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TABLE OF CONTENTS

1. Safety instructions, safety measures, guidelines 31
    - 1.1 General / Intended use 31
    - 1.2 Transport 31
    - 1.3 Disposal 32
    - 1.4 Labels 32
2. Product description 33
    - 2.1 Product characteristics / Product advantages 33
    - 2.2 Areas of application 33
    - 2.3 Battery Management System (BMS) 34
3. Installation / Maintenance / Storage 34
    - 3.1 General information on installation / mounting position 34
    - 3.2. Installation of several batteries in series or parallel connection 35
    - 3.3 Maintenance 35
    - 3.4 Storage and decommissioning 35
4. Use of the $LiFePO_4$ battery 36
    - 4.1 Charging the battery 36
    - 4.2 Discharging the battery 36
    - 4.3 Using the Bluetooth App 37-39
5. Technical data
    - 5.1 Data sheet 40-52
    - 5.2 Technical data (graphical representation) 53
6. FAQ / Troubleshooting 54
    - 6.1 Frequently asked questions (FAQ) 54
    - 6.2 Possible errors and their correction 55
7. Warranty 57
8. Service 57

1. SAFETY INSTRUCTIONS, SAFETY MEASURES, GUIDELINES

1.1 General / Intended use

This manual must always be kept together with the product. If the product is sold, this manual must also be handed over. Please read these instructions before using the product.

The TRIFORCE® lithium phosphate batteries may only be used for the applications described in this manual. (see 2.2 of this manual). If any other application is used without consulting the manufacturer, this may invalidate the warranty, as this is considered improper use. The manufacturer is not liable for damage caused by improper or inappropriate use, nor is it liable for incorrect use of this product.

Please observe the following instructions:

- Installation and maintenance only by qualified personnel.
- Always wear personal protective equipment when working on the battery. Avoid short circuits, as the pole connections are always live, avoid direct connection of the poles to each other.
- Do not place any tools or objects on the battery.
- Extinguish only with class D fire extinguisher, foam or CO2 fire extinguisher.
- Wires from the battery to the loads must be protected by an external fuse.
- The battery must never be opened.
- The battery housing must not be damaged, avoid dropping, cutting, drilling, deforming (risk of short circuit).
- Always keep the battery housing dry and clean.
- Do not expose the battery to direct sunlight permanently.
- When connecting consumers and charging devices, ensure correct polarity, the markings are on the battery.
- Disconnect all consumers from the battery when storing or not using it for a longer period of time (< 2 months).
- Only use chargers that meet the required charging parameters (see technical data in these instructions).
- Do not use batteries of another manufacturer, other capacity, other types or other chemistries together with the TRIFORCE® $LiFePO_4$ batteries.

1.2 Transport

When transporting $LiFePO_4$ batteries, all national and international regulations and laws must always be observed. Transport may only take place in the original packaging or packaging corresponding to this. Never transport damaged $LiFePO_4$ batteries, this may only be done in prescribed containers. TRIFORCE® $LiFePO_4$ batteries are certified according to UN38.3, the test report can be made available on request. $LiFePO_4$ batteries that are not installed in equipment are classified according to UN3480, Class 9 during transport. Further information can be found in the safety data sheet.

1.3 Disposal



$LiFePO_4$ batteries must not be disposed of in household or commercial waste, but must be handed in to collection points of the common take-back system for disposal / recycling. This can also be done at a sales point of the seller or the manufacturer.
Always discharge the battery and cover the terminals before disposal.

CE

By affixing the CE mark, Trilog Batterielogistik GmbH declares that this product complies with the basic requirements and the applicable regulations and directives of the European Community.
If required, the declaration of conformity can be requested at info@trilog.de.

Label		Warning against corrosive substances
		Warning against explosive substances
Prohibition signs		Children forbidden
		No open flame; fire, open source of ignition and smoking prohibited.
Commandment signs		Follow the instructions for use
		Use eye protection

2. PRODUCT DESCRIPTION

2.1 Product features and benefits

By purchasing this TRIFORCE® lithium iron phosphate battery ($LiFePO_4$) you have chosen one of the safest lithium chemistries. Compared to other lithium technologies, $LiFePO_4$ batteries have the decisive advantage that the thermal runaway temperature is 270 °C, which means that they are not susceptible to thermal runaway at which discharge would no longer be possible.
The TRIFORCE® battery offers many other advantages over lead-acid batteries (including lead-acid, AGM and GEL batteries) and lithium batteries from other manufacturers:

- Only about 40 - 50 % of the weight of a lead-acid battery with the same capacity.
- Integrated battery management with adaptive cell balancing.
- Protection against short circuit, overvoltage, overcurrent, undervoltage, overtemperature and undertemperature protection during charging / discharging.
- 100 % capacity can be used without damaging the battery.
- Higher energy density compared to lead.
- Partially charged state does not damage the battery.
- Does not need to be fully charged after each use.
- Faster charging possible due to higher charging currents.
- Almost constant voltage level during discharge, therefore very suitable for inverter operation.
- Low self-discharge when not in use.
- Absolutely maintenance-free.
- Monitoring of the battery by built-in Bluetooth module via an app for your smartphone.
- Many more charging cycles (charging and discharging) compared to lead battereis, thus much longer life.
- After 3000 cycles, approx. 80 % of the capacity is still available.
- In many cases it fits into existing battery holders (same housing as the lead-acid battery), thus no conversion measures necessary (e.g. L5 housing).
- Can be installed in any position.
- Expandable by series and / or parallel connection. Note type!
- In most cases, the existing charger can still be used.
- Lower costs per cycle than with lead batteries.

