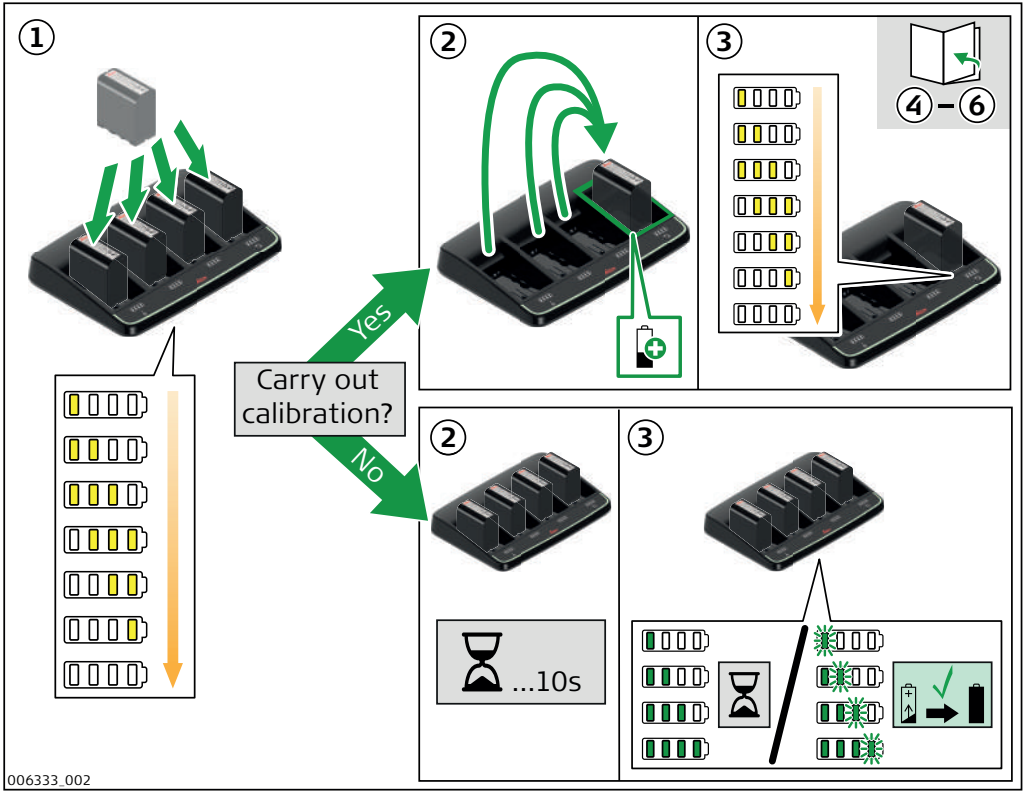


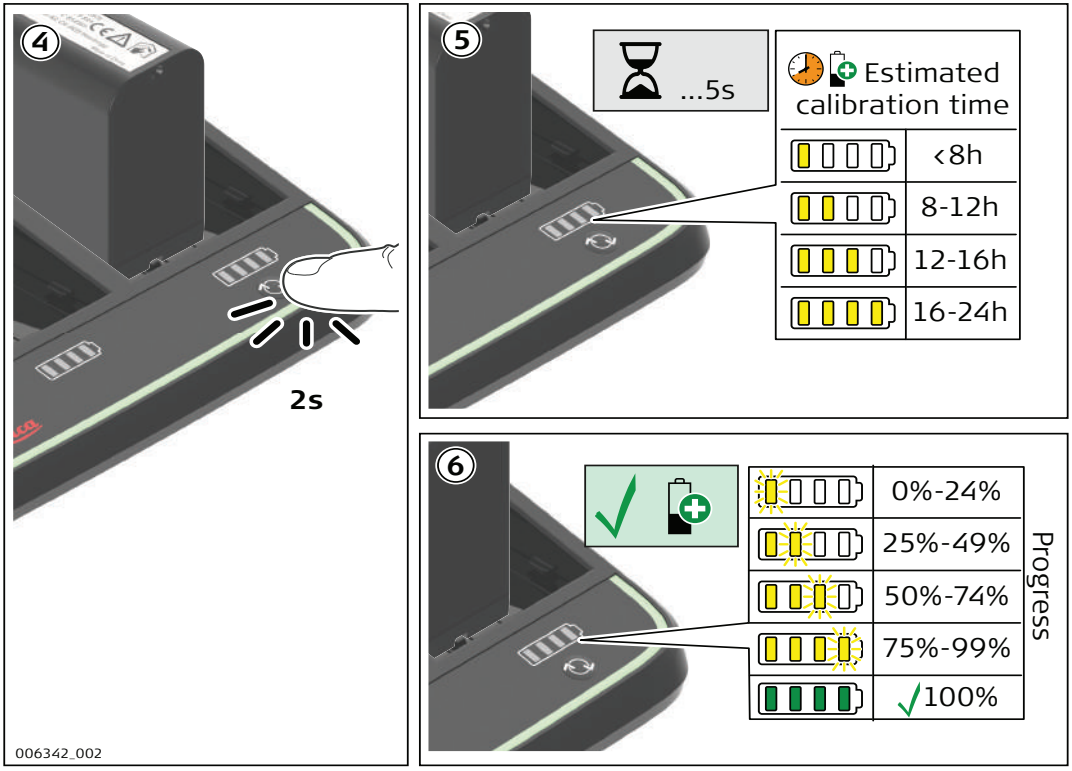
Change of charging priority



