



12. Konformitätserklärung

NRGkick
(Ladeeinheit für Elektrofahrzeuge)

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Der beschriebene Gegenstand erfüllt folgende einschlägige Richtlinien sowie Normen:

Richtlinie 2014/35/EU elektrische Betriebsmittel (Niederspannungsrichtlinie)

Richtlinie 2014/30/EU elektromagnetische Verträglichkeit (EMV-Richtlinie)

Richtlinie 2011/65/EU gefährliche Stoffe in Elektro und Elektronikgeräten

IEC/EN 61851-1 Elektrische Ausrüstung von Elektro-Straßenfahrzeugen - Konduktive Ladesysteme für Elektrofahrzeuge - Teil 1: Allgemeine Anforderungen

IEC/EN 61851-22 Elektrische Ausrüstung von Elektro-Straßenfahrzeugen - Konduktive Ladesysteme für Elektrofahrzeuge - Teil 2-2: Wechselstrom-Ladestation für Elektrofahrzeuge

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Instruction Manual



EN



1. General

Read the instruction manual carefully before operating the unit.

The instruction manual will help you to

- use the product correctly
- detect damage early, and prevent or repair damage
- avoid failure and repair costs
- extend the product service life and increase reliability
- avoid environmental hazards

The instruction manual forms an essential part of the product and must be retained for later use.

DiniTech GmbH will not be liable for damages resulting from not following the instructions in this manual.

2. Copyright

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3. Safety Instructions

Warning!

Not following the safety instructions could result in a risk to life or of injury, as well as damage to the unit. DiniTech GmbH disclaims all liability for claims resulting from not following the safety instructions.

Electrical Hazard! Fire Hazard!

Never use worn, damaged or dirty charge connectors, grid connectors or adapter plugs!

The electrical system to which the charging unit is connected and on which it runs must be inspected by a qualified electrician. The current circuit of the socket that will be used for charging must have its own residual current protective unit and a circuit breaker. Only use properly installed, undamaged sockets and an electrical system that is in perfect working order for charging.

On unknown sockets the vehicle charging current must be set to the lowest current value.

The owner (end customer) must make sure the charging unit is always in immaculate condition when in operation!

The charging unit must be regularly inspected for damage to the housing, the charging connector and the grid connector (visual check)!

If the charging unit is damaged, it must be disconnected from the grid immediately. The damaged unit must not be connected to the power grid again and must be replaced!

Repairs may not be carried out on the charging unit. Repairs may only be carried out by the manufacturer (replacement of the charging unit)!

Do not make any unauthorized modifications to the charging unit!

Do not remove labels such as the rating plate, warning notices, current limit marks or display symbols!

Never disconnect the power grid connector while charging is in progress! Before stopping the charging process, first unplug the charging connector from the vehicle and then unplug the grid connector.

Always follow the correct sequence when connecting plugs!

Additional extension cables may not be used for connection to the power grid as well as to the vehicle!

The charging unit and all included accessories must only be used to charge the drive battery of electric or plug-in-hybrid vehicles. The unit may not be used with different types of loads (improper use)!

Read the information and instructions for your vehicle carefully before you charge the vehicle using the charging unit!

Do not run the charging unit in a thermally insulated or encapsulated vessel or container due to the risk of overheating.

The charging unit should be hanging from the power grid socket when charging is in progress to allow water to run off the charging unit. Protect the unit from water intrusion!

If an adapter plug is used, never set a higher charging current than

- 1) the maximum current the adapter is approved for.
- 2) the maximum current the upstream installation and socket are approved for.

If the power supply socket feels hot when charging is in progress, replace this socket immediately!

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Never use force to pull on the cable ends of the charging unit!

Their use as a rope for lifting or pulling mechanical loads or for wrapping or tying up objects is strictly prohibited!

The charging unit may only be operated in accordance with its intended use!

When removing the cable from the socket pull on the connector, never the cable!

Protect the charging unit and the charging cable from mechanical damage (running over, pinching or kinking) and the electrical contact area from heat sources, dirt and water!

Only use adapters and accessories supplied by DiniTech GmbH with the charging unit or those that are approved by DiniTech GmbH!

In the following countries the charging current may not be set higher than 8A if a Schuko adapter plug is used:

Denmark, Finland, France and Switzerland

If a Schuko adapter plug is used, the weight of the charging unit must not put strain on the socket. Relieve the strain on the cable (e.g. by placing the unit on something or hanging the cable over a hook).

During a single phase charging operation within a 3-phase-grid, the requirements of the grid operator for asymmetric grid loads needs to be considered. The charging power may not be set to a higher value than the maximum single phase power drain permitted by the grid operator.

4. Intended Use

The charging and all included accessories unit may only be used to charge the drive battery of an electric or plug-in-hybrid vehicle. Section 5 "Product Description" describes operation of the charging unit.

Any other use will be considered improper use. DiniTech GmbH does not assume liability for any damage that results from such improper use!

Intended use includes following the instructions in this manual as well as observance of all labeling such as type plates, warning notices, current limit marks, display symbols and ambient conditions.