2.2 Areas of application

- As body battery in motorhomes, caravans, campervans
- Traction battery for caravan movers
- Storage battery for solar applications
- Start and traction battery in many other mobile applications
- Consumer or traction battery in boats
- Emergency power supply

2.3 Battery Management System (BMS)

The Battery Management System integrated in each TRIFORCE® LiFePO$_4$ battery monitors and protects the battery from damage due to improper handling or incorrect parameters. In addition, the BMS performs an active internal cell balancing to always maintain maximum performance.
In detail, the tasks of the BMS are:

- Protection against overload due to excessive charging current or excessive discharging current.
- Protection against excessive charging voltage or overvoltage
- Protection against excessive discharge by a consumer
- Protection against overtemperature / undertemperature during charging and discharging.
- Protection against short circuit

If one of the above-mentioned protective devices causes the battery to switch off and thus disconnect the cells from the terminals, a voltage can only be measured in certain cases. If the reason for the disconnection no longer occurs, the battery switches back on automatically. Switching on again after protection against excessive discharge by a consumer can take up to several hours.

3. Installation

3.1 General

- Depending on the type, the battery must be switched on before commissioning!
- Please check the battery for external damage before installation. If there is recognisable damage, do not install or operate the battery. Please contact your seller immediately!
- Connect the battery to the app before installation!
- The battery must always be operated with an appropriate external fuse in the consumer circuit.
- The battery can be installed in an upright, standing or lying position.
- The battery must be firmly and securely installed in the vehicle or system; in motorhomes, the existing mounting can often be used.
- The connection poles and terminals must be covered after installation to protect against short circuits. Existing round pole terminals can be used.
- Never connect batteries with consumers switched on to avoid sparking.
- Do not expose the battery to direct sunlight and do not install it indoors or near heat sources.
- Charge before commissioning, during transport the battery is only charged to 40 - 60 %.

  The COM port is for service purposes only and may only be opened and used by a qualified TRIFORCE®service technician.

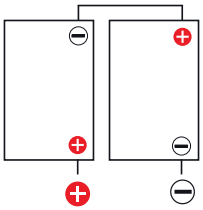
3.2 Installation of several batteries in series or parallel connection

TRIFORCE® $LiFePO_4$ batteries can be connected in series and / or parallel, please note:

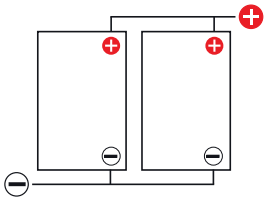
- Before installation, make sure that the batteries have max. 50 mV voltage deviation from each other. If this is not the case, charge both individually to 100 %, then equalise by discharging individually.
- When connected in series (max. 4 batteries), the voltage increases, but the capacity does not increase.
- With parallel connectin (max. 4 batteries) the capacity increases, the voltage does not change. The currents for both charging and discharging increase accordingly.
- A circuit in which the batteries are connected both in series and in parallel is theoretically possible, but is not recommended.
- In the case of series or parallel connection the cable lengths of the positive and negative cables should be the same for the connections between them. The cross-sections must also be the same.
- Consumers and charging devices should be connected „diagonally" in the case of parallel connection, i.e. plus from the first battery, minus from the last or vice versa.
- The charging or discharging current displayed in the app is not always exactly the same.

Here are examples of series and parallel circuits:

Series circuits:



Parallel circuits:



3.3 Maintenance

- $LiFePO_4$ batteries require no regular maintenance other than cleaning with a damp cloth; they are absolutely maintenance-free
- Nevertheless, check the tight fit of the pole terminals from time to time.
- Cyclical use once a year is recommended, charging to 100 %.

3.4 Storage and decommissioning

- If the battery remains installed in the vehicle for longer than 6 month and is not used, disconnect the terminals from the battery if possible or switch off the battery isolator switch. Depending on the type, the battery can also be switched on and off on the housing.
- If the battery is stored removed from the vehicle, the terminals should be protected with a protective cap or masked off; storage in a dry place at a temperature of approx. 20 °C is ideal.
- Before storage, please charge to approx. 70 - 80 %, this gives enough leeway to compensate for the self-discharge (< 3 % per month at 20 °C) and to store for several months.

4. Use of the $LiFePO_4$ batteries

4.1 Charging

- $LiFePO_4$ batteries do not need to be recharged after each use, leaving them in a partially charged state is not harmful to the battery.
- The battery can be charged with high charging current to shorten the charging time, max. charging current per battery, see data sheet.
- If the BMS disconnects the battery due to low voltage to protect against deep discharge, the battery should be recharged as soon as possible. Otherwise, the cells could be permanently damaged.
- $LiFePO_4$ batteries can be safely charged in the temperature range from -5 °C to +65 °C. Below -5 °C the BMS prevents the battery from being charged to prevent damage to the cells.
- Charge with any IU carger that does not exceed a final charge voltage of 14.6 V or with a charger with $LiFePO_4$ characteristics.
- The BMS switches the battery off if it gets too hot. When the temperature drops, it automatically switches the battery back on.
- If necessary, the cells are balanced automatically during charging or during a standby phase.

LT Series Charging

$LiFePO_4$ batteries of the LT series have an integrated battery heater, which is supplied exclusively by an external power source (charger, generator, etc.). This makes it possible to charge the $LiFePO_4$ battery even at minus temperatures.

At battery temperatures below 0 °C, when an external power source is applied, the battery heater first switches on and warms the battery cells to 3 °C to protect them form destruction.

The heater is then switched off and the battery is charged normally.

4.2 Discharging

- Discharge up to 100 % of capacity is possible, but a discharge of max. 90 % is recommended.
- Safe discharge in the temperature range -20 °C to +65 °C.
- The BMS switches the battery off if it becomes too hot or too cold. When the operating temperaure returns, it automatically switches the battery back on.