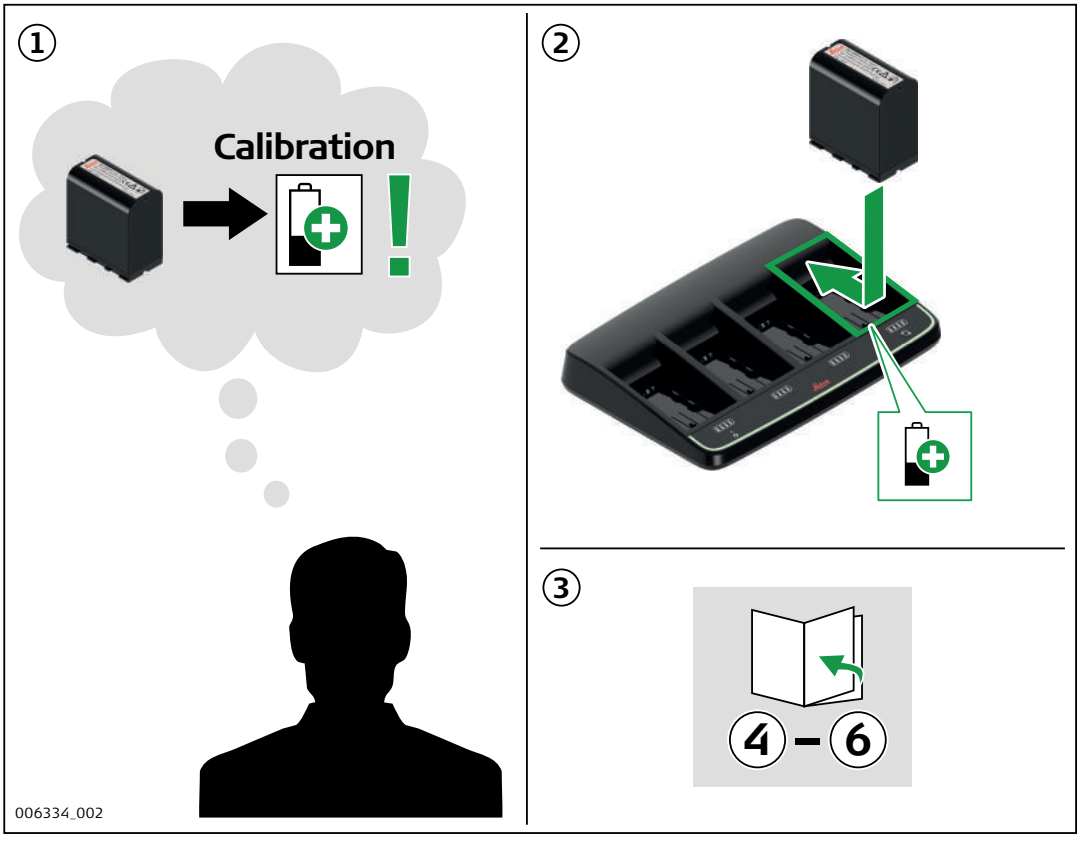
2.2 Calibration Function

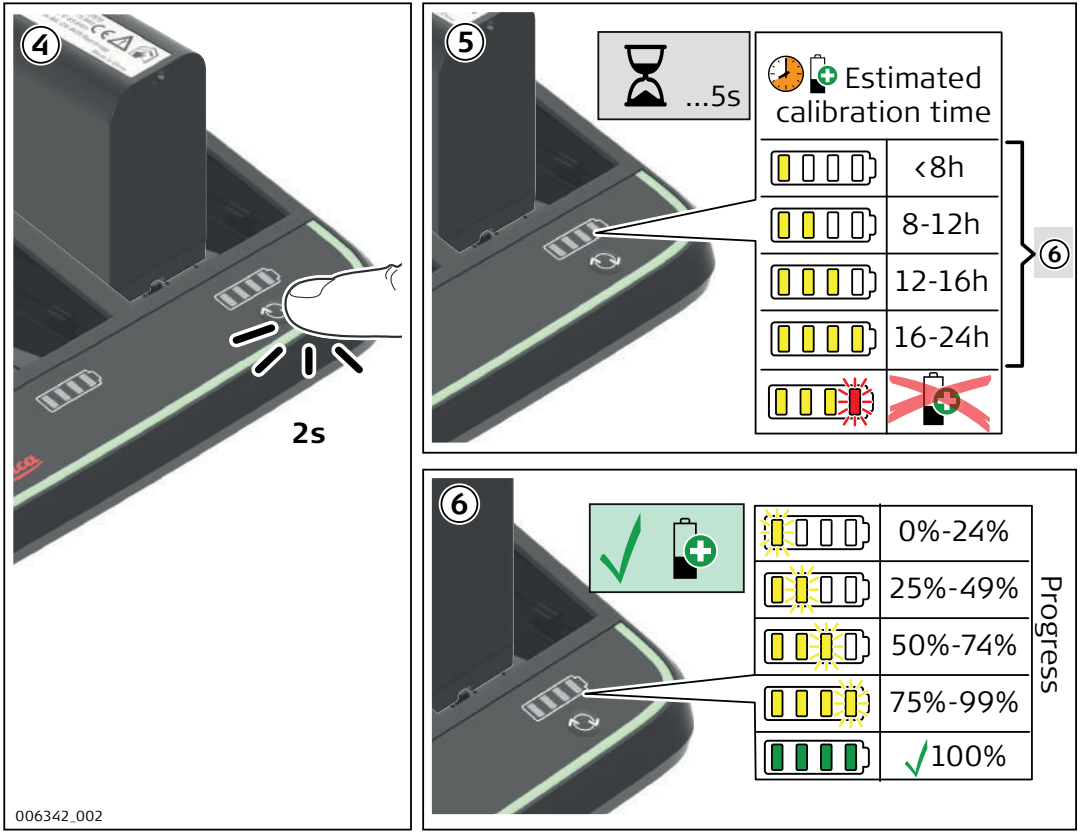
Option 1: Charger recommends a Calibration




4
2s
006342_002
5
...5s
Estimated calibration time
<8h
8-12h
12-16h
16-24h
6
0%-24%
25%-49%
50%-74%
75%-99%
100%
Progress