5. Product Description

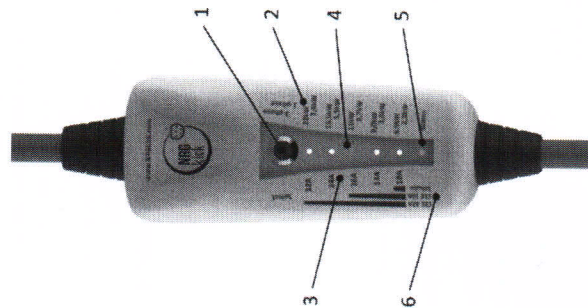
The NRGkick charging unit consists of the charging cable with the vehicle connector, the electronics in a plastic housing (charging unit) including the residual current detection mechanism (RCD), optional energy meter with Bluetooth interface and the power grid cable with connector.

The charging unit is available in a number of different models:

- Total cable length: 5m or 7.5m
- Vehicle connector acc. to IEC62196 (Type 2) or SAE J1772 (Type 1)
- 1-phase or 3-phase charging mode
- Maximum charging current 16A or 32A
- Energy meter and Bluetooth LE interface

The integrated residual current detection mechanism means NRGkick charges your vehicle in accordance with the highest safety standards. The mechanism breaks the current reliably if AC or DC residual currents occur. The charging unit is designed such that it is easy to adjust the charging current via a selection button. The LED indicator shows you the selected charging current and power at all times. If you have purchased the "energy meter with Bluetooth LE" product option you can also change the charging current without interrupting the charging process. In combination with the NRGkick smartphone app, the energy meter provides additional functions with full transparency and visibility into every charging event.

5.1 Charging Unit – NRGkick



- 1) Selection button
- 2) Display: Selectable charging power
- 3) Display: Selectable maximum charging current
- 4) LED indicator: Selected current or power
- 5) LED status indicator
- 6) Information on the maximum possible charging current that can be set depending on the requirements of the different power grid connectors.

The text may vary depending on the specific model!



5.2 Charging your Electric Vehicle

First connect the grid connector to the power supply socket. The charging electronics will then initialize, shown by an oscillating flashing signal. The LED for the current that was set the last time illuminates.

Now select the charging current you want using the selection button.

CAUTION! When choosing the charging current take all the following points into account:

- a) Maximum current according to the supply cable of the electric system
- b) Maximum current according to the grid connector used
- c) If an adapter is used: Maximum current the adapter is approved for
Points a) and b) also apply if an adapter is used.

Connect the vehicle connector to the vehicle.

Once the connected vehicle has been detected by the charging unit, all LED lights will illuminate briefly. From this point onwards it will no longer be possible to change the charging current using the selection button on the unit.

Remark: If the correct connection sequence is not applied and the car is already connected, you have around 10s to set the charging power after connecting the charging unit to the power supply. After adjusting the setting, you then have at least 4 seconds after releasing the selection button to make another adjustment. All LEDs should illuminate briefly to indicate that your vehicle has been detected. From this point onwards it will no longer be possible to change the charging current using the selection button on the unit.

The charging unit is now in "vehicle charging" mode and, depending on the vehicle type, the charging process will start after a few seconds.

The set values for the charging current/charging power take the form of upper limits. Depending, for example, on the battery charging status or the outside temperature, the vehicle may, over the course of the charging process, set the actual charging current to a lower value than the current set in the app or directly on the NRGkick.

Remark: NRGkick may remain connected to the power socket when the vehicle is disconnected.

5.3 Interrupting the Charging Process on the Unit

If the selection button is pressed for 4 seconds, the charging process will be interrupted and the charging unit will re-initialize. You will then be able to change the charging power again. This function is only available in the first 2 minutes subsequent to starting the charging procedure.

Remark: After initialization, you have 25 seconds to change the setting. The charging unit will then switch back to "vehicle charging" mode.

5.4 Interrupting the Charging Process

The charging process should normally be stopped on the vehicle. Follow the instruction manual for your vehicle. The vehicle connector will then be unlocked and can be unplugged. Finally, disconnect the grid connector on the charging unit.

5.5 Connection Sequence

Start the charging process	Stop the charging process
1. Connect the power grid connector to the grid. 2. Connect the vehicle connector to the vehicle.	1. Unlock the vehicle connector on the vehicle and unplug it. 2. Disconnect the grid connector. The NRGkick can, however, also remain connected to the power grid socket permanently.



5.6 Theft-Protected and Tamper-Proof

Electric cars with type 2 charging socket lock the vehicle connector after it is plugged in. This means your NRGkick is protected against theft during and after charging. The socket can only be unlocked via the vehicle.

NRGkick has a protection system to prevent the charging current settings being tampered with by passersby:

- The charging current can only be adjusted using the selection button after connection to the power supply. If the vehicle connector is already plugged in, you have max. 10 seconds left to adjust the settings (see 5.2).
- The charging current can only be re-set by interrupting the charging process within 2 minutes of starting the charging process (see 5.3).
- After this, it will no longer be possible to modify the charging current – even if the power supply is disconnected and reconnected, which causes the NRGkick to re-initialize. It will then only be possible to change the charging current again after the type 2 charging socket is unlocked via the vehicle.