4.3 Using the Bluetooth App

Bluetooth communication is already built into your TRIFORCE® LiFePO$_4$ battery. You can download the TRIFORCE® App from Google® Play Store® und im Apple® App Store®.

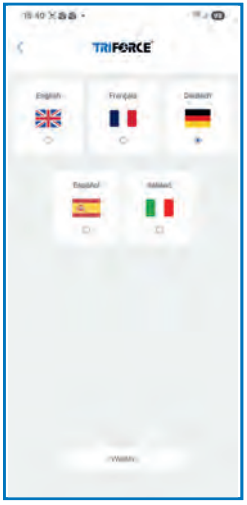
JETZT BEI Google Play

Google Play® and the Google Play logo are trademarks of Google LLC.

Laden im App Store

App Store® is a trademark of Apple Inc.,registered in the U.S. and other countries and regions.

The individual pages of the app and their meaning are explained here.



Tapping the button on the top right-hand corner opens the language selection menu.



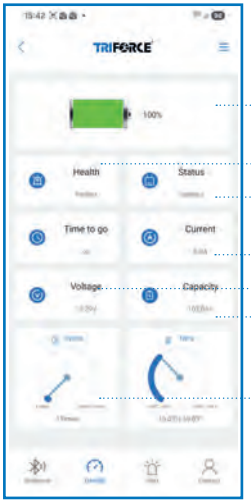
Selection list of nearby batteries.

Here you can see the battery name (if assigned) and the MAC address of the Bluetooth module.

If no MAC addresses are displayed, press the button at the bottom with the circle symbol.

If your battery is still not displayed, check the battery voltage; it may have become disconnected.

Slide the button to the right until the switch turns green.



Current charge status

Current battery status

Current operating status

Current charging and discharging current in amperes

Current voltage in volts

Current total battery capacity in ampere hours

Total number of cycles used to date



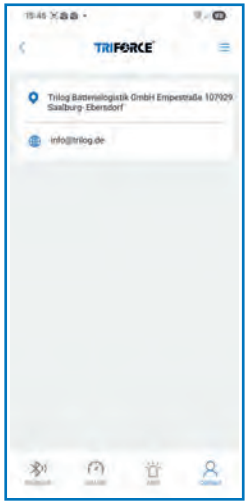
Status indicators
(grey = OK, blue = error)

Overvoltage
Undervoltage
Charging current too high

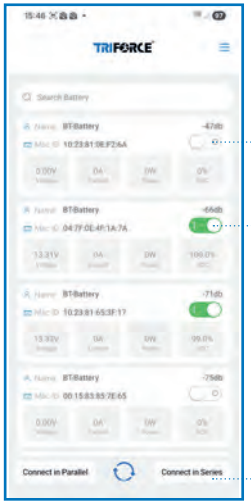
Discharging current too high
Temperature too low during charging
Temperature too low during discharging

Temperature too high during charging
Temperature too high during discharging
Short circuit

Example:
The icons above are grey =
no errors found (Good)
One of the icons above is blue =
error found (Protection)



Contact details



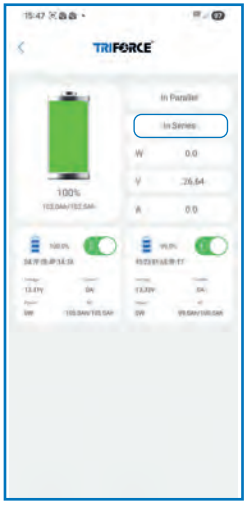
Selection of
2-4 batteries

Pull the button to the right to select batteries until the switch is green.

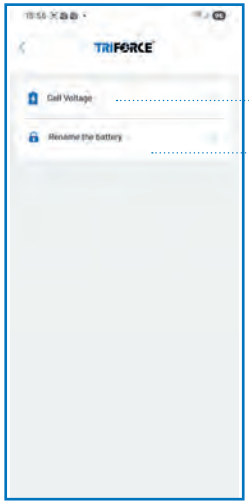
Select parallel connection or series connection



Showing the batteries in parallel connection



Showing batteries connected in series



Select the cell voltage

The name must begin with 'BT-'



Showing the cells and cell voltage

Data sheet – TRI-Li 12-100

Block battery with Lithium technology

Performance	
Nominal voltage:	12.8 V
Nominal capacity:	100 Ah
Nominal energy:	1280 Wh
Cycle stability (at 25 °C):	>3000 cycles @ 80% DOD
Internal resistance:	≤ 50 mΩ
Self-discharge:	< 3 % per month
Housing material:	ABS
Protection class:	IP 56
Cell type / Cell chemistry:	Prismatic $LiFePO_4$
Connection:	Round pole
Communication:	Bluetooth 5.0 with App for Android / iOS COM Port for Firmware Update
Max. number of batteries in series / parallel:	4 / 4
Discharge	
Max. continuous discharge current:	150 A
Peak discharge current:	310 A (3 sec.)
BMS cut-off voltage:	10.4 V
Charge	
Recommended charge current:	50 A
Maximum charge current:	100 A
Recommended charge voltage:	14.6 V
Dimensions and Weight	
Length x width x height:	353 x 178 x190 mm
Battery weight (+/- 5 %):	11.5 kg
Temperatures	
Discharge temperature:	-20 °C to +75 °C (-4 °F bis +167 °F)
Charging temperature:	-5 °C to +65 °C (+23 °F bis +149 °F)
Storage temperature:	0 °C to +40 °C (+32 °F bis +104 °F)
Certificates	
Certificates:	CE; ECE-R10; UN38.3; UL1642 & IEC62619
Hazardous material classification:	UN 3480, class 9