Option 2: Request a calibration

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Estimated calibration time
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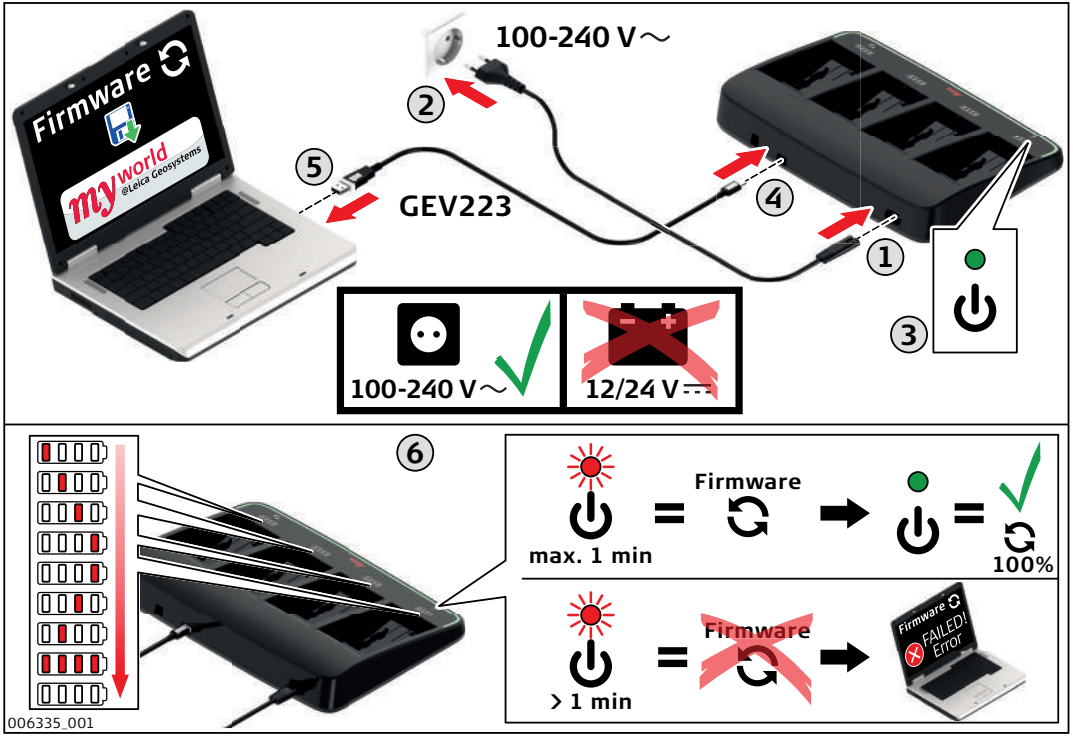
6
0%-24%
25%-49%
50%-74%
75%-99%
100%
Progress