Additionally, it is only possible to reset the access code for connecting to a smartphone (see 7.2) if the vehicle connector is unlocked and unplugged.

5.7 Error Mode

The following sequence of flashing signals indicates a potential error or that the residual current protection mechanism has triggered: recurring sequence of 5x flashing + short break.

Remark: With the "Energy meter and Bluetooth" product option, you can read out the error with the NRGkick app on a smartphone.

The "Error" mode can only be reset by disconnecting the power supply. In case of an error, check for a vehicle-related fault or fault on the power socket.

5.8 Integrated Functions

- Charging electronics in conformity with EN 61851-1
- Residual current detection for direct as well as for alternating residual current (continual surveillance in the "vehicle charging" mode).
- Energy meter for voltage, current, power and energy measurement*
- Bluetooth Low Energy (BLE) for the data exchange with smartphones*

*not included in the "light" product option

6. Adapter Plugs

Only use adapters supplied with the charging unit or those approved for NRGkick.

Take note of the maximum current that can be set for the specific adapters! The maximum current is indicated on the label on the adapter. In addition, there are current limit marks printed on the left of the NRGkick housing that inform you of the maximum charging current that can be set for the requirements of the different grid connectors.



7. Smartphone App



The "NRGkick" app can be downloaded from Google Play and the Apple App Store. This provides enhanced options for controlling the charging unit and monitoring the charging process.

The app is fairly self-explanatory. When establishing a Bluetooth connection between your smartphone and NRGkick take account of the following:

7.1 Hints for Changing the Access Code

The access code for the smartphone app and NRGkick must be identical for the Bluetooth connection. The app allows you to change the four-digit code in two ways:

- 1) "Match App Access Code"
- 2) "Change Device Access Code"

"Match App Access Code" changes the code on the smartphone app only. Choose this command if you are using a new smartphone and want to update it with the code used by NRGkick.

"Change Device Access Code" changes the code on both the smartphone and NRGkick. Choose this command if you are putting a new NRGkick unit into operation or if you want to reset the code. Don't forget the new code!

The default code is '1234'.

7.2 Hints for Use

A short oscillating flashing light usually signals that a parameter has been sent from the smartphone to the charging unit. If the access codes for the smartphone and charging unit do not match, all LEDs will briefly flash simultaneously.

If the user has enabled a limiting function via the smartphone (e.g. energy limit or stop command), the green LED will flash.

It is possible to connect several charging units to the same smartphone (not at the same time). The different access codes for the individual charging units will be saved on the smartphone and assigned separately.

The access code for the charging unit can be reset as follows:

- 1) Press the selection button and keep it held down.
- 2) Connect the charging unit to the power grid (button stays pressed).
- 3) As soon as the LEDs illuminate, release the button.
- 4) The reset takes approximately 1 minute and is signaled by various flashing sequences.
- 5) Finally, the default code '1234' will be assigned to the charging unit again.

Remark: The access code can only be reset if the vehicle connector is unlocked and unplugged to prevent the unit being tampered with by unauthorized persons.



8. Maintenance

The charging unit is maintenance-free. Regularly check the housing of the charging unit, the charging cables and the connectors by a visual check for external damage. If damage is found, the charging unit may under no circumstances be used.

9. Cleaning

If required, clean the charging unit with a damp cloth. Avoid cleansing agents with solvents.

10. Technical Data

Product name:	NRGkick
Nominal voltage:	230V/400V 50Hz
Nominal current:	16A, 32A (depending on model)
Maximum charging power:	11kW, 22kW (depending on model)
Residual current detection (RCD):	30mA
IP protection class:	IP66
Charge mode:	Mode 2 acc. to IEC 61851-1
Ambient conditions:	-30°C ... +50°C (5% - 95% humidity) max. 2000m altitude
Weight:	16A model ca. 2.9kg; 32A model approx. 4kg
Housing dimensions (L, W, H):	215mm x 90mm x 84mm
Bluetooth connection*:	Bluetooth Low Energy (BLE)

*not included in the "light" model

Residual current detection mechanism for AC and DC residual current:

Break limits and times were developed according to the draft IEC/FDIS 62752:2015 (E) standard.

11. Disposal

The packaging and the unit must be disposed of according to applicable local and regional regulations in the place where the unit is operated.

Run-down or faulty batteries must be disposed of separately in accordance with national and local regulations on environmental protection and recycling.



This product may not be treated as ordinary waste and must be returned to a collection point for the recycling of electronic equipment. For more information, contact your local authority, a local waste disposal service or the company from which you purchased the product.



12. Declaration of Conformity

NRGkick
(Charging unit for electric vehicles)

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The item described complies with the following relevant directives and standards:

- Directive 2014/35/EU electrical equipment
- Directive 2014/30/EU electromagnetic compatibility
- Directive 2011/65/EU hazardous substances in electrical and electronic equipment
- IEC/EN 61851-1 Electric vehicle conductive charging system - Part 1: General requirements
- IEC/EN 61851-22 Electrical equipment of electric road vehicles - Electric vehicles conductive charging system - Part 2-2: AC electric vehicle charging station

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