03/2026 Technical changes reserved

Data sheet – TRI-Li 12-100 LT

GB

Block battery with Lithium technology

Performance	
Nominal voltage:	12.8 V
Nominal capacity:	100 Ah
Nominal energy:	1280 Wh
Cycle stability (at 25 °C):	>3000 cycles @ 80% DOD
Internal resistance:	≤ 50 mΩ
Self-discharge:	< 3 % per month
Housing material:	ABS
Protection class:	IP 56
Cell type / Cell chemistry:	Prismatic $LiFePO_4$
Connection:	Round pole
Communication:	Bluetooth 5.0 with App for Android / iOS COM Port for Firmware Update
Max. number of batteries in series / parallel:	1 / 4
Discharge	
Max. continuous discharge current:	150 A
Peak discharge current:	310 A (3 sec.)
BMS cut-off voltage:	10.4 V
Charge	
Recommended charge current:	50 A
Maximum charge current:	100 A
Recommended charge voltage:	14.6 V
Dimensions and Weight	
Length x width x height:	353 x 175 x 190 mm
Battery weight (+/- 5 %):	11.5 kg
Temperatures	
Discharge temperature:	-20 °C to +75 °C (-4 °F bis +167 °F)
Charging temperature:	-30 °C to +65 °C (-22 °F bis +149 °F)
Storage temperature:	0 °C to +40 °C (+32 °F bis +104 °F)
Certificates	
Certificates:	CE; ECE-R10; UN38.3; UL1642 & IEC62619
Hazardous material classification:	UN 3480, class 9



HEATING SYSTEM

$LiFePO_4$ batteries from the LT series come equiped with an integrated battery heater. This heater is exclusively powered by an external source, such as a charger or generator. As a result, it becomes possible to charge the $LiFePO_4$ battery even in sub-zero temperatures. When the battery temperature drops below 0 °C, the battery heater activates upon connecting an external power source. It warms the battery cells to 5 °C, safeguarding them from potential damage. Once the desired temperature is reached, the heater automatically switches off, allowing the battery to be charged normally.

03/2026 Technical changes reserved.

Data sheet – TRI-Li 12-105

Block battery with Lithium technology

Performance	
Nominal voltage:	12.8 V
Nominal capacity:	105 Ah
Nominal energy:	1344 Wh
Cycle stability (at 25 °C):	>3000 cycles @ 80% DOD
Internal resistance:	≤ 50 mΩ
Self-discharge:	< 3 % per month
Housing material:	ABS
Protection class:	IP 56
Cell type / Cell chemistry:	Prismatic $LiFePO_4$
Connection:	Round pole
Communication:	Bluetooth 5.0 with App for Android / iOS COM Port for Firmware Update
Max. number of batteries in series / parallel:	4 / 4
Discharge	
Max. continuous discharge current:	150 A
Peak discharge current:	310 A (3 sec.)
BMS cut-off voltage:	10.4 V
Charge	
Recommended charge current:	50 A
Maximum charge current:	100 A
Recommended charge voltage:	14.6 V
Dimensions and Weight	
Length x width x height:	278 x 175 x 190 mm
Battery weight (+/- 5 %):	10.2 kg
Temperatures	
Discharge temperature:	-20 °C to +75 °C (-4 °F bis +167 °F)
Charging temperature:	-5 °C to +65 °C (+23 °F bis +149 °F)
Storage temperature:	0 °C to +40 °C (+32 °F bis +104 °F)
Certificates	
Certificates:	CE; ECE-R10; UN38.3; UL1642 & IEC62619
Hazardous material classification:	UN 3480, class 9



03/2026 Technical changes reserved

Data sheet – TRI-Li 12-105 LT

GB

Block battery with Lithium technology

Performance	
Nominal voltage:	12.8 V
Nominal capacity:	105 Ah
Nominal energy:	1344 Wh
Cycle stability (at 25 °C):	>3000 cycles @ 80% DOD
Internal resistance:	≤ 50 mΩ
Self-discharge:	< 3 % per month
Housing material:	ABS
Protection class:	IP 56
Cell type / Cell chemistry:	Prismatic $LiFePO_4$
Connection:	Round pole
Communication:	Bluetooth 5.0 with App for Android / iOS COM Port for Firmware Update
Max. number of batteries in series / parallel:	1 / 4
Discharge	
Max. continuous discharge current:	150 A
Peak discharge current:	310 A (3 sec.)
BMS cut-off voltage:	10.4 V
Charge	
Recommended charge current:	50 A
Maximum charge current:	100 A
Recommended charge voltage:	14.6 V
Dimensions and Weight	
Length x width x height:	278 x 175 x 190 mm
Battery weight (+/- 5 %):	10.2 kg
Temperatures	
Discharge temperature:	-20 °C to +75 °C (-4 °F bis +167 °F)
Charging temperature:	-30 °C to +65 °C (-22 °F bis +149 °F)
Storage temperature:	0 °C to +40 °C (+32 °F bis +104 °F)
Certificates	
Certificates:	CE; ECE-R10; UN38.3; UL1642 & IEC62619
Hazardous material classification:	UN 3480, class 9



HEATING SYSTEM

$LiFePO_4$ batteries from the LT series come equiped with an integrated battery heater. This heater is exclusively powered by an external source, such as a charger or generator. As a result, it becomes possible to charge the $LiFePO_4$ battery even in sub-zero temperatures. When the battery temperature drops below 0 °C, the battery heater activates upon connecting an external power source. It warms the battery cells to 5 °C, safeguarding them from potential damage. Once the desired temperature is reached, the heater automatically switches off, allowing the battery to be charged normally.