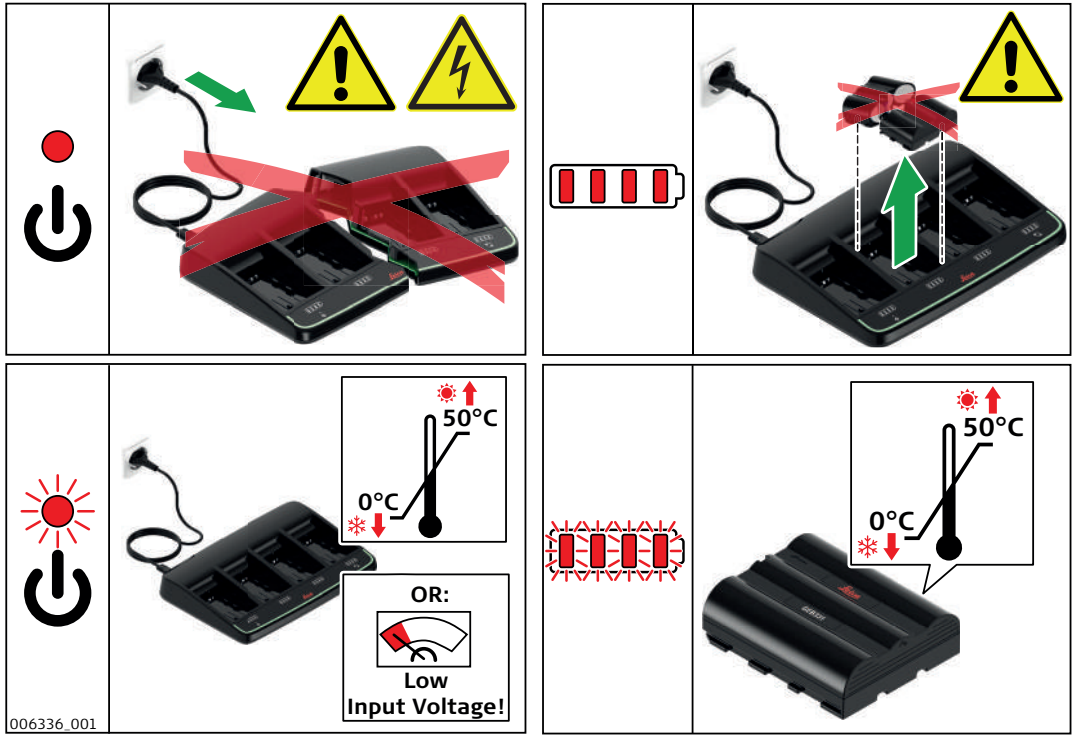
2.3 Firmware update

Firmware Update



3 Troubleshooting

Error indication



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1 Safety Directions

1.1 General Introduction

Description

The following directions 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.

About Warning Messages

Warning messages are an essential part of the safety concept of the product. They appear wherever hazards or hazardous situations can occur.

Warning messages...

- make the user alert about direct and indirect hazards concerning the use of the product.
- contain general rules of behaviour.

For the users' safety, all safety instructions and safety messages shall be strictly observed and followed! Therefore, the manual must always be available to all persons performing any tasks described herein.

DANGER, **WARNING**, **CAUTION** and **NOTICE** are standardized signal words for identifying levels of hazards and risks related to personal injury and property damage. For your safety it is important to read and fully understand the table below with the different signal words and their definitions! Supplementary safety information symbols may be placed within a warning message as well as supplementary text.

Type	Description
 **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.
NOTICE	Indicates a potentially hazardous situation or an unintended use which, if not avoided, may result in appreciable material, financial and environmental damage.
	Important paragraphs which must be adhered to in practice as they enable the product to be used in a technically correct and efficient manner.

Available documentation

Name	Description/Format		
User Manual	All instructions required in order to operate the product to a basic level are contained in this User Manual. Provides an overview of the system together with technical data and safety directions.	✓	✓

Refer to the following resources for all GKL341 documentation:

- http://www.leica-geosystems.com/downloads

1.2 Definition of Use

Intended use

- Charging and discharging of Li-Ion and Li-Po batteries.

First-time use / Charging batteries

- The battery must be charged prior to using it for the first time.
- The permissible temperature range for charging is between 0°C to +40°C/ +32°F to +104°F. For optimal charging, we recommend charging the batteries at a low ambient temperature of +10°C to +20°C/+50°F to +68°F if possible.
- It is normal for the battery to become warm during charging. Using the chargers recommended by Leica Geosystems, it is not possible to charge the battery if the temperature is too high.
- For Li-Ion batteries, a single refreshing cycle is sufficient. We recommend carrying out a refreshing cycle when the battery capacity indicated on the charger or on a Leica Geosystems product deviates significantly from the actual battery capacity available.

Reasonably foreseeable misuse

- Use of the product without instruction.
- Use outside of the intended use and limits.
- Disabling safety systems.
- Removal of hazard notices.
- Opening the product using tools, for example screwdriver, unless this is permitted for certain functions.
- Modification or conversion of the product.
- Use after misappropriation.
- Use of products with recognisable damages or defects.

1.3 Limits of Use

Environment

Suitable for use in dry environments only and not under adverse conditions.