03/2026 Technical changes reserved

Data sheet – TRI-Li 12-120 LT

Block battery with Lithium technology

Performance	
Nominal voltage:	12.8 V
Nominal capacity:	120 Ah
Nominal energy:	1536 Wh
Cycle stability (at 25 °C):	>3000 cycles @ 80% DOD
Internal resistance:	≤ 50 mΩ
Self-discharge:	< 3 % per month
Housing material:	ABS
Protection class:	IP 56
Cell type / Cell chemistry:	Cylindrical $LiFePO_4$
Connection:	Round pole
Communication:	Bluetooth 5.0 with App for Android / iOS COM Port for Firmware Update
Max. number of batteries in series / parallel:	1 / 4
Discharge	
Max. continuous discharge current:	150 A
Peak discharge current:	310 A (3 sec.)
BMS cut-off voltage:	10.4 V
Charge	
Recommended charge current:	50 A
Maximum charge current:	120 A
Recommended charge voltage:	14.6 V
Dimensions and Weight	
Length x width x height:	313 x 175 x 190 mm
Battery weight (+/- 5 %):	13.5 kg
Temperatures	
Discharge temperature:	-20 °C to +75 °C (-4 °F bis +167 °F)
Charging temperature:	-30 °C to +65 °C (-22 °F bis +149 °F)
Storage temperature:	0 °C to +40 °C (+32 °F bis +104 °F)
Certificates	
Certificates:	CE; ECE-R10; UN38.3; UL1642 & IEC62619
Hazardous material classification:	UN 3480, class 9



HEATING SYSTEM

$LiFePO_4$ batteries from the LT series come equiped with an integrated battery heater. This heater is exclusively powered by an external source, such as a charger or generator. As a result, it becomes possible to charge the $LiFePO_4$ battery even in sub-zero temperatures. When the battery temperature drops below 0 °C, the battery heater activates upon connecting an external power source. It warms the battery cells to 5 °C, safeguarding them from potential damage. Once the desired temperature is reached, the heater automatically switches off, allowing the battery to be charged normally.

03/2026 Technical changes reserved

Data sheet – TRI-Li 12-150

GB

Block battery with Lithium technology

Performance	
Nominal voltage:	12.8 V
Nominal capacity:	150 Ah
Nominal energy:	1920 Wh
Cycle stability (at 25 °C):	>3000 cycles @ 80% DOD
Internal resistance:	≤ 50 mΩ
Self-discharge:	< 3 % per month
Housing material:	ABS
Protection class:	IP 56
Cell type / Cell chemistry:	Prismatic $LiFePO_4$
Connection:	Round pole
Communication:	Bluetooth 5.0 with App for Android / iOS COM Port for Firmware Update
Max. number of batteries in series / parallel:	4 / 4
Discharge	
Max. continuous discharge current:	150 A
Peak discharge current:	310 A (3 sec.)
BMS cut-off voltage:	10.4 V
Charge	
Recommended charge current:	50 A
Maximum charge current:	150 A
Recommended charge voltage:	14.6 V
Dimensions and Weight	
Length x width x height:	353 x 175 x 190 mm
Battery weight (+/- 5 %):	16.5 kg
Temperatures	
Discharge temperature:	-20 °C to +75 °C (-4 °F bis +167 °F)
Charging temperature:	-5 °C to +65 °C (+23 °F bis +149 °F)
Storage temperature:	0 °C to +40 °C (+32 °F bis +104 °F)
Certificates	
Certificates:	CE; ECE-R10; UN38.3; UL1642 & IEC62619
Hazardous material classification:	UN 3480, class 9



03/2026 Technical changes reserved

Data sheet – TRI-Li 12-150 LT

Block battery with Lithium technology

Performance	
Nominal voltage:	12.8 V
Nominal capacity:	150 Ah
Nominal energy:	1920 Wh
Cycle stability (at 25 °C):	>3000 cycles @ 80% DOD
Internal resistance:	≤ 50 mΩ
Self-discharge:	< 3 % per month
Housing material:	ABS
Protection class:	IP 56
Cell type / Cell chemistry:	Prismatic $LiFePO_4$
Connection:	Round pole
Communication:	Bluetooth 5.0 with App for Android / iOS COM Port for Firmware Update
Max. number of batteries in series / parallel:	1 / 4
Discharge	
Max. continuous discharge current:	150 A
Peak discharge current:	310 A (3 sec.)
BMS cut-off voltage:	10.4 V
Charge	
Recommended charge current:	50 A
Maximum charge current:	150 A
Recommended charge voltage:	14.6 V
Dimensions and Weight	
Length x width x height:	353 x175 x 190 mm
Battery weight (+/- 5 %):	17 kg
Temperatures	
Discharge temperature:	-20 °C to +75 °C (-4 °F bis +167 °F)
Charging temperature:	-30 °C to +65 °C (-22 °F bis +149 °F)
Storage temperature:	0 °C to +40 °C (+32 °F bis +104 °F)
Certificates	
Certificates:	CE; ECE-R10; UN38.3; UL1642 & IEC62619
Hazardous material classification:	UN 3480, class 9



HEATING SYSTEM

$LiFePO_4$ batteries from the LT series come equiped with an integrated battery heater. This heater is exclusively powered by an external source, such as a charger or generator. As a result, it becomes possible to charge the $LiFePO_4$ battery even in sub-zero temperatures. When the battery temperature drops below 0 °C, the battery heater activates upon connecting an external power source. It warms the battery cells to 5 °C, safeguarding them from potential damage. Once the desired temperature is reached, the heater automatically switches off, allowing the battery to be charged normally.

03/2026 Technical changes reserved

Data sheet – TRI-Li 12-180 LT

GB

Block battery with Lithium technology

Performance	
Nominal voltage:	12.8 V
Nominal capacity:	180 Ah
Nominal energy:	2304 Wh
Cycle stability (at 25 °C):	>3000 cycles @ 80% DOD
Internal resistance:	≤ 50 mΩ
Self-discharge:	< 3 % per month
Housing material:	ABS
Protection class:	IP 56
Cell type / Cell chemistry:	Prismatic $LiFePO_4$
Connection:	Round pole
Communication:	Bluetooth 5.0 with App for Android / iOS COM Port for Firmware Update
Max. number of batteries in series / parallel:	1 / 4
Discharge	
Max. continuous discharge current:	180 A
Peak discharge current:	310 A (3 sec.)
BMS cut-off voltage:	10.4 V
Charge	
Recommended charge current:	50 A
Maximum charge current:	150 A
Recommended charge voltage:	14.6 V
Dimensions and Weight	
Length x width x height:	353 x 175 x 190 mm
Battery weight (+/- 5 %):	21 kg
Temperatures	
Discharge temperature:	-20 °C to +75 °C (-4 °F bis +167 °F)
Charging temperature:	-30 °C to +65 °C (-22 °F bis +149 °F)
Storage temperature:	0 °C to +40 °C (+32 °F bis +104 °F)
Certificates	
Certificates:	CE; ECE-R10; UN38.3; UL1642 & IEC62619
Hazardous material classification:	UN 3480, class 9



HEATING SYSTEM

$LiFePO_4$ batteries from the LT series come equiped with an integrated battery heater. This heater is exclusively powered by an external source, such as a charger or generator. As a result, it becomes possible to charge the $LiFePO_4$ battery even in sub-zero temperatures. When the battery temperature drops below 0 °C, the battery heater activates upon connecting an external power source. It warms the battery cells to 5 °C, safeguarding them from potential damage. Once the desired temperature is reached, the heater automatically switches off, allowing the battery to be charged normally.

03/2026 Technical changes reserved

Data sheet – TRI-Li 12-200

Block battery with Lithium technology

Performance	
Nominal voltage:	12.8 V
Nominal capacity:	200 Ah
Nominal energy:	2560 Wh
Cycle stability (at 25 °C):	>3000 cycles @ 80% DOD
Internal resistance:	≤ 50 mΩ
Self-discharge:	< 3 % per month
Housing material:	ABS
Protection class:	IP 56
Cell type / Cell chemistry:	Prismatic $LiFePO_4$
Connection:	M8
Communication:	Bluetooth 5.0 with App for Android / iOS COM Port for Firmware Update
Max. number of batteries in series / parallel:	4 / 4
Discharge	
Max. continuous discharge current:	200 A
Peak discharge current:	280 A (3 sec.)
BMS cut-off voltage:	10.4 V
Charge	
Recommended charge current:	50 A
Maximum charge current:	200 A
Recommended charge voltage:	14.6 V
Dimensions and Weight	
Length x width x height (+/- 2 mm):	338 x 332 x 188 mm (364 x 332 x 188 mm incl. terminals and M8 bolts)
Battery weight (+/- 5 %):	25.3 kg
Temperatures	
Discharge temperature:	-20 °C to +75 °C (-4 °F bis +167 °F)
Charging temperature:	-5 °C to +65 °C (+23 °F bis +149 °F)
Storage temperature:	0 °C to +40 °C (+32 °F bis +104 °F)
Certificates	
Certificates:	CE; UN38.3; UL1642 & IEC62133
Hazardous material classification:	UN 3480, class 9



03/2026 Technical changes reserved

Data sheet – TRI-Li 12-200 LT

GB

Block battery with Lithium technology

Performance	
Nominal voltage:	12.8 V
Nominal capacity:	200 Ah
Nominal energy:	2560 Wh
Cycle stability (at 25 °C):	>3000 cycles @ 80% DOD
Internal resistance:	≤ 50 mΩ
Self-discharge:	< 3 % per month
Housing material:	ABS
Protection class:	IP 56
Cell type / Cell chemistry:	Prismatic $LiFePO_4$
Connection:	M8
Communication:	Bluetooth 5.0 + plug RJ45 with App for Android / iOS
Max. number of batteries in series / parallel:	1 / 4
Discharge	
Max. continuous discharge current:	200 A
Peak discharge current:	280 A (3 sec.)
BMS cut-off voltage:	10 V
Charge	
Recommended charge current:	100 A
Maximum charge current:	200 A
Recommended charge voltage:	14.6 V
Dimensions and Weight	
Length x width x height:	485 x 170 x 245 mm
Battery weight (+/- 5 %):	25 kg
Temperatures	
Discharge temperature:	-20 °C to +75 °C (-4 °F bis +167 °F)
Charging temperature:	-30 °C to +65 °C (-22 °F bis +149 °F)
Storage temperature:	0 °C to +40 °C (+32 °F bis +104 °F)
Certificates	
Certificates:	CE; UN38.3
Hazardous material classification:	UN 3480, class 9



HEATING SYSTEM

$LiFePO_4$ batteries from the LT series come equiped with an integrated battery heater. This heater is exclusively powered by an external source, such as a charger or generator. As a result, it becomes possible to charge the $LiFePO_4$ battery even in sub-zero temperatures. When the battery temperature drops below 0 °C, the battery heater activates upon connecting an external power source. It warms the battery cells to 5 °C, safeguarding them from potential damage. Once the desired temperature is reached, the heater automatically switches off, allowing the battery to be charged normally.