Environmental Specifications

For further information about operating/storing temperatures and protection against water, dust and sand refer to "3 Technical Data"

1.4 Responsibilities

Manufacturer of the product

Leica Geosystems AG, CH-9435 Heerbrugg, hereinafter referred to as Leica Geosystems, is responsible for supplying the product, including the user manual and original accessories, in a safe condition.

Person responsible for the product

The person responsible for the product has the following duties:

- To understand the safety instructions on the product and the instructions in the user manual.
- To ensure that it is used in accordance with the instructions.
- To be familiar with local regulations relating to safety and accident prevention.
- To inform Leica Geosystems immediately if the product and the application becomes unsafe.
- To ensure that the national laws, regulations and conditions for the operation of e.g. radio transmitters or lasers are respected.

1.5 Hazards of Use

WARNING

The product is not designed for use under wet and severe conditions. If unit becomes wet it may cause you to receive an electric shock.

Precautions:

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

WARNING

If you open the product, either of the following actions may cause you to receive an electric shock.

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

Precautions:

Do not open the product. Only Leica Geosystems authorised service workshops are entitled to repair these products.

WARNING

Using the charger inside a driving vehicle can lead to dangerous situations which may result in damage or personal injury.

Precautions:

- If it can be avoided, do not use the charger inside a driving vehicle.
- If it is necessary to use the charger inside a driving vehicle: Ensure that the charger is properly secured against sudden movements, such as acceleration, braking, or steering movements.

WARNING

If the ventilation slots are covered while the product is being used, the product can overheat and cause injury or fire.

Precautions:

Make sure that the ventilation slots are not covered by any objects while the product is being used.

WARNING

If charged or discharged, batteries not recommended by Leica Geosystems may be damaged. They may burn and explode.

Precautions:

Only charge and discharge batteries recommended by Leica Geosystems.

WARNING

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

Precautions:

Before shipping the product or disposing it, discharge the battery by 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 temperatures or immersion into fluids can cause leakage, 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

If battery terminals are short circuited e.g. by coming in contact with jewellery, keys, metalized paper or other metals, the battery can overheat and cause injury or fire, for example by storing or transporting in pockets.

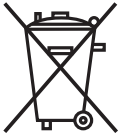
Precautions:
Make sure that the battery terminals do not come into contact with metallic objects.

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 unauthorised 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.
Always prevent access to the product by unauthorised personnel.

Product-specific treatment and waste management information can be downloaded from the Leica Geosystems home page at http://www.leica-geosystems.com/treatment or received from your Leica Geosystems dealer.

1.6 Electromagnetic Compatibility EMC

Description

The term Electromagnetic Compatibility is taken to mean the capability of the product to function smoothly in an environment where electromagnetic radiation and electrostatic discharges are present, and without causing electromagnetic disturbances to other equipment.

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, Leica Geosystems 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 with accessories from other manufacturers, for example field computers, personal computers or other electronic equipment, non-standard cables or external batteries.

Precautions:

Use only the equipment and accessories recommended by Leica Geosystems. When combined with the product, they meet the strict requirements stipulated by the guidelines and standards. When using computers or other electronic equipment, pay attention to the information about electromagnetic compatibility provided by the manufacturer.

CAUTION

Disturbances caused by electromagnetic radiation can result in erroneous measurements. Although the product meets the strict regulations and standards which are in force in this respect, Leica Geosystems cannot completely exclude the possibility that the product may be disturbed by intense electromagnetic radiation, for example, near radio transmitters, two-way radios or diesel generators.

Precautions:

Check the plausibility of results obtained under these conditions.

CAUTION

If the product is operated with connecting cables attached at only one of their two ends, for example external supply cables, interface cables, the permitted level of electromagnetic radiation may be exceeded and the correct functioning of other products may be impaired.

Precautions:
While the product is in use, connecting cables, for example product to external battery, product to computer, must be connected at both ends.