03/2026 Technical changes reserved

Data sheet – TRI-Li 12-300

Block battery with Lithium technology

Performance	
Nominal voltage:	12.8 V
Nominal capacity:	300 Ah
Nominal energy:	3840 Wh
Cycle stability (at 25 °C):	>3000 cycles @ 80% DOD
Internal resistance:	≤ 50 mΩ
Self-discharge:	< 3 % per month
Housing material:	Metal
Protection class:	IP 56
Cell type / Cell chemistry:	Prismatic $LiFePO_4$
Connection:	M8
Communication:	Bluetooth 5.0 with App for Android / iOS COM Port for Firmware Update
Max. number of batteries in series / parallel:	4 / 4
Discharge	
Max. continuous discharge current:	250 A
Peak discharge current:	310 A (3 sec.)
BMS cut-off voltage:	10.4 V
Charge	
Recommended charge current:	50 A
Maximum charge current:	200 A
Recommended charge voltage:	14.6 V
Dimensions and Weight	
Length x width x height (+/- 2 mm):	351x 351 x 183 mm (379 x 351x 183 mm incl. terminals and M8 bolts)
Battery weight (+/- 5 %):	35 kg
Temperatures	
Discharge temperature:	-20 °C to +75 °C (-4 °F bis +167 °F)
Charging temperature:	-5 °C to +65 °C (+23 °F bis +149 °F)
Storage temperature:	0 °C to +40 °C (+32 °F bis +104 °F)
Certificates	
Certificates:	CE; ECE-R10; UN38.3; UL1642 & IEC62619
Hazardous material classification:	UN 3480, class 9



03/2026 Technical changes reserved

Data sheet – TRI-Li 12-300 LT

GB

Block battery with Lithium technology

Performance	
Nominal voltage:	12.8 V
Nominal capacity:	300 Ah
Nominal energy:	3840 Wh
Cycle stability (at 25 °C):	>3000 cycles @ 80% DOD
Internal resistance:	≤ 50 mΩ
Self-discharge:	< 3 % per month
Housing material:	Metal
Protection class:	IP 56
Cell type / Cell chemistry:	Prismatic $LiFePO_4$
Connection:	M8
Communication:	Bluetooth 5.0 with App for Android / iOS COM Port for Firmware Update
Max. number of batteries in series / parallel:	1 / 4
Discharge	
Max. continuous discharge current:	250 A
Peak discharge current:	310 A (3 sec.)
BMS cut-off voltage:	10.4 V
Charge	
Recommended charge current:	50 A
Maximum charge current:	200 A
Recommended charge voltage:	14.6 V
Dimensions and Weight	
Length x width x height (+/- 2 mm):	351x 351 x 183 mm (379 x 351x 183 mm incl. terminals and M8 bolts)
Battery weight (+/- 5 %):	35 kg
Temperatures	
Discharge temperature:	-20 °C to +75 °C (-4 °F bis +167 °F)
Charging temperature:	-30 °C to +65 °C (-22 °F bis +149 °F)
Storage temperature:	0 °C to +40 °C (+32 °F bis +104 °F)
Certificates	
Certificates:	CE; UN38.3; ECE-R10; UL1642 & IEC62619
Hazardous material classification:	UN 3480, class 9



HEATING SYSTEM

$LiFePO_4$ batteries from the LT series come equiped with an integrated battery heater. This heater is exclusively powered by an external source, such as a charger or generator. As a result, it becomes possible to charge the $LiFePO_4$ battery even in sub-zero temperatures. When the battery temperature drops below 0 °C, the battery heater activates upon connecting an external power source. It warms the battery cells to 5 °C, safeguarding them from potential damage. Once the desired temperature is reached, the heater automatically switches off, allowing the battery to be charged normally.

03/2026 Technical changes reserved

Data sheet – TRI-Li 12-480 LT

Block battery with Lithium technology

Performance	
Nominal voltage:	12.8 V
Nominal capacity:	480 Ah
Nominal energy:	6144 Wh
Cycle stability (at 25 °C):	>3000 Zyklen @ 80% DOD
Internal resistance:	≤ 50 mΩ
Self-discharge:	< 3 % pro Monat
Housing material:	Metall
Protection class:	IP 56
Cell type / Cell chemistry:	Prismatisch $LiFePO_4$
Connection:	M8
Communication:	Bluetooth 5.0 mit App für Android / iOS COM Port für Firmware Update
Max. number of batteries in series / parallel:	1 / 4
Discharge	
Max. continuous discharge current:	250 A
Peak discharge current:	310 A (3 sec.)
BMS cut-off voltage:	10.4 V
Charge	
Recommended charge current:	50 A
Maximum charge current:	200 A
Recommended charge voltage:	14.6 V
Dimensions and Weight	
Length x width x height (+/- 2 mm):	355 x 362 x 189 mm (384 x 362 x 189 mm incl. terminals and M8 bolts)
Battery weight (+/- 5 %):	48 kg
Temperatures	
Discharge temperature:	-20 °C to +75 °C (-4 °F bis +167 °F)
Charging temperature:	-30 °C to +65 °C (-22 °F bis +149 °F)
Storage temperature:	0 °C to +40 °C (+32 °F bis +104 °F)
Certificates	
Certificates:	CE; ECE-R10; UN38.3; UL1642 & IEC62619
Hazardous material classification:	UN 3480, class 9



HEATING SYSTEM

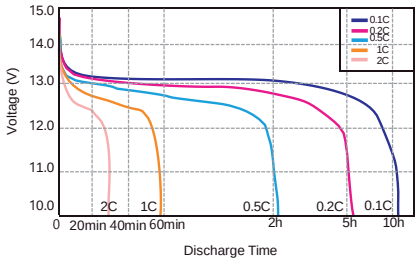
$LiFePO_4$ batteries from the LT series come equiped with an integrated battery heater. This heater is exclusively powered by an external source, such as a charger or generator. As a result, it becomes possible to charge the $LiFePO_4$ battery even in sub-zero temperatures. When the battery temperature drops below 0 °C, the battery heater activates upon connecting an external power source. It warms the battery cells to 5 °C, safeguarding them from potential damage. Once the desired temperature is reached, the heater automatically switches off, allowing the battery to be charged normally.

03/2026 Technical changes reserved

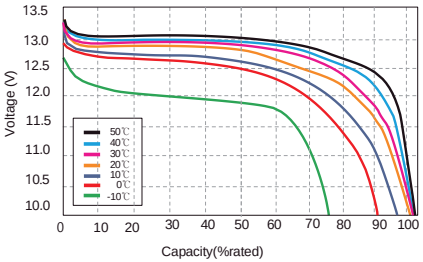
5.2. Technical data - graphic representaion

GB

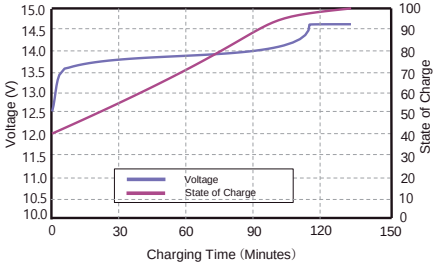
Discharge curve Voltage



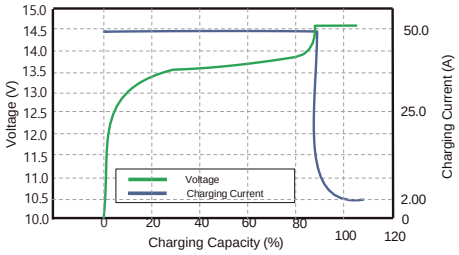
Discharge curve Temperature



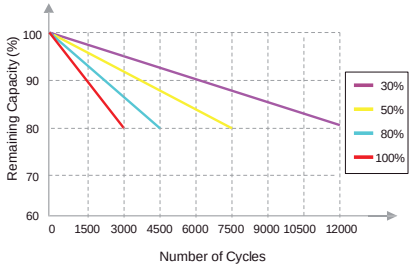
Charging curve at 0,5C 25 °C



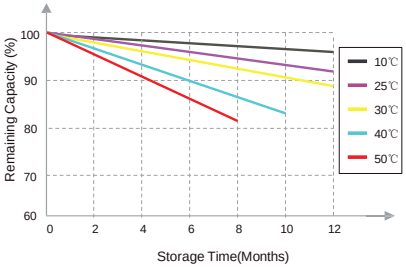
Charging characteristics at 0,5C 25 °C



Cycle curve



Self-discharge curve



6. FAQ / TROUBLESHOOTING

6.1 Frequently asked questions (FAQ)

Can I continue to use my previous charger?	It depends on which charger is installed. If the charger has a setting for GEL or AGM batteries, it can usually be reused. However, the final charging voltage should not exceed 14.6V. Characteristic curves for lead-acid batteries with liquid electrolyte must not be used. Ideally, the charger should have an IU characteristic curve for $LiFePO_4$ batteries. In the case of LT batteries, chargers with a temperature-controlled characteristic curve may not deliver a charge.
Which $LiFePO_4$ battery do I need to replace my two heavy AGM batteries with 95Ah each?	If the previous capacity was sufficient, two 95Ah AGM or gel batteries can be replaced with one 100Ah battery.
Should the lithium battery remain permanently on the charger over winter?	This is not necessary, on the contrary. Charge the battery to approx. 60-80%, then disconnect or disconnect the battery from the vehicle.
In my vehicle it sometimes gets 50°C and more in the summer. Will this damage my lithium battery?	The lithium batteries can be operated up to 60°C without any problems.
And what does it look like at sub-zero temperatures?	Discharging down to -20°C is also possible here. Below -5 °C, the battery blocks charge absorption. With LT batteries, the battery is warmed up first.
Do the batteries fit into the installation space in which my previous batteries were installed?	If 92-95Ah AGM batteries or 80Ah GEL batteries were installed, the lithium battery will also fit, it has the same dimensions and mountings. In the VW Bus the 90Ah fits under the seat, in the Ducato the 100Ah.
Does the lithium battery always or regularly have to be completely discharged?	No, lithium batteries do not have a memory effect, they can be operated constantly in a partially charged state.
Is it true that lithium batteries are very expensive compared to lead batteries?	No, the opposite is the case. Lithium batteries have the lowest costs per cycle compared to lead batteries, this is due to the high number of cycles. Of course, the purchase price is many times higher, but here, too, prices have fallen sharply in recent times.

Can I also operate an inverter in the vehicle on my lithium batteries?	Lithium batteries are particularly suitable for inverter operation, as the voltage level remains constantly high during discharge and thus the inverter does not switch off. However, the maximum continuous discharge current of the battery must not be exceeded.
Can I expand lithium batteries with a parallel connection of other batteries?	Yes, as long as the manufacturer, type and capacity are the same. Also, the age should not be too far apart, as well as the voltages of the batteries must be aligned.
Further questions?	Please contact your seller or ask us by email: info@trilog.de

6.2. Possible errors and their correction

I can't find my battery with my APP.	- Is the battery charged? Please check with a voltmeter, voltage should be above 11V. - Is location sharing activated in your smartphone? - Is the Bluetooth function of your mobile device activated? - Is the battery possibly already connected to another device via Bluetooth? Only 1 connection is possible. - Is your smartphone already connected to another Bluetooth device via Bluetooth? Usually only 1 connection is possible.
The battery switches off during operation, the voltage is 0V.	There is an error, the BMS has disconnected the battery due to one of the causes mentioned in 2.3. Please eliminate the cause.
With my new battery, cycles are already displayed in the APP.	It is normal for up to 10 cycles to be displayed, as the battery is checked by the manufacturer and the dealer before it is sold.
The states of charge of my two identical batteries connected in parallel are different. Actually, they should be exactly the same.	This is normal with new batteries or after some time of use. With new batteries, this should have equalised after a few cycles. With older batteries, please fully charge them individually and connect them in parallel again with a maximum deviation of 50mV from each other. Please also check the wiring, always connect the inlets and outlets diagonally so that the batteries are loaded evenly. It is recommended that the battery connections are cross-swapped every 150-200 cycles.