1.7 FCC Statement, Applicable in U.S.

WARNING

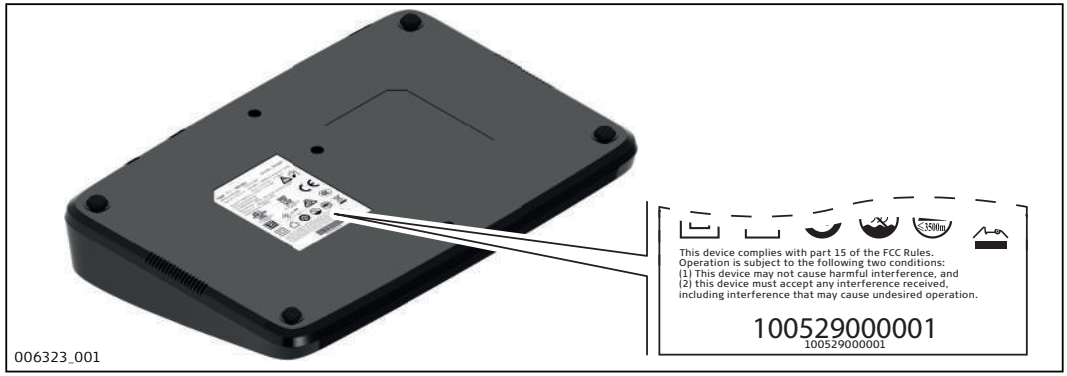
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate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

WARNING

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

Type Plate Labelling GKL341



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2 Care and Transport

2.1 Transport

Shipping

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

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, original packaging or equivalent and secure it.

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.

2.2 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.

Storing

Long-term battery storage is not recommended. If storage is necessary:

- Refer to "Temperature range" for information about storage temperature range.
- Remove batteries from the product and the charger before storing.
- After storage recharge batteries before using.
- Protect batteries from damp and wetness. Wet or damp batteries must be dried before storing or use.
- A storage temperature range of 0°C to +30°C/+32°F to 86°F in a dry environment is recommended to minimise self-discharging of the battery.
- At the recommended storage temperature range, batteries containing a 40% to 50% charge can be stored for up to one year. After this storage period the batteries must be recharged.
- Always try to use a ‘first-in first-out’ approach to minimise storage time.

2.3 Cleaning and Drying

- Use only a clean, soft, lint-free cloth for cleaning.

Cables and plugs

Keep plugs clean and dry. Blow away any dirt lodged in the plugs of the connecting cables.

3 Technical Data

Power Supply

- Mains connection, ~
- DC voltage connection, ⎓

Input Voltage

- 100 - 240 V ~/50 - 60 Hz
- 24 V DC ⎓

Charging power

Maximum 56 Watt (0°C to +40°C) / Maximum 28-56 Watt (+40°C to +50°C)

Discharging power

Maximum 7.5 Watt

Power rating

Maximum 65 Watt

Operating environment

Only operate in dry environments, for example in buildings and vehicles.

Temperature range

- **Storing the charger:** -40°C to +70°C/-40°F to +158°F
- **Operating the charger:** 0°C to +50°C/+32°F to +122°F

Protection against solid objects

Type	Protection
GKL341	IP30 (IEC 60529) Protected against solid objects › 2.5 mm

Cell type

Li-Ion and Li-Po

Charging times

- **1-2 batteries:** up to 4.0 h
- **3-4 batteries:** up to 8.0 h

Calibration times

Maximum 24 h
Calibration time depends primarily on the charging and discharging current, the nominal capacity of the battery and its state of charge. Calibration time is also affected by other batteries which are already inserted.

Weight

Charger: ca. 950 g

Dimensions

Width:	300 mm
Depth:	208.5 mm
Height:	49.4 mm

4 Conformity Declarations

Conformity to national regulations

- FCC Part 15 (applicable in US)
- Hereby, Leica Geosystems AG, declares that the GKL341 is in compliance with the essential requirements and other relevant provisions of the applicable European Directives. The declaration of conformity may be consulted at http://www.leica-geosystems.com/ce.

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